



# KARACHI WATER AND SEWERAGE CORPORATION GOVERNMENT OF SINDH

DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF  
5-MGD SEAWATER DESALINATION PLANT UNDER PUBLIC-PRIVATE PARTNERSHIP MODE

THE PROJECT RFP INCLUDES:	
VOLUME I	TENDER PROCEDURE
VOLUME II	TECHNICAL SPECIFICATIONS
VOLUME III	CONCESSION AGREEMENT

FOR TECHNICAL STUDIES AND  
BID PREPARATION/ SUBMISSION



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\(MICROSOFT EXCEL FILE\)](#)

JANUARY 20, 2025



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**KARACHI WATER AND SEWERAGE CORPORATION**

**REQUEST FOR PROPOSALS**

**FOR**

**AWARD OF CONCESSION**

**IN RESPECT OF THE**

**5 MGD SEAWATER DESALINATION PLANT PROJECT**

**JANUARY 20, 2025**

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## LETTER OF INVITATION

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*Capitalized terms used but not otherwise defined herein shall have the meaning given to them in **VOLUME I (TENDER PROCEDURE)** of the RFP.*

KWSC intends to engage a private party on a PPP basis to DFBOMT a Desalinated Water Supply System to ensure reduction in the potable grade water supply deficit in the city of Karachi. The Project is expected to have a major development impact, as the first competitively procured reverse osmosis seawater desalination plant project in Pakistan on a PPP basis that shall aid in diversifying the water sources for water stressed areas in Karachi. For details on the Project background, scope of work and specifications, please refer to **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP.

KWSC now invites Interested Parties to participate in the Tender Procedure and to submit their Bids for the Project in accordance with the requirements of the Applicable Evaluation Documents.

Bidders are required to submit only one (1) Bid, comprising of one (1) Technical Proposal and one (1) Financial Proposal along with other supporting documents (as applicable), as identified in the RFP, through the SPPRA EPADS which can be accessed using the link provided in Section 9 (*Data Sheet*) of the Instructions to Bidders, no later than **12:00 hours PST** by the Bid Submission Deadline. Physical submission of Bids shall not be accepted except for the purpose of submitting the original Bid Security and any other documents specified in the RFP.

The Technical Proposals will be opened on the Bid Submission Deadline at **13:00 hours PST** in the presence of the representatives of the Bidders who may wish to attend. After completion of evaluation of the Technical Proposals, Bidders who have submitted responsive Technical Proposals in terms of the Applicable Evaluation Documents shall be invited to attend the opening of the Financial Proposals. The date, time and location of the opening of Financial Proposals shall be advised in writing to all technically qualified Bidders by KWSC.

All Bidders are required to furnish, as part of their Technical Proposals, the original Bid Security, equivalent to Pakistani Rupees One Hundred and Fifty Million only (PKR 150,000,000/-). The original Bid Security shall be furnished at the submission address indicated in the Data Sheet no later than **12:00 hours PST** by the Bid Submission Deadline either through mail or physically by hand (in a sealed envelope). The scanned copy of the Bid Security shall be uploaded by Bidders together with the Technical Proposal *via* SPPRA EPADS no later than **12:00 hours PST** by the Bid Submission Deadline. The Bid Security shall be an irrevocable, unconditional and on-demand bank guarantee in the form attached as Bidding Form T22 (*Form of Bid Security*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, issued in accordance with the requirements set out in the Instructions to Bidders.

It is mandatory for the Bids to be prepared using the standard formats for Technical Proposals and Financial Proposals, as provided in the RFP. Bids that are not prepared on the prescribed formats may not be considered for evaluation by KWSC. If any information required in the prescribed forms is found missing, or written elsewhere, no credit will be given during evaluation and may lead to rejection of the Bid.

KWSC may amend the RFP by issuing an addendum or a corrigendum (as applicable) as per the requirements specified in the RFP, at any time prior to the Bid Submission Deadline.

Subject to the provisions of the Applicable Evaluation Documents, KWSC reserves the right to cancel the Tender Procedure at any time.

KWSC/GoS reserves all rights (which are exercisable by KWSC/GoS in its sole and absolute discretion) to:

- (a) suspend, cancel, discontinue, modify, extend or reinstate the Tender Procedure;
- (b) accept or reject any Bid or disqualify any or all Bidders;
- (c) modify all or any dates stated in the RFP; or

(d) amend the RFP, scope of Project or make clarifications thereof,

at any time without any obligation to inform any Interested Party or the Bidder of the grounds, justification, or reason for such action and without liability, in accordance with the Applicable Evaluation Documents.

Interested Parties may acquire the RFP before the Bid Submission Deadline, either: (a) physically, by submitting a written application at the address provided below, specifying their full name, address and contact details; or (b) electronically, by downloading from SPPRA EPADS and/or the websites of PPP Unit, and intimating KWSC in writing through a letter or via email, its full name, address and contact details.

**Designation:** Project Director, 5 MGD Seawater Desalination Project.

**Address:** Room No. 26, First Floor, Block B, 9<sup>th</sup> Mile, Karsaz, Karachi - Sindh, Pakistan.

**Phone No.:** +92-21-99245130; +92-21-99222193.

**Email:** [info.p3proc@gmail.com](mailto:info.p3proc@gmail.com)

**Websites:** KWSC - <https://kwsc.gos.pk> / <https://tiny.cc/KWSC>  
PPP Unit - <https://www.pppunitsindh.gov.pk/>  
SPPRA EPADS - <https://portalsindh.eprocure.gov.pk>

Sincerely,

**PROJECT DIRECTOR  
5 MGD SEAWATER DESALINATION PLANT PROJECT  
KARACHI WATER AND SEWERAGE CORPORATION**

## IMPORTANT NOTICE

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*Capitalized terms used herein and not otherwise defined shall have the meaning given to them in **VOLUME I (TENDER PROCEDURE)** of the RFP.*

The RFP, together with all volumes, attachments, forms, annexures and appendices, attached thereto, is issued by KWSC and is provided to the recipients solely for use in preparing and submitting the Bids.

Bids submitted in response to the RFP by the Bidders shall be upon full understanding and agreement of all terms of the RFP and such submission shall be deemed as an acceptance to all the terms and conditions stated in the RFP.

No GoS Party makes any representations (express or implied) or warranties as to the accuracy or completeness of the information contained in the RFP, or in any other document or information made available to a person in connection with the Project (including the Tender Procedure); and the same shall have no liability for the RFP or for any other written or oral communication transmitted to the recipient in the course of the recipient's evaluation of the Project. No GoS Party shall be liable to reimburse or compensate any recipient for any costs, fees, damages or expenses incurred by the recipient in evaluating or acting upon the RFP or otherwise in connection with the Project.

The RFP shall neither constitute a solicitation to invest, or otherwise participate, in the Project (including the Tender Procedure), nor shall it constitute a guarantee or commitment of any manner on the part of any GoS Party that the Project will be awarded or will otherwise proceed. KWSC reserves the right, in its full discretion, to modify the RFP and/or the Project requirements at any time to the fullest extent permitted by applicable Laws and shall not be liable to reimburse or compensate the recipient for any costs, taxes, expenses or damages incurred by the recipient in such an event.

KWSC may amend the RFP by issuing an addendum or a corrigendum (as applicable) as per the requirements specified in the RFP, at any time prior to the Bid Submission Deadline.

Subject to the provisions of the Applicable Evaluation Documents, KWSC reserves the right to cancel the Tender Procedure at any time.

The interpretation of any aspect of the RFP will be made solely by KWSC/GoS and shall be final and binding on all the Interested Parties and the Bidders.

## **TABLE OF CONTENTS OF THE RFP**

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- **VOLUME I - TENDER PROCEDURE**
- **VOLUME II - TECHNICAL SPECIFICATIONS**
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**VOLUME I - TENDER PROCEDURE**

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**PART 1**  
**INSTRUCTIONS TO BIDDERS**

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## GLOSSARY

*In the RFP (including the Schedules), unless the context otherwise requires, the capitalized terms have the meaning ascribed to them under the Concession Agreement (as defined below). In addition, the following terms shall have the following meaning, unless the context otherwise requires:*

TERM	DEFINITION
<b>Acceptable Bank</b>	Has the meaning given to it in the Concession Agreement.
<b>Acceptance of Notification of Award</b>	Has the meaning given to it in Section 7.3.3 of the Instructions to Bidders.
<b>Additional Capacity System</b>	Has the meaning given to it in the Concession Agreement.
<b>Additional Capacity System (Bid)</b>	Has the meaning given to it in the Concession Agreement.
<b>Additional Capacity System (Future)</b>	Has the meaning given to it in the Concession Agreement.
<b>Affiliate</b>	<p>With respect to a person (being the Bidder or, where the Bidder is a Consortium, each Consortium Member), means:</p> <ul style="list-style-type: none"> <li>(a) any company or entity that directly or indirectly Controls or is Controlled by, or is under common Control with, such person;</li> <li>(b) any director, senior executive or manager either of such person or of any company or entity referred to in paragraph (a) above;</li> <li>(c) any consultant, agent or representative supporting such person in connection with the Project (including the Tender Procedure for the Project); and/or</li> <li>(d) any other person with an aggregate ultimate beneficial interest in at least five percent (5%) of the share capital or ownership interest in such person (howsoever held).</li> </ul>
<b>Applicable Evaluation Documents</b>	Collectively: (a) the Sindh PPP Act; (b) the SPPRA Act; (c) the SPPRA Rules; (d) the SPPRA Guidelines; (e) any applicable order, instruction, guideline, regulations or instrument issued under the Sindh PPP Act, the SPPRA Act and/or the SPPRA Rules; and (f) the RFP.
<b>Apostille Convention</b>	The Convention Abolishing the Requirement of Legalisation for Foreign Public Documents concluded on 5 October 1961.
<b>Best Evaluated Bid</b>	A Bid which is determined to be the <i>'best evaluated bid'</i> for the award of Concession in terms of the requirements of the Applicable Evaluation Documents.
<b>Bid</b>	The proposal (constituting the Technical Proposal and Financial Proposal) submitted by a Bidder in response to the RFP, which is prepared and submitted in accordance with this RFP.
<b>Bid Sheet</b>	The bid sheet in Microsoft Excel spreadsheet form, consistent with the Technical Proposal, setting out all the amounts in PKR and includes all the information required in terms of the Bidding Form F2-A ( <i>Bid Sheet</i> ) of Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>Bidder</b>	The Interested Party that has submitted a Bid in response to the RFP, either as a single entity or a Consortium.
<b>Bidding Forms</b>	The forms provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, that are required to be submitted with the Technical Proposals and the Financial Proposals.
<b>Bid Price</b>	The price quoted by a Bidder in its Financial Proposal, calculated and set out in the Bid Sheet based on the principles set out in Part 2 ( <i>Financial Evaluation Criteria</i> ) of Annexure B ( <i>Evaluation Criteria</i> ) of Part 4 ( <i>Annexures</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.

<b>Bid Security</b>	Has the meaning given to it in Section 4.7.1 of the Instructions to Bidders.
<b>Bid Submission Deadline</b>	The last date for submission of Bids as specified in the Data Sheet, as may be extended by KWSC in accordance with the Applicable Evaluation Documents.
<b>Bid Validity Period</b>	The period of one hundred twenty (120) Days starting from the Bid Submission Deadline, as may be extended in accordance with the Applicable Evaluation Documents.
<b>Bottled Water</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Committed Volume</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Revenue (Actual)</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Revenue (Concessionaire Share)</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Revenue (GoS Share)</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Revenue (GoS Share Factor)</b>	Has the meaning given to it in the Concession Agreement.
<b>Bottled Water Revenue (Guaranteed GoS Share Payment)</b>	Has the meaning given to it in the Concession Agreement.
<b>Business Day</b>	Has the meaning given to it in the Concession Agreement.
<b>Capacity Payment</b>	Has the meaning given to it in the Concession Agreement.
<b>COD</b>	Has the meaning given to it in the Concession Agreement.
<b>Commencement Date</b>	Has the meaning given to it in the Concession Agreement.
<b>Concession</b>	Has the meaning given to it in the Concession Agreement.
<b>Concession Agreement</b>	The agreement titled “ <i>Concession Agreement</i> ” attached in <b>VOLUME III (CONCESSION AGREEMENT)</b> of the RFP.
<b>Concession Period</b>	Has the meaning given to it in the Concession Agreement.
<b>Concessionaire</b>	The SPV to be established and incorporated under the Law of Pakistan by the Successful Bidder for the purposes of undertaking the Project.
<b>Conditions Precedent</b>	Has the meaning given to it in the Concession Agreement.
<b>Consortium</b>	A Bidder comprising of two (2) or more Consortium Members, formed to submit the Bid, in accordance with the requirements of the Applicable Evaluation Documents; provided, that the maximum number of Consortium Members including the Lead Developer shall be three (3).
<b>Consortium Authorized Representative</b>	Has the meaning given to it in Section 2.1.2(f) of the Instructions to Bidders.
<b>Consortium Member</b>	Each member of a Consortium, including the Lead Developer.
<b>Consortium Undertaking</b>	Has the meaning given to it in Section 2.1.2(d) of the Instructions to Bidders.
<b>Construction Activities</b>	Has the meaning given to it in the Concession Agreement.
<b>Construction Performance Security</b>	The irrevocable and unconditional bank guarantee (and any replacement thereof), in favour of GoS, in an amount equal to two percent (2%) of the Total Project Cost, issued by an Acceptable Bank, and in the form set out in part 1 of <b>SCHEDULE F (Performance Securities)</b> to the Concession Agreement.
<b>Construction Performance Security Expiry Date</b>	Has the meaning given to it in the Concession Agreement.
<b>Control</b>	Has the meaning given to it in the Concession Agreement.
<b>Data Sheet</b>	The data sheet provided in Section 9 ( <i>Data Sheet</i> ) of the Instructions to Bidders.
<b>Day</b>	Has the meaning given to it in the Concession Agreement.
<b>Desalinated Water</b>	Has the meaning given to it in the Concession Agreement.
<b>Desalinated Water Supply</b>	Has the meaning given to it in the Concession Agreement.

<b>System</b>	
<b>DFBOMT</b>	Design, finance, build, operate, maintain and transfer.
<b>Eligible Country</b>	All countries with whom Islamic Republic of Pakistan has commercial/trade relations and those which are not Sanctioned Countries.
<b>Eligible Project</b>	Has the meaning given to it in Part 1 ( <i>Technical Evaluation Criteria</i> ) of Annexure B ( <i>Evaluation Criteria</i> ) of Part 4 ( <i>Annexures</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>EPC Contractor Criteria</b>	The criteria for the evaluation of the Proposed EPC Contractor set out in Part 1 ( <i>Technical Evaluation Criteria</i> ) of Annexure B ( <i>Evaluation Criteria</i> ) of Part 4 ( <i>Annexures</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>Final Expiry Date</b>	Has the meaning given to it in the Concession Agreement.
<b>Financial Proposal</b>	The financial proposal (including all forms, documents and information required in terms of the RFP and submitted therewith), submitted by a Bidder as part of its Bid pursuant to the RFP.
<b>Gallons</b>	Imperial gallons.
<b>GoS</b>	The Local Government & Housing Town Planning Department, Government of Sindh.
<b>GoS Account One</b>	Has the meaning given to it in the Concession Agreement.
<b>GoS Parties</b>	Collectively, KWSC, the Government of Sindh and the TFEC, including their consultants, advisors, employees, personnel or agents and in the case of the Government of Sindh, also includes GoS, all ministries, department, attached department, autonomous body of Government of Sindh, local government or any organization or corporation owned or controlled by the Government of Sindh.
<b>GoS Project Document(s)</b>	Has the meaning given to it in the Concession Agreement.
<b>Independent Auditor</b>	Has the meaning given to it in the Concession Agreement.
<b>Independent Engineer</b>	Has the meaning given to it in the Concession Agreement.
<b>Instructions to Bidders</b>	The Instructions to Bidders set out in Part 1 ( <i>Instructions to Bidders</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>Integrity Pact</b>	Has the meaning given to it in Section 8.3 ( <i>Integrity Pact</i> ) of the Instructions to Bidders.
<b>Interested Party</b>	A person (including a company, firm, body corporate or other legal entity, but not an individual), either as a single entity or a Consortium formed by two (2) or more persons, who has purchased the RFP from KWSC.
<b>IZP</b>	Has the meaning given to it in the Concession Agreement.
<b>IZP Guarantee Instrument</b>	Has the meaning given to it in the Concession Agreement.
<b>KWSC</b>	Karachi Water and Sewerage Corporation, established under the KWSC Act.
<b>KWSC Act</b>	The Karachi Water and Sewerage Corporation Act, 2023.
<b>Law</b>	Has the meaning given to it in the Concession Agreement.
<b>Lead Developer</b>	The Bidder, as a single entity, or in case of a Consortium, the relevant Consortium Member, identified in the Technical Proposal, fulfilling the Lead Developer Criteria.
<b>Lead Developer Criteria</b>	The criteria for the evaluation of the Lead Developer set out in Part 1 ( <i>Technical Evaluation Criteria</i> ) of Annexure B ( <i>Evaluation Criteria</i> ) of Part 4 ( <i>Annexures</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>Levelized Net Water Tariff</b>	Levelized net water tariff per Gallon of Desalinated Water, quoted by a Bidder in its Financial Proposal, calculated and set out in the Bid Sheet based on the principles set out in Part 2 ( <i>Financial Evaluation Criteria</i> ) of Annexure B ( <i>Evaluation Criteria</i> ) of Part 4 ( <i>Annexures</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.
<b>MGD</b>	Million Gallons per Day.
<b>Notification of Award</b>	The notification of award to be issued by KWSC to the Successful Bidder as per Section 7.3.1 of the Instructions to Bidders.

<b>O&amp;M Contractor</b>	Has the meaning given to it in the Concession Agreement.
<b>O&amp;M Contractor Criteria</b>	Has the meaning given to it in the Concession Agreement.
<b>Output Payment</b>	Has the meaning given to it in the Concession Agreement.
<b>PDF</b>	The portable document format used for submitting the Technical Proposal and Financial Proposal (and any other documents required by the RFP) electronically on the SPPRA EPADS in accordance with the Submission Guidelines.
<b>PKR</b>	Pakistani Rupees, the lawful currency of the Islamic Republic of Pakistan.
<b>PPP</b>	Public-Private Partnership.
<b>PPP Unit</b>	The PPP Unit established under Section 6 ( <i>Public-Private Partnership Unit</i> ) of the Sindh PPP Act.
<b>Pre-Bid Meeting</b>	The meeting/conference relating to the queries raised and clarifications sought by the prospective Bidders held on the dates specified in the Data Sheet.
<b>Project</b>	Has the meaning given to it in the Concession Agreement.
<b>Proposed EPC Contractor</b>	The contractor proposed by a Bidder in terms of Section 2.1.12 of the Instructions to Bidders, which will be evaluated by TFEC under this RFP; and may include a Bidder itself in case the Bidder intends to undertake the Construction Activities for the Project.
<b>PST</b>	Pakistan Standard Time.
<b>RFP</b>	The request for proposals document issued by KWSC in relation to the Project, containing the documents specified in Section 3.1.1 of the Instructions to Bidders, and includes any amendments and/or modifications thereto.
<b>Sanctioned Country</b>	Has the meaning given to it in the Concession Agreement.
<b>SBP</b>	The State Bank of Pakistan.
<b>SBP Debit Authority</b>	Has the meaning given to it in the Concession Agreement.
<b>Sindh PPP Act</b>	The Sindh Public Private Partnership Act, 2010.
<b>SOE</b>	Has the meaning given to it in Section 2.1.5(a).
<b>Sovereign</b>	Has the meaning given to it in Section 2.1.5(a).
<b>SPPRA</b>	The Sindh Public Procurement Regulatory Authority, established under the SPPRA Act.
<b>SPPRA Act</b>	The Sindh Public Procurement Act, 2009.
<b>SPPRA EPADS</b>	The SPPRA Sindh e-Pak Acquisition & Disposal System (Public Procurement Regulatory Authority Sindh EPADS website), which can be accessed using the link provided in Section 9 ( <i>Data Sheet</i> ) of the Instructions to Bidders.
<b>SPPRA Guidelines</b>	The guidelines issued by SPPRA for procurement of works.
<b>SPPRA Rules</b>	The Sindh Public Procurement Rules, 2010.
<b>SPV</b>	Special purpose vehicle, being a company incorporated under the applicable Laws.
<b>Submission Guidelines</b>	The step-by-step instructions for electronically submitting the Bid through the SPPRA EPADS (file uploading e-submission method), as may be amended from time to time by the SPPRA; the link for the Submission Guidelines is provided in Section 9 ( <i>Data Sheet</i> ) of the Instructions to Bidders.
<b>Successful Bidder</b>	The Bidder whose Bid has been determined to be the Best Evaluated Bid.
<b>Technical Proposal</b>	The technical proposal (including all forms, documents and information required in terms of the RFP and submitted therewith), submitted by a Bidder as part of its Bid pursuant to the RFP.
<b>Tender Procedure</b>	The international competitive Tender Procedure being conducted pursuant to the Applicable Evaluation Documents, for the selection of the Successful Bidder for the award of the Concession for the Project.
<b>TFEC</b>	The technical and financial evaluation committee formed in accordance with the applicable Laws for the purposes of the Project.
<b>Total Project Cost</b>	The cost specified by a Bidder in Bidding Form F1 ( <i>Letter of Financial</i>

	<i>Proposal</i> ) submitted as part of the Financial Proposal.
<b>USD</b>	United States Dollars, the lawful currency of the United States of America.
<b>Water Tariff Payment</b>	Has the meaning given to it in the Concession Agreement.
<b>Water Tariff Payment Account (GoS)</b>	Has the meaning given to it in the Concession Agreement.
<b>Water Tariff Payment Account (GoS) Funding Amount</b>	Has the meaning given to it in the Concession Agreement.

## 1. GENERAL

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### 1.1 INTRODUCTION

KWSC intends to engage a private party on a PPP basis to DFBOMT a Desalinated Water Supply System to ensure reduction in the potable grade water supply deficit in the city of Karachi. The Project is expected to have a major development impact, as the first competitively procured reverse osmosis seawater desalination plant project in Pakistan on a PPP basis that shall aid in diversifying the water sources for water stressed areas in Karachi. For details on the Project background, scope of work and specifications, please refer to **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP.

The Concession Agreement establishes the rights and obligations of KWSC, the GoS and the Concessionaire and will be executed among KWSC, the GoS and the Concessionaire in accordance with the requirements of the RFP. The Concession Period shall commence on the Commencement Date (i.e. the date on which it is certified that the Conditions Precedent have been satisfied, deferred and/or waived in accordance with the Concession Agreement) and end on the Final Expiry Date.

The Successful Bidder/Concessionaire shall be responsible for developing and implementing the financing structure for the Project, including the financing and commercial arrangements in accordance with the requirements of this RFP. In addition, the Concessionaire shall use its best endeavours to procure the IZP Guarantee Instrument to secure the entire Termination Payment Coverage Amount in terms of section 12.2 (*IZP Guarantee Instrument and SBP Debit Authority*) of the Concession Agreement. In order to enable IZP to conduct its due diligence of the Bidders for purposes of issuance of the IZP Guarantee Instrument, the Successful Bidder and/or the Concessionaire shall provide the information required by IZP in terms of Annexure C (*IZP KYC Information*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP within such time period as stated in the Notification of Award; provided, that such information is preliminary only and further documents and information may be requested from time to time from the Successful Bidder and/or the Concessionaire for purposes of the aforesaid due diligence.

Support available to the Successful Bidder/Concessionaire from the GoS Parties for the Project have been specified in the GoS Project Documents.

Subject to the requirements of the applicable GoS Project Documents, the GoS shall:

- (a) establish the Water Tariff Payment Account (GoS) and pre-fund the same with the Water Tariff Payment Account (GoS) Funding Amount on a bi-annual basis, in accordance with the mechanism specified in the Concession Agreement; and
- (b) issue the SBP Debit Authority in relation to the GoS Account One, authorizing the SBP to debit the GoS Account One, but only if the IZP Guarantee Instrument is not issued to secure the entire Termination Payment Coverage Amount and the GoS is resultantly obliged to issue the SBP Debit Authority in accordance with section 12.2 (*IZP Guarantee Instrument and SBP Debit Authority*) of the Concession Agreement.

The Successful Bidder/Concessionaire shall be required to comply with the shareholding requirements, including share transfer restrictions, as set out in the Concession Agreement.

The Water Tariff Payment to be paid to the Concessionaire shall comprise, following the COD: (a) the Capacity Payment; and (b) the Output Payment, in each case, payable in accordance with the Concession Agreement. Determination of the Water Tariff Payment shall be in accordance with **SCHEDULE H (Water Tariff Payment Calculation)** of the Concession Agreement.

In addition to the Desalinated Water Supply System, the Concessionaire shall be entitled to propose the Additional Capacity System (Bid) as part of the Bid or establish the Additional Capacity System (Future) at any time prior to expiration of the Concession Period in accordance with section 12.3.3

(*Additional Capacity System and the Bottled Water Revenue Sharing*) of the Concession Agreement. To the extent (a) a Bidder proposes establishment of the Additional Capacity System (Bid), the Bottled Water Revenue (GoS Share) forecast in the Bid Sheet shall be deemed to be committed revenue and the Levelized Net Water Tariff shall be determined taking into account such Bottled Water Revenue (GoS Share), and (b) the Concessionaire proposes establishment of the Additional Capacity System (Future), the Bottled Water Revenue (GoS Share) shall be adjusted against the Water Tariff Payments, in each case, in accordance with section 12.3 (*Bottled Water Revenue Account, Bottled Water Revenue and Bottled Water Revenue Sharing*) of the Concession Agreement.

Provisions related to *inter alia* establishment, operation, management and maintenance of the Additional Capacity System and sharing of the Bottled Water Revenue (Actual) between the Concessionaire and the GoS (if applicable) in the form of the Bottled Water Revenue (Concessionaire Share) and the Bottled Water Revenue (GoS Share) are set out in section 12.3 (*Bottled Water Revenue Account, Bottled Water Revenue and Bottled Water Revenue Sharing*) of the Concession Agreement. The Bottled Water Revenue (GoS Share) shall be calculated in the manner set out in section 12.3 (*Bottled Water Revenue Account, Bottled Water Revenue and Bottled Water Revenue Sharing*) and **SCHEDULE H (Water Tariff Payment Calculation)** of the Concession Agreement.

The Concessionaire will be responsible for handing over the Desalinated Water Supply System to KWSC in a good working condition at the end of the Concession Period, as specified in the Concession Agreement, without any further compensation, to the Concessionaire at the time of such transfer. The transfer of the Desalinated Water Supply System shall be subject to an inspection and correction process in order to ensure that the Desalinated Water Supply System is handed over in accordance with the terms and conditions set out in the Concession Agreement.

All risks and obligations of KWSC, the GoS and the Successful Bidder/Concessionaire shall be in accordance with the RFP (including the GoS Project Documents) and the Bidders shall be deemed to have full and complete understanding of the risks relating to the Project and their allocation, as set out in the RFP (including the GoS Project Documents).

By submitting the Bid, the Bidder acknowledges the acceptance of all tax related obligations. For the sake of clarity, the Concessionaire shall be required to pay all the taxes, duties, levies, stamp duties, rents, and other charges payable to any local government, provincial or federal government (as applicable) without any grossing-up obligation or liability on part of the GoS/KWSC.

Before submitting the Bids, the Bidders should carefully examine all the information provided in the RFP (including the GoS Project Documents).

## **1.2 OVERVIEW OF THE TENDER PROCEDURE**

The Tender Procedure in relation to the Project is being conducted pursuant to the Applicable Evaluation Documents and comprises the following:

- ***Competitive Bidding***

KWSC has issued the RFP for conducting the Tender Procedure for the selection of a Successful Bidder for the award of the Concession, in accordance with the requirements of the Applicable Evaluation Documents.

In terms of the Applicable Evaluation Documents, the “*single stage two envelope*” tender procedure has been adopted. A Bidder whose Bid is determined to be the Best Evaluated Bid, shall be awarded the Concession.

The Successful Bidder shall be required to incorporate the Concessionaire which shall be the concessionaire for the purposes of the Project.

### 1.3 INDICATIVE SCHEDULE

The indicative timelines in relation to the Tender Procedure for the Project (as may be amended by KWSC in its discretion) are as follows:

<b>ACTIVITY</b>	<b>DATE (<i>TENTATIVE</i>)</b>
<b>Issuance of RFP</b>	January 20, 2025
<b>First Pre-Bid Meeting</b>	February 10, 2025
<b>Site Visit</b>	February 12, 2025
<b>Bid Submission Deadline and Opening of Technical Proposals</b>	March 18, 2025
<b>Opening of Financial Proposals</b>	April 18, 2025
<b>Announcement of Bid Evaluation Results</b>	April 30, 2025
<b>Award of Project to Successful Bidder</b>	May 21, 2025
<b>Signing of the Concession Agreement</b>	June 21, 2025

\*In the event of any public holiday occurring on the above-mentioned dates, the immediately succeeding Business Day will be considered as the Day on which the respective milestone shall take place.

## 2. ELIGIBLE BIDDERS

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### 2.1 GENERAL REQUIREMENTS

2.1.1 Any person who is eligible to submit a proposal to undertake a project under the Sindh PPP Act may Bid for the Project. A Bid may be submitted by a single entity or a Consortium. In order to demonstrate their eligibility to participate in the Tender Procedure, Bidders are required to submit all information/documentation required as per the provisions of the RFP.

2.1.2 In case a Bid is submitted by a Consortium:

- (a) such Bidder shall submit details of the Consortium Member who will be the Lead Developer, fulfilling the Lead Developer Criteria;
- (b) the Lead Developer shall hold a minimum of forty percent (40%) equity/ownership interest in the Concessionaire in accordance with the Concession Agreement;
- (c) each Consortium Member other than the Lead Developer will be required to hold a minimum of ten percent (10%) equity/ownership interest in the Concessionaire in accordance with the Concession Agreement;
- (d) such Bidder shall submit an undertaking as part of its Technical Proposal, in the form and substance attached as Bidding Form T5 (*Form of Consortium Undertaking and Requirements for Consortium*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP (the **Consortium Undertaking**) to be executed by each Consortium Member through its authorized representative;
- (e) a power of attorney of the Consortium Member, in the form and substance attached as Part A (*Power of Attorney to Authorize a Person to Sign the Documents*) of Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, vesting authority in its authorized representative to sign and submit the relevant documents to be submitted as part of the Bid (and any other document required in terms of the RFP) on behalf of itself, along with a copy of authorization (such as in the form of a board resolution) in favour of the person issuing the power of attorney; and
- (f) each Consortium Member (through its authorised representative) shall authorize the Lead Developer to act as the authorized representative of the Consortium (the **Consortium Authorized Representative**) to represent and irrevocably bind the Consortium Members in all matters in connection with the Tender Procedure, and in case the Consortium is awarded the Project, finalize the Concession Documents. Such authority shall be in the form of a power of attorney executed by its authorised representative, in the form and substance attached as Part B (*Power of Attorney to Authorize the Consortium Authorized Representative*) of Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, appointing the Consortium Authorized Representative and vesting authority in the Consortium Authorized Representative to sign and submit the Bid (and any other document required in terms of the RFP) on behalf of each Consortium Member.

2.1.3 In case a Bid is submitted by a single entity, such Bidder shall be:

- (a) deemed to be the Lead Developer, and shall be required to fulfil the Lead Developer Criteria; and
- (b) appoint its authorized representative pursuant to a power of attorney (in the form and substance attached as Part A (*Power of Attorney to Authorize a Person to Sign the Documents*) of Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER**

**PROCEDURE**) of the RFP, vesting authority in the authorized representative to sign and submit the Bid (and any other document or information required in terms of the RFP) on behalf of the Bidder, along with a copy of authorization (such as in the form of a board resolution) in favour of the person issuing the power of attorney.

- 2.1.4 A Bidder (including a Consortium Member) shall not have a conflict of interest as per the requirements of the RFP. All Bidders (including any Consortium Members) found to have a conflict of interest shall be disqualified. KWSC will take appropriate actions to manage such conflicts of interest, which may include rejecting the Bid if it determines that a conflict of interest may affect the integrity of the Tender Procedure.
- 2.1.5 A Bidder (including a Consortium Member) may be considered to be in a conflict of interest with one or more Bidders, if such Bidder/Consortium Member, including its subsidiaries, participates in more than one (1) Bid, either individually or as a Consortium Member. This will result in the disqualification of all Bids in which the Bidder (including a Consortium Member) is involved. A Bidder (including a Consortium Member) shall not be considered to be in a conflict of interest with another Bidder, if such Bidders (including Consortium Members) are the subsidiaries of a common parent company or one Bidder (including a Consortium Member) is the parent company of the other Bidder (including a Consortium Member); provided, that the following conditions are satisfied:
- (a) such parent company is a sovereign state (**Sovereign**) or a sovereign state-owned enterprise (**SOE**);
  - (b) the Sovereign, SOE and the relevant subsidiaries of the Sovereign and/or SOE participating in the Tender Procedure conduct their business operations on an independent basis, are independent legal persons, have independent management and boards and are free from each other's financial obligations including independent auditing and accounting; and
  - (c) such Bidder (including a Consortium Member) has provided a legal opinion duly issued by a reputable, qualified legal counsel in its jurisdiction of incorporation confirming (a) and (b) above.
- 2.1.6 The circumstances provided above which may constitute a conflict of interest are not exhaustive, and KWSC shall be the sole determinant of when a conflict of interest shall arise.
- 2.1.7 A Bidder (or a Consortium Member) which has been declared ineligible or blacklisted by any of its employers, any Federal or Provincial governmental or non-governmental department/agency in Pakistan, or any other provincial government/governments of any foreign countries or their governmental bodies and/or international organizations (e.g. World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.) at the Bid Submission Deadline, shall not be considered.
- 2.1.8 In order to demonstrate their compliance with the requirements set out in the RFP and for participation in the Tender Procedure, all Bidders (including each Consortium Member) shall submit an undertaking in the form and substance attached as Bidding Form T4 (*Form of Undertaking*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)**.
- 2.1.9 Each Bidder (including a Consortium Member) shall indemnify the GoS Parties, fully in respect of any damage, cost, penalty or expense of any kind incurred by such person arising from a Bidder's or its representative's (including a Consortium Member's or its representative's) breach of its obligations under the RFP.
- 2.1.10 The Successful Bidder shall be required to comply with the requirements regarding shareholding matters including share transfer restrictions as set out in the Concession Agreement.
- 2.1.11 A Bidder may undertake the works and/or services for the Project as contemplated in the RFP (including the GoS Project Documents), either itself or may sub-contract the same in accordance

with the requirements set out in the RFP (including the GoS Project Documents). For any part of the scope of works and/or services for the Project, which the Bidder intends to sub-contract, the Bidder shall give details of the name and nationality of the Proposed EPC Contractor. The Bidder shall include in its Bid, information establishing compliance of the Proposed EPC Contractor with the EPC Contractor Criteria. Bidders are allowed to list one (1) Proposed EPC Contractor only.

- 2.1.12 The Bidder shall be responsible for ensuring that any Proposed EPC Contractor (including its representative(s)) complies with the requirements of the RFP (including the applicable GoS Project Documents) and the Laws. The engagement of the EPC Contractor for the Project shall not absolve a Bidder (including the Concessionaire) from its obligations under the RFP (including the applicable GoS Project Documents) and the Laws.
- 2.1.13 A Proposed EPC Contractor shall not be part of more than one (1) Bid.
- 2.1.14 A Bidder is not allowed to participate as a Proposed EPC Contractor for another Bidder. Each Bidder shall be responsible for ensuring that the information relating to its Bid is kept confidential prior to its submission.
- 2.1.15 The Proposed EPC Contractor of the Successful Bidder may also be proposed as an O&M Contractor after the signing of the Concession Agreement, in terms thereof; provided, the Proposed EPC Contractor meets the O&M Contractor Criteria.

### 3. RFP DOCUMENT

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#### 3.1 CONTENTS OF THE RFP

3.1.1 The RFP comprises the documents stated below and should be read in conjunction with any addendum and/or corrigendum issued in accordance with Section 3.4 (*Amendment of RFP*) of the Instructions to Bidders.

**(A) VOLUME I - TENDER PROCEDURE**

- (a) Part 1 - Instructions to Bidders.
- (b) Part 2 - Bidding Forms.
- (c) Part 3 - Bidding Documentary Requirements.
- (d) Part 4 - Annexures.

**(B) VOLUME II - TECHNICAL SPECIFICATIONS**

**(C) VOLUME III - CONCESSION AGREEMENT**

3.1.2 The Bidding Forms comprise the forms stated below and should be read in conjunction with any addendum or corrigendum to the RFP issued in accordance with Section 3.4 (*Amendment of RFP*) of the Instructions to Bidders:

(A) For the Technical Proposal:

- (a) Bidding Form T1 (*Letter of Technical Proposal*);
- (b) Bidding Form T2 (*Form of Integrity Pact*);
- (c) Bidding Form T3 (*Form of Power of Attorney*);
- (d) Bidding Form T4 (*Form of Undertaking*);
- (e) Bidding Form T5 (*Form of Consortium Undertaking and Requirements for Consortium*);
- (f) Bidding Form T6 (*Form of Affidavit*);
- (g) Bidding Form T7 (*Technical Project Methodology/ Approach*);
- (h) Bidding Form T8 (*Operation & Maintenance Plan and Procedures*);
- (i) Bidding Form T9 (*Implementation Schedule*);
- (j) Bidding Form T10 (*List of Manufacturers of Main Equipment*);
- (k) Bidding Form T11 (*Schedule of Equipment & Technology Suppliers*);
- (l) Bidding Form T12 (*Organization & Staffing*);
- (m) Bidding Form T13 (*Quality Control Practices & Procedures*);
- (n) Bidding Form T14 (*Health & Safety Plan and Procedures*);
- (o) Bidding Form T15 (*Methodology/ Approach for the Environmental & Social Management Plan and Procedures*);
- (p) Bidding Form T16 (*Other Technical Data Submission*);
- (q) Bidding Form T17 (*Lead Developer Technical Criteria Evidence Sheet*);
- (r) Bidding Form T18 (*Bidders Financial Criteria Evidence Sheet*);
- (s) Bidding Form T19 (*Proposed EPC Contractor Technical Criteria Evidence Sheet*);
- (t) Bidding Form T20 (*Proposed EPC Contractor Financial Criteria Evidence Sheet*);
- (u) Bidding Form T21 (*Litigation History*); and
- (v) Bidding Form T22 (*Form of Bid Security*).

(B) For the Financial Proposal:

- (a) Bidding Form F1 (*Letter of Financial Proposal*); and
- (b) Bidding Form F2 (*Financial Forms*).

### **3.2 COMPLETENESS OF RFP**

- 3.2.1 No GoS Party shall be responsible for the completeness of the documents comprising the RFP and its addenda/corrigenda, if a Bidder has not obtained the same directly from the source(s) stated by KWSC in the Letter of Invitation.
- 3.2.2 Bidders are expected to carefully examine all instructions, forms and terms in the RFP and to furnish all information or documentation required pursuant to the RFP. Failure to comply with the requirements of Bid submission set out in the RFP will be at the Bidders' own risk and may result in the rejection of the Bid. Pursuant to Section 6.4 (*Determination of Responsiveness of Bids*) of the Instructions to Bidders, Bids which are not responsive to the requirements of the RFP shall be rejected.

### **3.3 CLARIFICATIONS OF RFP**

- 3.3.1 A Bidder requiring any clarification pertaining to the RFP shall do so in writing *via* the SPPRA EPADS and shall also contact KWSC in writing, at the address or through email provided in the Data Sheet or raise its enquiries during the Pre-Bid Meeting. KWSC will respond in writing to any request for clarification provided that such request is received no later than five (5) calendar Days prior to the Bid Submission Deadline. The response shall be uploaded on SPPRA EPADS and/or the websites of KWSC and PPP Unit including a description of the inquiry but without identifying its source. Should KWSC deem it necessary to amend the RFP as a result of a request for clarification, it shall do so following the procedure specified in Section 3.4 (*Amendment of RFP*) of the Instructions to Bidders. No markup of the RFP (including the GoS Project Documents and/or other documents/instruments attached to the RFP) shall be accepted. Bidders may submit comments or seek clarifications on the RFP, which may be considered by KWSC/TFEC.
- 3.3.2 The Bidder's designated representative shall be invited to attend the Pre-Bid Meeting at the date, time and venue indicated in the Data Sheet. The Pre-Bid Meeting may be conducted virtually via the web link provided by KWSC to all Bidders. The purpose of the Pre-Bid Meeting will be to clarify issues and to answer questions of the Bidders on any matter relating to the RFP. Queries to be discussed during the Pre-Bid Meeting should be submitted seven (7) calendar Days prior to the date of each Pre-Bid Meeting. In addition to the queries discussed during the Pre-Bid Meeting, Bidders may submit additional queries to KWSC within the time period as specified in Section 3.3.1 of the Instructions to Bidders and KWSC shall respond to such queries in writing as specified in Section 3.3.1 of the Instructions to Bidders. Non-attendance at the Pre-Bid Meeting will not be a cause for disqualification of a Bidder. In addition to the Pre-Bid Meeting, on the written request of any Bidder, provided that the same is submitted at least fifteen (15) calendar Days prior to Bid Submission Deadline, KWSC may hold discussions on the RFP separately with such Bidder on such questions and clarifications submitted in writing to KWSC. Any proposed changes or responses to such clarifications and questions shall be provided to all Bidders.
- 3.3.3 Interested Parties are advised to visit and examine the site(s) where the works and services in relation to the Project are to be performed and undertaken and its surroundings and obtain for themselves at their own expense and responsibility all information that may be necessary for preparing the Bid and entering into the GoS Project Documents and other relevant instruments as per the RFP. The costs and permission(s) (if any) for the purposes of visiting such site(s) shall be at the Interested Party's own expense and liability. Interested Parties shall be required to seek prior written permission of KWSC for visiting such site(s); provided, that such permission is sought one (1) week from the planned visit date.

KWSC may invite the Interested Parties for a site visit to be conducted by KWSC at a date and time as may be communicated during the first (1<sup>st</sup>) Pre-Bid Meeting by KWSC.

Site visit(s) shall be conducted only upon the express condition that the Interested Party, its personnel and agents will release and indemnify the GoS Parties (including KWSC) from and against

all liabilities in respect thereof, and will be responsible for injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of such visit.

**3.4 AMENDMENT OF RFP**

- 3.4.1 At any time prior to the Bid Submission Deadline, KWSC may amend the RFP by issuing an addendum/corrigendum.
- 3.4.2 Any addendum/corrigendum issued shall be considered part of the RFP. Such addendum/corrigendum shall be communicated to the potential Bidders and shall be published on SPPRA EPADS and/or the respective websites of KWSC and PPP Unit.
- 3.4.3 KWSC may, at its discretion, extend the Bid Submission Deadline in accordance with Section 5.2.4 of the Instructions to Bidders, if it considers that as a result of issuance of any addendum/corrigendum, additional time will be required by the Interested Parties for preparation of their Bids.

## **4. PREPARATION OF BIDS**

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### **4.1 COSTS FOR BIDS**

Bidders shall bear all costs associated with the preparation and submission of their Bids, including (without limitation) all costs and expenses relating to preparation of responses to any clarifications sought by KWSC in accordance with Section 6.1.1 of the Instructions to Bidders. KWSC shall in no case be responsible or liable for such costs, regardless of the conduct or outcome of the Tender Procedure.

### **4.2 LANGUAGE OF THE BIDS**

The Bid, and all correspondence and documents related to the Bid and the Tender Procedure between the Bidder and KWSC shall be written in the English language. In case any document/information furnished by the Bidder is in a language other than English, it will need to be accompanied by an English translation (duly notarized by notary public and (i) attested by Pakistan Embassy/Consulate and, once brought into Pakistan, should be attested by Ministry of Foreign Affairs, Pakistan; or (ii) subject to applicable laws of the country where English translation is issued, authenticated by an apostille under the Apostille Convention) of its pertinent passages for the purposes of interpretation of the Bid. In case of any discrepancy, the English translation shall prevail.

### **4.3 DOCUMENTS COMPRISING THE BID**

4.3.1 The Bid shall comprise a Technical Proposal, containing the documents listed in Section 4.4 (*Technical Proposal*) of the Instructions to Bidders, and a Financial Proposal, containing the documents listed in Section 4.5 (*Financial Proposal*) of the Instructions to Bidders, each submitted simultaneously through SPPRA EPADS in the manner prescribed in the Submission Guidelines.

4.3.2 Bidders are expected to carefully examine the RFP when preparing their Bids and use only the Bidding Forms specified in Section 3.1.2 of the Instructions to Bidders. Bidding Forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. Any material deviations/omissions/reservations from the formats provided in the RFP shall not be accepted and may form basis for the rejection of the Bid. Material deficiencies, in the sole opinion of KWSC, in providing the information requested may result in rejection of a Bid.

4.3.3 In case a document required to be submitted as part of the Technical Proposal, is submitted with the Financial Proposal; or a document required to be submitted with the Financial Proposal, is submitted with the Technical Proposal, it shall not be considered for evaluation and such document shall be considered as not submitted by the Bidder.

### **4.4 TECHNICAL PROPOSAL**

4.4.1 The Technical Proposal shall demonstrate the Bidder's unconditional acceptance of the complete scope of works and services under the RFP. Any material omission, reservation, deviation or condition attached in the Technical Proposal may cause the Bid to be rejected by KWSC as non-responsive. Under no circumstances will KWSC consider/accept a conditional Technical Proposal.

4.4.2 The Technical Proposal submitted by the Bidder shall include the following information:

- (a) signed and filled out 'Letter of Technical Proposal', as set out in Bidding Form T1 (*Letter of Technical Proposal*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (b) Integrity Pact, as set out in Bidding Form T2 (*Form of Integrity Pact*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, in accordance with Section 8.3 (*Integrity*)

*Part*) of the Instructions to Bidders;

- (c) authorization in the form of a power of attorney on behalf of the Bidder, and in case of a Consortium, each Consortium Member, authorizing its representative to sign the relevant documents as per the requirements of the RFP, on its behalf, in the format attached as Part A (*Power of Attorney to Authorize a Person to Sign the Documents*) of Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (d) in case the Bidder is a Consortium, a power of attorney, to be executed by the authorized representatives of the Consortium Members, in favour of the Consortium Authorized Representative, to authorize it to represent and bind all Consortium Members, as set out in the form attached as Part B (*Power of Attorney to Authorize the Consortium Authorized Representative*) of Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (e) an undertaking from the Bidder (in case of Consortium, each Consortium Member), in the form and substance as set out in Bidding Form T4 (*Form of Undertaking*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (f) Consortium Undertaking, to be issued by the authorized representatives of the Consortium Members, in the form and substance as set out in Bidding Form T5 (*Form of Consortium Undertaking and Requirements for Consortium*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (g) details of the Proposed EPC Contractor in accordance with Section 2.1.11 of the Instructions to Bidders, along with the following documents/information evidencing compliance with the EPC Contractor Criteria. For the Proposed EPC Contractor or a Bidder (including a Consortium Member), in case the Bidder (or the relevant Consortium Member) intends to undertake the relevant engineering, procurement and construction works for the Project itself:
  - (i) completion certificates, or relevant evidence issued by an employer or a relevant third-party which engaged the Proposed EPC Contractor (or a Bidder (including a Consortium Member), as applicable) for the relevant works/project, indicating that the relevant works/project undertaken by the Proposed EPC Contractor (or a Bidder (including a Consortium Member), as applicable) have been completed, and with respect to each of the completed works/projects in the last ten (10) years, the information in the format provided in Bidding Form T19 (*Proposed EPC Contractor Technical Criteria Evidence Sheet*) set out in Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, clearly indicating the name of the Proposed EPC Contractor (or a Bidder (including a Consortium Member), as applicable), scope of engineering, procurement and construction works undertaken by such Proposed EPC Contractor and the cost of the engineering, procurement and construction works undertaken by the Proposed EPC Contractor, in each case, evidencing compliance with Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP; and
  - (ii) for Proposed EPC Contractor (or a Bidder (including a Consortium Member), as applicable) (A) audited financial statements, duly certified by an independent certified public accountant or auditor, for the three (3) most recent full financial years for which audited financial statements are available as at the Bid Submission Deadline; or (B) if: (I) the relevant Proposed EPC Contractor is incorporated in a jurisdiction which does not require the auditing of financial statements; and/or (II) such Proposed EPC Contractor has not in fact had its financial statements audited, on such Proposed EPC Contractor's non-audited consolidated financial statements,

accompanied by a written opinion issued by an independent certified public accountant or auditor certifying the relevant Proposed EPC Contractor's Net Worth for the three (3) most recent full financial years for which such financial statements are available as at the Bid Submission Deadline; provided, that the non-audited financial statements submitted by an entity, which by applicable law is required to prepare audited financial statements, shall not be accepted for the purposes of evaluation;

- (iii) a detailed description of the Proposed EPC Contractor containing:
  - (A) legal name;
  - (B) complete head office contact information, including mailing address, telephone and fax numbers, and an e-mail address;
  - (C) incorporation details, including corporate charter and articles of incorporation. If the Proposed EPC Contractor is an unincorporated legal entity, then the proof of that legal entity's existence must be provided;
- (iv) the Proposed EPC Contractor shall be required to provide:
  - (A) for the Proposed EPC Contractor, other than to whom Section (g)(ii)(A) above, apply, audited consolidated financial statements, including a consolidated balance sheet, income statement, statement of cash flows and accompanying notes, for the three (3) most recent full financial years for which such statements are available as at the Bid Submission Deadline, duly certified by a certified public accountant or auditor; or
  - (B) for the Proposed EPC Contractor to whom Section (g)(ii)(B) above, apply, non-audited consolidated financial statements, including a consolidated balance sheet, income statement, statement of cash flows and accompanying notes, for the three (3) most recent full financial years for which such statements are available as at the Bid Submission Deadline, accompanied by a written opinion issued by an independent certified public accountant or auditor, certifying the relevant entity's Net Worth for the three (3) most recent full financial years for which such financial statements are available as at the Bid Submission Deadline; and
  - (C) information as per as per Bidding Form T19 (*Proposed EPC Contractor Technical Criteria Evidence Sheet*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, specifying the Net Worth of the Proposed EPC Contractor;
- (h) affidavits from the Bidders and the Proposed EPC Contractor in the form and substance attached as Bidding Form T6 (*Form of Affidavit*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (i) letters by the Proposed EPC Contractor, setting out: (i) the intention of the Bidder and the Proposed EPC Contractor to undertake the Project as per the requirements of the RFP, in case of award; and (ii) authorization in favour of the Bidder to submit the Proposed EPC Contractor's information and documentation required in terms of the RFP as part of its Bid.

Bidders shall ensure that person signing the documents for and on behalf of the Proposed EPC Contractor as required in terms of the RFP, have valid authorizations from the relevant Proposed EPC Contractor and the said documents are issued by such persons as per the requirements of the applicable Laws. KWSC shall not be held liable, in the event it is determined by any forum or entity, that a document of the Proposed EPC Contractor

submitted by the Bidder as part of its Bid, is without valid legal authority and such document shall not be accepted for evaluation;

- (j) following Bidding Forms, specified in Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, each prepared as per the requirements specified therein:
- (i) Bidding Form T7 (*Technical Project Methodology/ Approach*);
  - (ii) Bidding Form T8 (*Operation & Maintenance Plan and Procedures*);
  - (iii) Bidding Form T9 (*Implementation Schedule*);
  - (iv) Bidding Form T10 (*List of Manufacturers of Main Equipment*);
  - (v) Bidding Form T11 (*Schedule of Equipment & Technology Suppliers*);
  - (vi) Bidding Form T12 (*Organization & Staffing*);
  - (vii) Bidding Form T13 (*Quality Control Practices & Procedures*);
  - (viii) Bidding Form T14 (*Health & Safety Plan and Procedures*);
  - (ix) Bidding Form T15 (*Methodology/ Approach for the Environmental & Social Management Plan and Procedures*);
  - (x) Bidding Form T16 (*Other Technical Data Submission*);
  - (xi) Bidding Form T17 (*Lead Developer Technical Criteria Evidence Sheet*);
  - (xii) Bidding Form T18 (*Bidders Financial Criteria Evidence Sheet*);
  - (xiii) Bidding Form T19 (*Proposed EPC Contractor Technical Criteria Evidence Sheet*);
  - (xiv) Bidding Form T20 (*Proposed EPC Contractor Financial Criteria Evidence Sheet*);
  - (xv) Bidding Form T21 (*Litigation History*); and
  - (xvi) Bidding Form T22 (*Form of Bid Security*);
- (k) any other documents required under the RFP.

#### **4.5 FINANCIAL PROPOSAL**

- 4.5.1 In preparing the Financial Proposals, Bidders are expected to fully understand the requirements and conditions set out in the RFP, including all contractual obligations of KWSC, the Concessionaire, the Successful Bidder and the GoS under the GoS Project Documents (as applicable) and the scope of works and services to be performed by the Concessionaire (as the concessionaire) in relation to the Project.
- 4.5.2 Any material omission, reservation, deviation or any condition included in the Financial Proposal to the contrary shall cause the Bid to be rejected by KWSC as non-responsive as per the Applicable Evaluation Documents. Under no circumstances shall KWSC consider/accept a conditional Financial Proposal.
- 4.5.3 The Financial Proposal submitted by the Bidder shall comprise the following:
- (a) signed and filled out Letter of Financial Proposal, as set out in Bidding Form F1 (*Letter of Financial Proposal*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
  - (b) information as required in the relevant forms as set out in Bidding Form F2 (*Financial Forms*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP. Relevant forms in Bidding Form F2 (*Financial Forms*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP can be downloaded from the SPPRA EPADS and/or any of the websites of KWSC and PPP Unit. Bidders are required to use and fill in the forms available at the aforementioned websites. Once filled, the Bidder shall make the relevant Microsoft Excel file accessible to KWSC *via* the link shared by a Bidder in its Letter of Financial Proposal. The Bidders are additionally required to export the relevant Microsoft Excel file in PDF and submit it with the Financial Proposal *via* the SPPRA EPADS; provided, that, in case of any discrepancies between the Microsoft Excel file and the PDF of the Financial Model, the latter shall prevail;

- (c) following information/documentation evidencing the Bidder's ability to finance one hundred percent (100%) of the Total Project Cost through a combination of debt and equity:
- (i) in the case of Bidders intending to enter into financing arrangements with financial institutions in respect of the Project, a letter of intent issued and signed by the financial institution in the format attached as Bidding Form F2-B (*Letter of Intent*) of Bidding Form F2 (*Financial Forms*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, prepared in accordance with the requirements of the RFP and the GoS Project Documents;
- (d) any other document required in the RFP.

#### **4.6 CURRENCIES OF BID AND PAYMENT**

4.6.1 All Bids and other supporting documents shall state all monetary amounts in Pakistani Rupees (PKR).

#### **4.7 BID SECURITY**

- 4.7.1 The Bidder shall furnish, as part of the Technical Proposal, a Bid Security equivalent to Pakistani Rupees One Hundred and Fifty Million only (PKR 150,000,000/-) (the **Bid Security**).
- 4.7.2 The Bid Security shall be an irrevocable, unconditional and on-demand bank guarantee in the form attached as Bidding Form T22 (*Form of Bid Security*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP.
- 4.7.3 The Bid Security shall be issued and maintained in PKR by an Acceptable Bank.
- 4.7.4 The Bid Security shall be valid until twenty-eight (28) Days following the Bid Validity Period, as may be extended in accordance with Section 4.8.2 of the Instructions to Bidders. If the Construction Performance Security has not been issued by the Successful Bidder twenty-one (21) Days prior to the expiry of the Bid Security, then the Successful Bidder shall extend the Bid Security until such date as notified by KWSC.
- 4.7.5 Any Bid not accompanied by a compliant Bid Security (as exclusively determined by KWSC), shall be rejected as non-responsive and the Bidder shall not be allowed to submit Bid Security at a later stage. The Bid Security issued by a foreign bank and not counter-guaranteed/confirmed from a local bank in Pakistan shall result in the rejection of the Bid.
- 4.7.6 Bidders are required to submit with their Technical Proposal a scanned copy of the original Bid Security. Bidders are also required to submit the original Bid Security in hard copy through mail or physically by hand in a sealed envelope indicating the Bid Security as original clearly marked as '*ORIGINAL-BID SECURITY (DO NOT OPEN, EXCEPT IN PRESENCE OF TFEC)*'. This envelope shall additionally bear the address for submission thereof indicated in the Data Sheet. In case of any discrepancies between the scanned and the original versions of the Bid Security, the latter shall prevail. A Bid may be rejected if a photocopy of original Bid Security is submitted through mail or physically by hand and such Bid shall not be further evaluated.
- 4.7.7 The Bid Security of the unsuccessful Bidders shall be returned on the earlier of: (a) the expiry of the Bid Validity Period; or (b) once the Successful Bidder furnishes the Construction Performance Security pursuant to Section 7.5 (*Construction Performance Security*) of the Instructions to Bidder.
- 4.7.8 The Bid Security of the Successful Bidder shall be returned as soon as reasonably possible once the Successful Bidder has furnished the required Construction Performance Security and the Concessionaire has signed the Concession Agreement.
- 4.7.9 The Bid Security shall be forfeited:

- (a) if a Bidder:
  - (i) withdraws its Bid during the Bid Validity Period;
  - (ii) is found to be engaged in any corrupt, fraudulent, collusive, coercive, or obstructive practices;
  - (iii) has made false declarations in its Bid;
  - (iv) does not accept the arithmetical corrections of its Bid in accordance with Section 6.3.4 of the Instructions to Bidders; and/or
  - (v) fails to fulfil its obligations under the RFP in terms thereof.
- (b) if the Successful Bidder or the Concessionaire, as applicable:
  - (i) fails to sign the Concession Agreement in accordance with Section 7.6 (*Signing of the Concession Agreement*) of the Instructions to Bidders;
  - (ii) fails to furnish Construction Performance Security pursuant to Section 7.5 (*Construction Performance Security*) of the Instructions to Bidders; and/or
  - (iii) fails to comply with the requirements set out in the Notification of Award.

4.7.10 The Bid Security is required to protect KWSC and the GoS against the risk of Bidder's conduct which would warrant the Bid Security's forfeiture, pursuant to Section 4.7.9 of the Instructions to Bidders.

#### **4.8 BID VALIDITY**

4.8.1 Bids shall remain valid for the Bid Validity Period, as may be extended by KWSC in accordance with Section 4.8.2 of the Instructions to Bidders. A Bid valid for a shorter period shall be rejected by KWSC as non-compliant in accordance with the Applicable Evaluation Documents.

4.8.2 In exceptional circumstances, prior to the expiration of the Bid Validity Period, KWSC may request all Bidders to extend the period of validity of their Bids. Any such request by KWSC with respect to the extension of the Bid Validity Period and the response by the Bidders, shall be in writing. The Bid Security requested in accordance with Section 4.7 (*Bid Security*) of the Instructions to Bidders, shall also be extended accordingly for a corresponding further period not exceeding the original Bid Validity Period. Extension of Bid Security may be requested upon the extension of the Bid Validity Period; provided, that, the process for submitting such extended Bid Security shall be as set out in Section 4.7.6 of the Instructions to Bidders. A Bidder may refuse the request following which such Bidder's Bid will be disqualified and its Bid Security returned without forfeiture. A Bidder accepting the request shall not be required or permitted to modify its Bid.

#### **4.9 MANNER OF SIGNING OF BID**

4.9.1 The Bidder shall prepare one (1) Technical Proposal and one (1) Financial Proposal comprising the Bid as described in Section 4.3 (*Documents Comprising the Bid*) of the Instructions to Bidders and submit PDF versions of the Technical Proposal and Financial Proposal clearly entitled as "*TECHNICAL PROPOSAL*" and "*FINANCIAL PROPOSAL*" respectively. The Bidder shall merge all documents as applicable in terms of the Technical Proposal and Financial Proposal, each uploaded separately as a PDF on the SPPRA EPADS, ensuring compliance with the permitted file size and the Submission Guidelines.

4.9.2 Not Used.

- 4.9.3 The Bid shall be typed or written in indelible ink and shall be signed by a person duly authorised to sign on behalf of the Bidder. This authorization shall consist of a written power of attorney, as set out in Bidding Form T3 (*Form of Power of Attorney*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, as per the requirements set out in the Instructions to Bidders. This authorization must contain the name and position held by each person signing the authorization and name and position of the authorised signatory.
- 4.9.4 Bids submitted in response to the RFP by the Bidders shall be upon full understanding and agreement of all instructions prescribed in the Submission Guidelines and such submission shall be deemed as an acceptance to all the terms and conditions stated in the RFP. Bidders are to ensure that their Bids are submitted in compliance with the Submission Guidelines and KWSC shall not be held responsible for any non-compliance thereof. All pages of the Bid must be signed and stamped in original by the Bidder's authorized representative. All the pages must be numbered starting from the first page to the last. Any Bid not substantially adhering to these requirements may be rejected by KWSC.
- 4.9.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the authorized representative signing the Bid.
- 4.9.6 KWSC reserves the right to reject a Bid which does not meet the requirements in Section 4.9 (*Manner of Signing of Bid*) of the Instructions to Bidders.

## **5. SUBMISSION AND OPENING OF BIDS**

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### **5.1 SUBMISSION OF BIDS**

- 5.1.1 The Bidder (or in case of a Consortium, any Consortium Member) shall register itself as a ‘*SUPPLIER*’ on the SPPRA EPADS by creating a dedicated account. The Bidder (or in case of a Consortium, any Consortium Member) is responsible for ensuring its compliance with this requirement prior to the submission of its Bid. The submission of Bid shall be in accordance with any instructions set out for ‘*single stage two envelope*’ procedure in the Submission Guidelines.
- 5.1.2 In accordance with Section 4.9.1 of the Instructions to Bidders, the Technical Proposal shall be in PDF clearly entitled “*TECHNICAL PROPOSAL*” and the Financial Proposal shall also be in a PDF clearly entitled “*FINANCIAL PROPOSAL*”.
- 5.1.3 Any Bidder (including a Consortium Member) who submits or participates in more than one (1) Bid shall be disqualified.
- 5.1.4 Not Used.
- 5.1.5 All Bidding Forms forming part of the Technical Proposal and the Financial Proposal, as specified in the RFP are to be properly completed and signed. No alteration is to be made in the Letter of Financial Proposal, Letter of Technical Proposal or in the Bidding Forms, except in filling up the blanks as directed. If any alteration is made or if these instructions have not been fully complied with, the Bid may be rejected.
- 5.1.6 Bids shall be submitted electronically by the Bidders *via* the SPPRA EPADS, except for the original Bid Security which shall be submitted: (a) through courier/express mail; or (b) by hand on or before the Bid Submission Deadline at the address indicated in the Data Sheet.

### **5.2 DEADLINE FOR SUBMISSION**

- 5.2.1 Bids must be uploaded to the SPPRA EPADS no later than the Bid Submission Deadline in accordance with this RFP.
- 5.2.2 No arrangements shall be made by KWSC with Bidders for collection of the Bids from any delivery point. Bidders shall bear all expenses incurred in the preparation and delivery or submission of Bids. No claims for refund of any expense shall be entertained.
- 5.2.3 Where delivery of the Bid Security is by courier/express mail and Bidder wishes to receive an acknowledgment of receipt of such Bid Security, such Bidder shall make a request for such acknowledgment in a separate letter accompanying the envelope containing the Bid Security. Delays in the mail, delays of person(s) in transit, or delivery of the Bid Security to an incorrect location, shall not be accepted as an excuse for failure to deliver the Bid Security at the proper place and time. It shall be the Bidder’s responsibility to determine the manner in which to deliver its Bid Security in a timely manner.
- 5.2.4 KWSC may, in its discretion, extend the Bid Submission Deadline by issuing an addendum in accordance with Section 3.4 (*Amendment of RFP*) of the Instructions to Bidders, in which case all rights and obligations of KWSC and the Bidders previously subject to the earlier Bid Submission Deadline shall thereafter be subject to the extended Bid Submission Deadline.
- 5.2.5 KWSC shall not consider any Bid that is submitted after the Bid Submission Deadline. Any Bid or any document received by KWSC after the Bid Submission Deadline shall be declared late and be rejected.
- 5.2.6 Any delays in submitting the Bid on the SPPRA EPADS by a Bidder shall not be accepted as an excuse for failure to upload its Bid at the proper place and time. It shall be the Bidder’s responsibility

to ensure timely submission of its Bid.

### **5.3 MODIFICATION, SUBSTITUTION AND WITHDRAWAL OF BIDS**

- 5.3.1 Any Bidder may modify, substitute, or withdraw its Bid after submission and prior to the Bid Submission Deadline in accordance with the requirements of the SPPRA EPADS and the Submission Guidelines.
- 5.3.2 A Bidder may withdraw its Bid after the Bid Submission Deadline by submitting a written notice of withdrawal to KWSC at the address specified in the Data Sheet; provided, that, such a notice is received no later than the expiration of the Bid Validity Period.
- 5.3.3 Withdrawal of a Bid during the interval between the Bid Submission Deadline and the expiration of the Bid Validity Period (or any extension thereof) shall result in forfeiture of the Bid Security pursuant to Section 4.7.9 of the Instructions to Bidders and shall lead to blacklisting of the Bidder in accordance with applicable Law.
- 5.3.4 Bids requested to be withdrawn in accordance with Section 5.3.2 of the Instructions to Bidders shall be disregarded by KWSC.
- 5.3.5 After the Bid Submission Deadline, no changes to the GoS Project Documents shall be permitted other than those requested by KWSC and agreed to by the Bidder and inclusion of details of the Successful Bidder (to whom the Concession is awarded) and any other information that was incomplete prior to the Bid Submission Deadline.
- 5.3.6 Bids submitted in response to the RFP by the Bidders shall be upon full understanding and agreement of all terms of the RFP (including the GoS Project Documents) and such submission shall be deemed as an acceptance to all the terms and conditions stated in the RFP (including the GoS Project Documents).

### **5.4 OPENING OF BIDS**

- 5.4.1 TFEC shall conduct the opening of Technical Proposals on the same Day as the Bid Submission Deadline at **13:00** hours (PST) at the address provided in the Data Sheet, in the presence of Bidders' designated representatives who choose to attend.
- 5.4.2 If the Technical Proposal and the Financial Proposal are submitted together in one PDF, other than as specified in the Instructions to Bidders, the entire Bid may be rejected. If any document, required to be submitted with Technical Proposal, is submitted with the Financial Proposal, or if any document required to be submitted with the Financial Proposal is submitted with the Technical Proposal, such document shall not be considered for evaluation and may also form the basis of rejection of a Bid.
- 5.4.3 The Financial Proposals shall remain secured/unopened on the SPPRA EPADS until the specified date and time of their opening, as communicated in advance by KWSC to the Bidders.
- 5.4.4 The Technical Proposals shall be opened on the Bid Submission Deadline at **13:00 hours PST**, and the following information shall be read out and recorded:
  - (a) the name of the Bidder;
  - (b) the presence and value of the Bid Security; and
  - (c) any other details as KWSC/TFEC may consider appropriate.
- 5.4.5 Only Technical Proposals read out and recorded during the Bid opening shall be considered for evaluation as per the requirements of the RFP. No Bid shall be rejected at the opening of Technical

Proposals except for late Bids, in accordance with Section 5.2.5 of the Instructions to Bidders.

5.4.6 TFEC shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder and presence or absence and value of the Bid Security. The Bidders' representatives who are present shall be requested to sign the attendance sheet. The omission of a Bidder's signature on the attendance sheet shall not invalidate the contents and effect of the record.

5.4.7 At the end of the evaluation of the Technical Proposals, KWSC shall invite Bidders who have submitted responsive Technical Proposals pursuant to the requirements of the RFP and who have been determined as technically qualified for award of Concession to attend the opening of the Financial Proposals. The date, time, and location of the opening of Financial Proposals shall be advised in writing by KWSC.

KWSC shall notify in writing at any time prior to the opening of the Financial Proposals, the Bidders who have been rejected on the grounds of their Technical Proposals not being responsive to the requirements of the RFP. Such Financial Proposal shall remain unopened by KWSC.

5.4.8 TFEC shall conduct the opening of Financial Proposals of all Bidders who have technically qualified, in the presence of Bidders' representatives who choose to attend at the address, date and time specified by KWSC. The Bidders' representatives who are present shall be requested to sign an attendance sheet evidencing their attendance.

5.4.9 Financial Proposals of the Bidders shall be opened one at a time and the following read out and recorded:

- (a) the name of the Bidder;
- (b) the Bid Price; and
- (c) any other details as KWSC/TFEC may consider appropriate.

5.4.10 Only the Financial Proposals read out and recorded during the opening of Financial Proposals shall be considered for evaluation. No Financial Proposal shall be rejected at the time of opening of Financial Proposals.

5.4.11 TFEC shall prepare a record of the opening of Financial Proposals that shall include, as a minimum: the name of the Bidder, and the Bid Price. The Bidders' representatives who are present shall be requested to sign the attendance sheet. The omission of a Bidder's signature on the attendance sheet shall not invalidate the contents and effect of the record.

## **6. CLARIFICATION AND EVALUATION OF BIDS**

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### **6.1 CLARIFICATION OF BIDS**

- 6.1.1 To assist in the examination, evaluation and comparison of the Technical Proposals and/or Financial Proposals, KWSC/TFEC may, at its discretion, ask the Bidders for any clarification, additional information or supporting documentation in respect of any matter associated with the documentation submitted by the Bidders in their Bids. Any such request and the response shall be through the SPPRA EPADS. Subject to Section 6.1.3, no change in the price in the Financial Proposals or substance of the Bid shall be sought, offered or permitted except to confirm the correction of arithmetic errors discovered during the evaluation of the Bids, in accordance with Section 6.3.4 of the Instructions to Bidders.
- 6.1.2 If a Bidder does not provide clarifications of the information requested by the date and time set in KWSC's/TFEC's request for clarification, its Bid may be rejected.
- 6.1.3 As a result of clarification sought from a Bidder, if applicable, the prices/amounts quoted by such Bidder in the Financial Proposal will be adjusted from the prices/amounts quoted in the Financial Proposals.

### **6.2 EVALUATION OF BIDS**

- 6.2.1 During the evaluation of Bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the RFP;
  - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the RFP; and
  - (c) "Omission" is the failure to submit part, or all of the information or documentation required in the RFP.

### **6.3 PRELIMINARY EXAMINATION OF BIDS**

- 6.3.1 Prior to the detailed evaluation of Bids pursuant to Section 6.4 (*Determination of Responsiveness of Bids*) of the Instructions to Bidders, each Bid shall be examined to determine whether:
- (a) the Bid is complete and does not deviate from the scope of works and services to be performed in relation to the Project;
  - (b) any computational errors have been made;
  - (c) the Bid Security has been furnished;
  - (d) documents have been properly signed;
  - (e) valid authorization(s) is/are present; and
  - (f) the Bid is valid till the Bid Validity Period.
- 6.3.2 Prior to conducting detailed evaluation of Bids pursuant to Section 6.4 (*Determination of Responsiveness of Bids*) of the Instructions to Bidders, each Bid shall be examined as follows, and a Bid may not be considered acceptable if:
- (a) it is unsigned; or

- (b) its validity is less than the Bid Validity Period.
- 6.3.3 Prior to the detailed evaluation of Bids pursuant to Section 6.4 (*Determination of Responsiveness of Bids*) of the Instructions to Bidders, each Bid shall be examined as follows, and a Bid shall not be considered acceptable if:
- (a) it is not accompanied by a Bid Security;
  - (b) it is received after the Bid Submission Deadline;
  - (c) it is submitted through any mode other than SPPRA EPADS, except the Bid Security which shall be submitted physically in the manner set out in the RFP;
  - (d) the Bidder refuses to accept arithmetic correction(s); or
  - (e) it materially deviates from the requirements of the RFP.
- 6.3.4 KWSC/TFEC shall require arithmetical errors to be rectified. If there is a discrepancy between:
- (a) the relevant input amount and the output (i.e., total) amount in any Bidding Form, due to any error in calculation, the relevant input amount shall prevail, and the output (i.e., total) amount shall be corrected;
  - (b) the words and figures, the amount in words shall prevail.
- 6.3.5 If the Bidder does not accept the corrected amount of the Bid, its Bid shall be rejected, and its Bid Security shall be forfeited.

#### **6.4 DETERMINATION OF RESPONSIVENESS OF BIDS**

- 6.4.1 KWSC/TFEC shall determine the responsiveness of each Bid to the RFP. The Technical Proposals that conform to all the terms and conditions of the RFP without material deviations, reservations or omissions shall be declared responsive. A material deviation, reservation or omission is one that:
- (a) if accepted, would:
    - (i) affect in any substantial way the scope, quality, or performance of the works and services in relation to the Project as specified in the RFP; or
    - (ii) limit in any substantial way KWSC's or GoS' rights or the Bidder's or the Concessionaire's obligations under the RFP; or
  - (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Technical Proposals.
- 6.4.2 KWSC/TFEC's determination of a Bid's responsiveness may be based on the contents of the Bid itself without recourse to extrinsic evidence.
- 6.4.3 Any minor non-conformity or irregularity in a Technical Proposal that does not constitute a material deviation, reservation or omission may be waived by KWSC or required by KWSC to be rectified, provided such waiver or rectification does not prejudice or affect unfairly the competitive position of other responsive Technical Proposals.

- 6.4.4 Provided that a Bid is substantially responsive, KWSC/TFEC may request that the Bidder submit the necessary information or documentation *via* the SPPRA EPADS, within a reasonable period of time, to rectify non-material non-conformities in the Bid related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the Financial Proposal. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 6.4.5 If a Bid is not substantially responsive to the requirements of the RFP, it shall be rejected and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 6.4.6 A responsive Financial Proposal is one which meets the requirements of the RFP without any deviation, reservation or omission. No change in the Financial Proposals shall be allowed and shall be evaluated as per the information provided by the Bidders. A non-responsive Financial Proposal may not subsequently be made responsive by correction of the deviation, reservation, or omission.
- 6.4.7 If a Financial Proposal, in the opinion of KWSC/TFEC, is seriously unbalanced or is seen to unfairly exploit the evaluation mechanism, KWSC/TFEC may require the relevant Bidder to produce detailed price analysis for any or all items of the Bid, to demonstrate the internal consistency of those prices. After evaluation of the price analysis, taking into consideration the terms of payments, KWSC/TFEC may require the Bidder to rationalize the costs and/or terms of payments.

## **6.5 EVALUATION CRITERIA**

- 6.5.1 In addition, and subject to the requirements set out in Section 6.3 (*Preliminary Examination of Bids*) and Section 6.4 (*Determination of Responsiveness of Bids*) each of the Instructions to Bidders, the Bidders shall be evaluated against the evaluation criteria for the Technical Proposals and the Financial Proposals set out in Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP.
- 6.5.2 The Technical Proposals will be evaluated based on the “*pass*” or “*fail*” basis. A Bidder whose Technical Proposal meets the technical evaluation criteria (in KWSC’s/TFEC’s determination) set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP shall be considered “*pass*” and a Bidder whose Technical Proposal fails to meet the technical evaluation criteria (in KWSC’s/TFEC’s determination) set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP shall be considered “*fail*”.
- 6.5.3 The Bid Price including the Water Tariff Payment shall be calculated as per the methodology set out in Part 1 (*Financial Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP. The Bid Price shall be clearly stated as a single figure, denominated in PKR, and shall not include any provision for amendment or adjustment (whether for inflation, foreign exchange movements or otherwise).
- 6.5.4 Any Bid that fails to meet the evaluation criteria for the Technical Proposals and the Financial Proposals set out in Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP, shall be rejected.
- 6.5.5 The capabilities of the Bidders proposed in a Bid will be evaluated for acceptability in accordance with Annexure A (*Basic Information Requirements*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP. The Net Worth requirements applicable to the Bidders as set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*), shall be calculated on the following parameters, based on the latest audited financial statements:
- (a) **Net Worth** shall be calculated as the relevant Bidder (or in case of Consortium, each Consortium Member’s) Total Assets plus its Revaluation Surplus (or similar entry) minus its Total Liabilities; and on a consolidated basis; provided, that the Revaluation Surplus will be capped at fifty percent (50%) of Net Worth;

- (b) **Total Assets** shall be calculated as the total consolidated assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Bidder (or in case of Consortium, each Consortium Member) is incorporated;
- (c) **Total Liabilities** shall be calculated as the total consolidated liabilities of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Bidder (or in case of Consortium, each Consortium Member) is incorporated;
- (d) **Revaluation Surplus (or similar entry)** shall be calculated as the total consolidated figure for any upward changes in the value of the capital/fixed assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Bidder (or in case of Consortium, each Consortium Member) is incorporated. It is typically under the '*Equity*' line item in balance sheet;
- (e) Calculations shall be made based:
  - (i) on the relevant Bidder's (or in case of Consortium, each Consortium Member's) audited consolidated financial statements, duly certified by an independent certified public accountant or auditor, for the three (3) most recent full financial years for which audited financial statements are available as at the Bid Submission Deadline; or
  - (ii) if: (A) the relevant Bidder (or in case of Consortium, the relevant Consortium Member) is incorporated in a jurisdiction which does not require the auditing of financial statements; and/or (B) such Bidder (or in case of Consortium, the Consortium Member) has not in fact had its financial statements audited, on such Bidder's (or in case of Consortium, each Consortium Member's) non-audited consolidated financial statements, accompanied by a written opinion issued by an independent certified public accountant or auditor certifying the relevant Bidder (or in case of Consortium, each Consortium Member's) Net Worth for the three (3) most recent full financial years for which such financial statements are available as at the Bid Submission Deadline.

Provided that the non-audited financial statements submitted by an entity, which by applicable law is required to prepare audited financial statements, shall not be accepted for the purposes of evaluation.

6.5.6 The Bidder shall provide for itself or, in case of a Consortium, for each Consortium Member:

- (a) for Consortium Members other than to whom Section 6.5.5(e)(i) applies, audited consolidated financial statements, including a consolidated balance sheet, income statement, statement of cash flows and accompanying notes, for the three (3) most recent full financial years for which such statements are available as at the Bid Submission Deadline, duly certified by a certified public accountant or auditor; or
- (b) for Consortium Members to whom Section 6.5.5(e)(ii) applies, non-audited consolidated financial statements, including a consolidated balance sheet, income statement, statement of cash flows and accompanying notes, for the three (3) most recent full financial years for which such statements are available as at the Bid Submission Deadline, accompanied by a written opinion issued by an independent certified public accountant or auditor, certifying the relevant Consortium Member's Net Worth for the three (3) most recent full financial years for which such financial statements are available as at the Bid Submission Deadline; and

- (c) a completed Financial Qualification Criteria of Bidders table, as per Bidding Form T18 (*Bidders Financial Criteria Evidence Sheet*).
- 6.5.7 The capabilities of the Proposed EPC Contractor proposed in a Bid will be evaluated for acceptability in accordance with Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP. The Net Worth requirements applicable to the Proposed EPC Contractor as set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*), shall be calculated on the following parameters, based on the latest audited financial statements:
- (a) **Net Worth** shall be calculated as the relevant Proposed EPC Contractor's Total Assets plus its Revaluation Surplus (or similar entry) minus its Total Liabilities; and on a consolidated basis; provided, that the Revaluation Surplus will be capped at fifty percent (50%) of Net Worth;
  - (b) **Total Assets** shall be calculated as the total consolidated assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Proposed EPC Contractor is incorporated;
  - (c) **Total Liabilities** shall be calculated as the total consolidated liabilities of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Proposed EPC Contractor is incorporated;
  - (d) **Revaluation Surplus** (or similar entry) shall be calculated as the total consolidated figure for any upward changes in the value of the capital/fixed assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant Proposed EPC Contractor is incorporated. It is typically under the '*Equity*' line item in balance sheet.
- 6.5.8 Should the Proposed EPC Contractor be determined to be non-compliant with the requirements set out in the RFP, the respective Bid shall be rejected.

## **6.6 SUCCESSFUL BIDDER**

- 6.6.1 A Bidder whose Bid has been determined the Best Evaluated Bid in terms of lowest Bid Price shall be declared the Successful Bidder.
- 6.6.2 In the event it is determined that two (2) or more Bidders have quoted the same lowest Bid Price, KWSC/TFEC may require such Bidders to re-submit the revised Financial Proposals, subject to the terms and conditions as may be specified by KWSC/TFEC.

## **6.7 KWSC'S RIGHT TO VERIFY DOCUMENTS**

- 6.7.1 KWSC/TFEC retains the right to verify particulars regarding any information, statements and/or documents furnished with a Bid. Any Bidder found to be misrepresenting information may be disqualified at any stage of the Tender Procedure and their Bid Security shall be forfeited.

## **7. AWARD OF CONCESSION**

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### **7.1 AWARD CRITERIA**

7.1.1 Subject to Section 7.2 (*KWSC's Right to Accept/Reject Bids*), KWSC shall award the Concession to the Bidder whose Bid has been determined to be the Best Evaluated Bid in terms of the requirements of the Applicable Evaluation Documents and subject to the approval of the PPP Policy Board established under the Sindh PPP Act; provided, that such Bidder continues to be eligible in accordance with the requirements set out in the RFP.

### **7.2 KWSC'S RIGHT TO ACCEPT/REJECT BIDS**

7.2.1 No Bid shall be considered to have been accepted, unless such acceptance is confirmed in writing and notified to the Successful Bidder by KWSC.

7.2.2 KWSC reserves the right to annul the Tender Procedure and reject all Bids at any time prior to the issuance of the Notification of Award, without thereby incurring any liability to Bidders or providing any reason for rejection of the Bids. In case of such annulment, all Bid Securities shall be promptly returned to the Bidders. The decision of KWSC shall be final and binding.

7.2.3 KWSC shall not be responsible for, or pay for, any expenses or losses which may be incurred by any Bidder in the preparation of, or in connection with, its Bid.

7.2.4 Each Bidder fully waives any and all rights to claim in respect of such expenses or losses and agrees to indemnify KWSC, its affiliates and their advisors fully in respect of any direct or indirect losses, damages, costs or expenses of any kind incurred by any of them.

### **7.3 NOTIFICATION OF AWARD**

7.3.1 Prior to expiration of the Bid Validity Period, KWSC shall notify the Successful Bidder through the Notification of Award that its Bid has been accepted.

7.3.2 KWSC shall, at least three (3) Business Days prior to the issuance of the Notification of Award, publish on the websites of KWSC, PPP Unit and SPPRA, the results of the Tender Procedure in the form of a report. The report shall also be communicated to all the Bidders in accordance with the terms of the Applicable Evaluation Documents.

7.3.3 The Successful Bidder shall acknowledge and return the Notification of Award with its acceptance (the **Acceptance of Notification of Award**) within seven (7) Days of the issuance of Notification of Award, failure of which may constitute sufficient grounds for the annulment of the award and forfeiture of its Bid Security.

### **7.4 FORMATION OF SPV BY THE SUCCESSFUL BIDDER**

7.4.1 The Successful Bidder shall incorporate a wholly owned SPV (i.e. the Concessionaire) that shall be a registered company incorporated in accordance with the Laws of Pakistan exclusively for the implementation of the Project.

7.4.2 The Successful Bidder/Concessionaire shall be obligated to submit the Construction Performance Security as per the requirements set out in Section 7.5.1 of the Instructions to Bidders.

### **7.5 CONSTRUCTION PERFORMANCE SECURITY**

7.5.1 The Successful Bidder/Concessionaire shall, within twenty-eight (28) Days of issuance of the Notification of Award, furnish to the GoS the Construction Performance Security and shall maintain the same in full force and effect until the Construction Performance Security Expiry Date, in

accordance with the requirements of the Concession Agreement and the RFP.

- 7.5.2 Failure of the Successful Bidder to comply with the requirements of Section 7.5.1 of the Instructions to Bidders shall constitute sufficient grounds for the annulment of the award and forfeiture of its Bid Security. Prior to execution of the Concession Agreement, the Construction Performance Security may be encashed by GoS for the same reasons as the Bid Security and for such other purpose as specified in the RFP. Following execution of the Concession Agreement, the Construction Performance Security shall be encashed in terms of the Concession Agreement.

## **7.6 SIGNING OF THE CONCESSION AGREEMENT**

- 7.6.1 The Concession Agreement shall be executed between, KWSC, the GoS and the Concessionaire (as the concessionaire), within thirty (30) Days of issuance of the Notification of Award or within such extended timeline as determined by KWSC in its sole discretion, failing which the Bid Security or the Construction Performance Security (as applicable) shall be forfeited and the award shall be cancelled, if such failure is due to reasons attributable to the Successful Bidder, in the sole determination of KWSC and/or GoS.

## **8. OTHER CONSIDERATIONS**

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### **8.1 CONFIDENTIALITY**

- 8.1.1 Subject to Section 8.1.3 of the Instructions to Bidders and Section 3.3 (*Clarifications of RFP*), no Bidder shall contact any GoS Party on any matter relating to its Bid from the time of Bid Submission Deadline.
- 8.1.2 Any attempt by a Bidder to influence any GoS Party in relation to the Tender Procedure may result in the rejection of its Bid and encashment of its Bid Security.
- 8.1.3 Notwithstanding Section 8.1.2 of the Instructions to Bidders, from the time of Bid opening to the time of award of the Concession, if any Bidder wishes to contact KWSC/TFEC on any matter related to the Tender Procedure (including for the matters set out in Section 3.3 (*Clarifications of RFP*)), it should do so in writing via the modes specified in the Data Sheet.
- 8.1.4 Information relating to the examination, clarification, evaluation and recommendation for the Bidder shall not be disclosed to any person who is not officially concerned with the Tender Procedure or is not a retained professional advisor advising KWSC and/or the GoS in relation to, or matters arising out of, or concerning the Tender Procedure. KWSC will endeavour to treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. KWSC may not divulge any such information, unless it is directed to do so by any statutory entity that has the power under law to require its disclosure, is required under the applicable Laws in Pakistan, or it is to enforce or assert any right or privilege of KWSC, a statutory entity and/or the GoS.
- 8.1.5 All information supplied by KWSC and GoS (through KWSC) in connection with this RFP, shall be treated as confidential and the Bidders shall not, without the prior written consent of KWSC, at any time make use of such information for their own purposes or disclose such information to any person (except as may be required by applicable Law). Subject to the provisions of this RFP, the RFP shall remain the property of KWSC and is issued solely for the purpose of preparation and submission of the Bid in accordance herewith.
- 8.1.6 The RFP and every part of it and all other information provided by or on behalf of KWSC must be treated as private and confidential. Bidders shall not disclose the fact that they have been invited to submit a Bid or release details of the RFP other than on a strictly confidential basis to those parties whom they need to consult for the purposes of preparing the Bids.
- 8.1.7 Bidders shall not at any time release any information concerning the RFP and/or their Bid and/or any related documents and/or any discussion with KWSC in this connection for publication in the press or on radio, television, screen or any other medium without the prior written approval of KWSC.
- 8.1.8 Each Bidder undertakes to indemnify KWSC and the GoS and to keep KWSC and the GoS indemnified against all actions, claims, demands, liability, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection with any breach of the provisions of this Section 8.1 (*Confidentiality*).
- 8.1.9 Any Bid submitted in response to the RFP is submitted upon a full understanding and agreement of terms of this Section 8.1 (*Confidentiality*) and therefore the submission of the Bid in response to the RFP would be deemed as an acceptance to the said terms.

### **8.2 CORRUPT AND FRAUDULENT PRACTICES**

- 8.2.1 KWSC/TFEC will reject a Bid if it determines that a Bidder (including its Affiliate) or a Proposed EPC Contractor has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive,

or obstructive practices or other integrity violations during the Tender Procedure and/or shall declare such Bidder or a Proposed EPC Contractor ineligible to engage with the GoS Parties in accordance with the Applicable Evaluation Documents.

8.2.2 “*Corrupt and fraudulent practice*” means either one or any combination of the practices with respect to the Tender Procedure and/or the Project given below:

- (a) “**coercive practice**” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;
- (b) “**collusive practice**” means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, non-competitive levels for any wrongful gain;
- (c) “**corrupt practice**” means the offering giving, receiving or soliciting directly or indirectly of anything of value to influence the acts of another party for wrongful gain;
- (d) “**fraudulent practice**” means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (e) “**obstructive practice**” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the Tender Procedure, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights.

### 8.3 **INTEGRITY PACT**

Each Bidder (and in case of a Consortium, each Consortium Member) shall sign and stamp Bidding Form T2 (*Form of Integrity Pact*) of Part 2 (*Bidding Forms*) of the RFP (the **Integrity Pact**). Failure to provide such Integrity Pact may cause the Bid to be rejected as non-responsive.

### 8.4 **GRIEVANCE REDRESSAL**

Any Bidder being aggrieved by any act or decision of KWSC/TFEC, may after the issuance of the RFP, lodge a written complaint to the “*complaint redressal committee*” constituted by KWSC in accordance with the Applicable Evaluation Documents. The mechanism for redressal of grievances of Bidders shall be as per the Applicable Evaluation Documents.

### 8.5 **FEES, DUTIES AND TAXES**

The Concessionaire shall be responsible for payment of any stamp duty and other fees, duties and/or taxes that may be applicable with respect to the execution of the relevant documents (including the GoS Project Documents) in relation to the Project.

9. DATA SHEET

The following specific data shall supplement the provisions in the Instructions to Bidders.

1.	<b>Address for Seeking Clarifications on the RFP</b>	<p><b>Designation:</b> Project Director - 5 MGD Seawater Desalination Plant Project.</p> <p><b>Address:</b> Room No. 26, First Floor, Block B, 9<sup>th</sup> Mile, Karsaz, Karachi - Sindh, Pakistan.</p> <p><b>Phone No.:</b> +92-21-99245130; +92-21-99222193</p> <p>Pursuant to Section 3.3.1 of the Instructions to Bidders, requests for clarifications are to be sent to the following email addresses:</p> <p><a href="mailto:info.p3proc@gmail.com">info.p3proc@gmail.com</a></p> <p>Subject of email to be Att. SDPP - RFP (<i>[Name of Bidder]</i>).</p>
2.	<b>First Pre-Bid Meeting</b>	<p><b>Date:</b> February 10, 2025</p> <p><b>Time:</b> 14:30 hours PST</p> <p><b>Venue:</b> Committee Room of Finance Department, 1<sup>st</sup> Floor, A.K. Lodhi Complex, Sindh Secretariat Building No. 6, Karachi.</p> <p><i>Virtual attendance in the first (1<sup>st</sup>) Pre-Bid Meeting shall be permitted. Link for the virtual meeting shall be shared with the Interested Parties prior to the date of the first (1<sup>st</sup>) Pre-Bid Meeting, upon request submitted via email at <a href="mailto:info.p3proc@gmail.com">info.p3proc@gmail.com</a>.</i></p>
3.	<b>Address for Submission of Bid Security</b>	<p><b>Attention:</b> Project Director - 5 MGD Seawater Desalination Plant Project, Karachi Water &amp; Sewerage Corporation.</p> <p><b>Address:</b> Room No. 26, First Floor, Block B, 9<sup>th</sup> Mile, Karsaz, Karachi - Sindh (Pakistan).</p> <p><b>Telephone:</b> +92-21-99245154-6</p>
4.	<b>Address for Opening of Bids</b>	<p>Committee Room, Planning and Development Board, Government of Sindh, 2<sup>nd</sup> Floor, Tughlaq House, Sindh Secretariat, Shahr-e-Kamal Atta-Turk Road, Karachi - Sindh, Pakistan.</p>
5.	<b>Bid Submission Deadline</b>	<p>March 18, 2025.</p>
6.	<b>Link to SPPRA EPADS</b>	<p><a href="https://portalsindh.eprocure.gov.pk">https://portalsindh.eprocure.gov.pk</a></p>
7.	<b>Link to Submission Guidelines</b>	<p><a href="https://tiny.cc/KWSC">https://tiny.cc/KWSC</a></p>

**PART 2**  
**BIDDING FORMS**

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## 1. **BIDDING FORMS**

1.1 The Bidding Forms comprise the forms stated below and each relevant form is required to be submitted with the Technical Proposal and the Financial Proposal, as applicable.

1.2 In case a document/Bidding Form required to be submitted as part of the Technical Proposal, is submitted with Financial Proposal; or a document/Bidding Form required to be submitted with Financial Proposal, is submitted with Technical Proposal, it shall not be considered for evaluation and such document/Bidding Form shall be considered as not submitted by the Bidder and may also form the basis of rejection of a Bid.

(A) For the Technical Proposal:

- (a) Bidding Form T1 (*Letter of Technical Proposal*);
- (b) Bidding Form T2 (*Form of Integrity Pact*);
- (c) Bidding Form T3 (*Form of Power of Attorney*);
- (d) Bidding Form T4 (*Form of Undertaking*);
- (e) Bidding Form T5 (*Form of Consortium Undertaking and Requirements for Consortium*);
- (f) Bidding Form T6 (*Form of Affidavit*);
- (g) Bidding Form T7 (*Technical Project Methodology/ Approach*);
- (h) Bidding Form T8 (*Operation & Maintenance Plan and Procedures*);
- (i) Bidding Form T9 (*Implementation Schedule*);
- (j) Bidding Form T10 (*List of Manufacturers of Main Equipment*);
- (k) Bidding Form T11 (*Schedule of Equipment & Technology Suppliers*);
- (l) Bidding Form T12 (*Organization & Staffing*);
- (m) Bidding Form T13 (*Quality Control Practices & Procedures*);
- (n) Bidding Form T14 (*Health & Safety Plan and Procedures*);
- (o) Bidding Form T15 (*Methodology/ Approach for the Environmental & Social Management Plan and Procedures*);
- (p) Bidding Form T16 (*Other Technical Data Submission*);
- (q) Bidding Form T17 (*Lead Developer Technical Criteria Evidence Sheet*);
- (r) Bidding Form T18 (*Bidders Financial Criteria Evidence Sheet*);
- (s) Bidding Form T19 (*Proposed EPC Contractor Technical Criteria Evidence Sheet*);
- (t) Bidding Form T20 (*Proposed EPC Contractor Financial Criteria Evidence Sheet*);
- (u) Bidding Form T21 (*Litigation History*); and
- (v) Bidding Form T22 (*Form of Bid Security*).

(B) For the Financial Proposal:

- (a) Form F1 (*Letter of Financial Proposal*); and
- (b) Form F2 (*Financial Forms*).

## A. TECHNICAL PROPOSAL BIDDING FORMS

### BIDDING FORM T1 - LETTER OF TECHNICAL PROPOSAL

[Date]

To: Karachi Water and Sewerage Corporation, Government of Sindh  
[●]

RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD  
SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)

Reference the Request for Proposals document issued on [●] (the RFP) by Karachi Water and Sewerage Corporation (KWSC) in relation to the Project.

Dear [Sir/Madam]:

We, [Name of the Bidder] hereby submit our Technical Proposal in conformity with the requirements of the RFP.

*All capitalized terms unless defined herein shall bear the meaning as ascribed thereto in the RFP.*

We, agree, confirm, undertake and declare that:

- (a) We have examined and have no reservations to the RFP, including Addenda No(s) [●]/Corrigenda No(s) [●];
- (b) We, [including all Consortium Members,] fully and completely understand and accept the terms of the RFP and hereby undertake to comply with the requirements specified therein;
- (c) We offer to perform and undertake the works and services in respect of the Project in conformity with the RFP (including the GoS Project Documents) without any omission, reservation and deviation; and we accept and undertake to comply with all requirements in the RFP, including the appendices/annexures attached to the RFP;
- (d) We, [including all Consortium Members,] and the Proposed EPC Contractor, as per the requirements of the RFP, respectively:
  - (i) have nationalities of Eligible Countries;
  - (ii) do not have any conflict of interest; and
  - (iii) have not been declared ineligible/blacklisted by any of our employers, by any Federal or Provincial governmental or non-governmental department/agency in Pakistan, or any other provincial government/governments of any foreign countries or their governmental bodies and/or International Organizations (e.g., World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.), as at the Bid Submission Deadline;
- (e) Neither we, [including all Consortium Members], any Affiliate nor the Proposed EPC Contractor:
  - (i) are included as a debarred person pursuant to the public sanctions list of any multilateral development bank that is party to the Agreement on Mutual Enforcement of Debarment Decisions of 9 April 2010 ([www.crossdebarment.org](http://www.crossdebarment.org)); or
  - (ii) are included on any sanctions lists promulgated by the UN Security Council or its Committees, or any other recognised international sanctions list;
- (f) Our Bid consisting of the Technical Proposal and the Financial Proposal shall be valid for a period of one hundred twenty (120) Days from the date fixed for the Bid Submission Deadline in

- accordance with the RFP, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (g) As security for due performance of the undertakings and obligations of this Bid, we submit unconditionally herewith a Bid Security equivalent to Pakistani Rupees One Hundred and Fifty Million only (PKR 150,000,000/-) drawn in your favour or made payable to you and valid for a period of twenty-eight (28) Days beyond the period of validity of Bid. We confirm that the Bid Security has been issued and maintained in accordance with the requirements of the RFP;
  - (h) We have reviewed and accepted the form of the Concession Agreement along with the appendices attached thereto (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP), and undertake to execute the same within the time period stipulated in Notification of Award;
  - (i) We acknowledge that KWSC (and the GoS) will be relying on the information provided in our Bid and the documents accompanying them to determine the Successful Bidder. We certify that all information provided in our Bid is true and correct and that nothing has been omitted which renders such information misleading;
  - (j) We certify that in the last three (3) years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty by any arbitral or judicial authority or a judicial pronouncement or arbitration award, nor have been expelled from any project or contract by any public authority, nor have had any contract terminated by any public authority for breach by us or, if we are a Consortium, by any of our Consortium Members;
  - (k) We satisfy and meet all the requirements specified in the RFP, including the qualifications requirements set out in the RFP and there has been no material event relating to us or, if we are a Consortium, to any of our Consortium Members, which would require disclosure to KWSC (and the GoS) or which might cause us to fail to become a Successful Bidder;
  - (l) We understand that this Bid, together with your written acceptance thereof included in your Notification of Award, shall constitute a binding contract between us, until the Concession Agreement (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP) is executed;
  - (m) We are not participating [nor is any of our Consortium Members] (nor any of our Affiliates), as a Bidder in more than one Bid in this Tender Procedure in accordance with the requirements of the RFP;
  - (n) We understand that KWSC may cancel the Tender Procedure at any time and that KWSC is not bound either to accept any Bid that it may receive, without incurring any liability to the Bidders;
  - (o) We agree to permit KWSC, the GoS and any persons, representatives or auditors appointed and authorized by KWSC and/or the GoS to inspect and audit our accounts, records and other documents relating to our Bid;
  - (p) All the information submitted along with our Bid, including the enclosed forms and documents, is accurate in all respects;
  - (q) We accept the right of KWSC to: (i) request additional information reasonably required to assess the Bid; (ii) amend the procedures and requirements or make clarifications thereof; and (iii) extend or amend the timelines as stipulated in the RFP;
  - (r) All information, representations and other matters of fact communicated (whether in writing or otherwise) to KWSC by us or on our behalf, in connection with or arising out of the Bid are true, complete and accurate in all respects;
  - (s) We hereby declare that all the information and statements made in this Bid are true and accept that any misrepresentation contained in it shall lead to our disqualification, forfeiture of the Bid Security

and/or our blacklisting by the KWSC;

- (t) We, [including all Consortium Members], have made our own investigations and research and have satisfied ourselves in respect of all matters (whether actual or contingent) relating to the Bid and the Project;
- (u) We undertake, if our Bid is accepted, to furnish the Construction Performance Security as per the requirements of the RFP;
- (v) We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a Bid for the Project;
- (w) We understand that the RFP has been issued by KWSC for the Project; and undertake and confirm that if our Bid is accepted, we and the SPV (to be incorporated by us, in case the Project is awarded to us), as applicable, shall execute the Concession Agreement (including other GoS Project Documents) (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP and all other instruments as may be required to be executed in relation to the Project as per the requirements of the RFP.

Name .....

In the capacity of .....

Signed .....

..... (Seal)

Duly authorized to sign the Bid for and on behalf of: *(Insert Name of the Bidder/ names of all Consortium Members)*

Date .....

**WITNESSES**

**WITNESS 1:**

**WITNESS 2:**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

CNIC/Passport No.: \_\_\_\_\_

CNIC/Passport No.: \_\_\_\_\_

**BIDDING FORM T2 - FORM OF INTEGRITY PACT**

Dated \_\_\_\_\_

[*name of Bidder*] (the **Bidder**) hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Sindh, Karachi Water and Sewerage Corporation, any administrative subdivision or agency thereof or any other entity owned or controlled by Government of Sindh (collectively, the **GoS**) through any corrupt business practice.

Without limiting the generality of the foregoing, [*name of Bidder*] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoS, except that which has been expressly declared pursuant hereto.

[*name of Bidder*] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoS and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[*name of Bidder*] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoS under any law, contract or other instrument, be voidable at the option of GoS.

Notwithstanding any rights and remedies exercised by GoS in this regard, [*name of Bidder*] agrees to indemnify GoS for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoS in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [*name of Bidder*] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoS.

**Name of Employer: Karachi Water and Sewerage Corporation**

**Signature: .....**  
[Seal]

**Name of Bidder: \_\_\_\_\_**

**Signature: .....**  
[Seal]

**BIDDING FORM T3 - FORM OF POWER OF ATTORNEY**

**A. POWER OF ATTORNEY TO AUTHORIZE A PERSON TO SIGN THE DOCUMENTS**

***NOTES FOR EXECUTION OF POWER OF ATTORNEY***

- *To be executed by each Bidder and in case the Bidder is a Consortium, by each Consortium Member, authorizing the relevant attorney to, inter alia, sign the required documents on its behalf in relation to the RFP.*
- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).*
- *This Power of Attorney shall be on stamp paper and notarised with the notary public.*
- *The Power of Attorney executed and issued overseas will have to be:*
  - (a) *attested by the Pakistani Embassy/Consulate in the country where the Power of Attorney is executed. In case an individual in Pakistan is being appointed as an attorney pursuant to the Power of Attorney, the Power of Attorney, once brought into Pakistan, will also be required to be attested by Ministry of Foreign Affairs, Pakistan; or*
  - (b) *subject to applicable laws of the country where Power of Attorney is executed, authenticated by an apostille under the Apostille Convention.*
- *This Power of Attorney shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.*
- *See Bidding Documentary Requirements set out in Part 3 (Bidding Documentary Requirements) of **VOLUME I (TENDER PROCEDURE)** of the RFP.*

**KNOW ALL BY THESE PRESENTS, WE,** [(name of the entity and address of the registered office)] do hereby irrevocably constitute, nominate, appoint and authorise Mr./Ms. [(Name)], son/daughter/wife of [(Name)] holding [CNIC/Passport] Number [insert number] and presently residing at [insert current residence details], who is presently employed with us and holding the position of [insert position], as our true and lawful attorney (hereinafter referred to as the **Attorney**) (with power to sub-delegate) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to the requirements of the request for proposals document issued on [●] (the **RFP**) by Karachi Water and Sewerage Corporation (**KWSC**) in relation to design, finance, build, operate, maintain and transfer of the **5 MGD SEAWATER DESALINATION PLANT PROJECT** (the **Project**), including but not limited to signing and submission of all documents and providing information/responses to KWSC in respect of the RFP, representing us in all matters before KWSC, and generally dealing with KWSC (and the GoS), and/or any other governmental agencies or any person, in all matters in connection with or relating to or arising out of our Bid and its acceptance by KWSC and for the Project.

We hereby ratify all prior and future acts, deeds and things lawfully done by the Attorney in relation to the Project (including with respect to the submission of our Bid in response to the RFP) pursuant to this Power of Attorney and we hereby agree that all prior and/or future acts, deeds and things done by the Attorney in relation to the Project (including with respect to the submission of our Bid in response to the RFP) shall, and shall always be, deemed to have been done by us.

IN WITNESS WHEREOF WE, \_\_\_\_\_, HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

For & On Behalf of:

\_\_\_\_\_ (*insert name of the entity*)

By Its Duly Authorized Signatory

.....  
(Signature)

**Name:** \_\_\_\_\_ [insert name of the person issuing this Power of Attorney who is authorized to issue this Power of Attorney on behalf of the entity]

**Title/Designation:** \_\_\_\_\_ [insert designation of the person issuing this Power of Attorney]

**Address:** \_\_\_\_\_ [insert address of the person issuing this Power of Attorney]

**WITNESSES:**

**WITNESS 1:**

**WITNESS 2:**

.....  
NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

.....  
NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

**SIGNATURE OF ATTORNEY**

.....

**Name of Attorney:** \_\_\_\_\_

**CNIC/Passport Number of Attorney:** \_\_\_\_\_

**Title/Designation of Attorney:** \_\_\_\_\_

**Address of Attorney:** \_\_\_\_\_

**B. POWER OF ATTORNEY TO AUTHORIZE THE CONSORTIUM AUTHORIZED REPRESENTATIVE**

***NOTES FOR EXECUTION OF POWER OF ATTORNEY***

- *This Power of Attorney for the appointment of Consortium Authorized Representative, is to be executed by the authorized representative of each Consortium Member (appointed pursuant to the power of attorney in Form A (Power of Attorney to Authorize a person to Sign the Documents)).*
- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).*
- *This Power of Attorney shall be on a stamp paper and notarised with the notary public.*
- *The Power of Attorney executed and issued overseas will have to be:*
  - (a) *attested by the Pakistani Embassy/Consulate in the country where the Power of Attorney is executed. In case an individual in Pakistan is being appointed as an attorney pursuant to the Power of Attorney, the Power of Attorney, once brought into Pakistan, will also be required to be attested by Ministry of Foreign Affairs, Pakistan; or*
  - (b) *subject to applicable laws of the country where Power of Attorney is executed, authenticated by an apostille under the Apostille Convention.*
- *This Power of Attorney shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.*
- *See Bidding Documentary Requirements set out in Part 3 (Bidding Documentary Requirements) of VOLUME I (TENDER PROCEDURE) of the RFP.*

**WHEREAS**, the Karachi Water and Sewerage Corporation (**KWSC**) has invited bids for the ‘**5 MGD SEAWATER DESALINATION PLANT PROJECT**’ (the **Project**) pursuant to the request for proposals document issued on [●] by KWSC (as amended from time to time) (the **RFP**);

**WHEREAS**, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ (each hereinafter referred to individually as a **Consortium Member** and collectively as **Consortium Members**) have formed a consortium (the **Consortium**) in accordance with the requirements of the RFP and have issued a Consortium Undertaking as per the requirements of the RFP;

**AND WHEREAS**, it is necessary for the Consortium Members to designate [●], the Lead Developer as the ‘**Consortium Authorized Representative**’ with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Project and its execution;

**AND WHEREAS**, the Consortium Members issue this Power of Attorney for the appointment of the ‘**Consortium Authorized Representative**’ with all necessary powers and authority to represent and irrevocably bind all the Consortium Members in all matters connected with the Tender Procedure and during execution of the relevant agreements in relation to the Project, in case the Consortium is awarded the Project.

**KNOW ALL MEN BY THESE PRESENTS**

**WE**, \_\_\_\_\_, having our registered office at \_\_\_\_\_, M/s. \_\_\_\_\_, having our registered office at \_\_\_\_\_, and M/s. \_\_\_\_\_, having our registered office at \_\_\_\_\_, do hereby irrevocably designate, nominate, constitute, appoint and authorise M/s \_\_\_\_\_, having its registered office at \_\_\_\_\_, being one of the Consortium Members and the Lead Developer, as the Consortium Authorized Representative and true and lawful attorney of the Consortium (hereinafter referred to as the **Attorney**) and hereby irrevocably authorise the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Consortium and any one of us during the Tender Procedure being

conducted by KWSC pursuant to the RFP and to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the Project, including but not limited to signing and submission of our Bid, all applications and other documents and writings, participate in conferences/meetings, respond to queries, submit information/documents, sign and execute contracts and undertakings including the Acceptance of Notification of Award, as applicable (if awarded the Project) and generally to represent the Consortium in all its dealings with KWSC (and the GoS), and/or any other governmental agencies or any person, in all matters in connection with or relating to or arising out of the Consortium's Bid and its acceptance by KWSC.

We hereby ratify all prior and future acts, deeds and things lawfully done by the Attorney in relation to the Project (including with respect to the submission of our Bid in response to the RFP) pursuant to this Power of Attorney and we hereby agree that all prior and/or future acts, deeds and things done by the Attorney in relation to the Project (including with respect to the submission of our Bid in response to the RFP) shall, and shall always be, deemed to have been done by us.

IN WITNESS WHEREOF WE THE ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_.

For: \_\_\_\_\_ [*insert name of Consortium Member*]  
(Signature)

**Name:** \_\_\_\_\_ [*Insert name of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Title/Designation:** \_\_\_\_\_ [*Insert title/designation of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Address:** [*Insert address of the person executing this Power of Attorney on behalf of the Consortium Member*]

For: \_\_\_\_\_ [*insert name of Consortium Member*]  
(Signature)

**Name:** \_\_\_\_\_ [*Insert name of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Title/Designation:** \_\_\_\_\_ [*Insert title/designation of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Address:** [*Insert address of the person executing this Power of Attorney on behalf of the Consortium Member*]

For: \_\_\_\_\_ [*insert name of Consortium Member*]  
(Signature)

**Name:** \_\_\_\_\_ [*Insert name of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Title/Designation:** \_\_\_\_\_ [*Insert title/designation of the person executing this Power of Attorney on behalf of the Consortium Member*]

**Address:** [*Insert address of the person executing this Power of Attorney on behalf of the Consortium Member*]

**WITNESSES:**

**WITNESS 1:**

**WITNESS 2:**

.....  
NAME:

.....  
NAME:

CNIC/PASSPORT NUMBER:  
ADDRESS:

CNIC/PASSPORT NUMBER:  
ADDRESS:

(Executants)

*(To be executed by all the Consortium Members in favour of Consortium Authorized Representative)*

## BIDDING FORM T4 - FORM OF UNDERTAKING

Note: See Bidding Documentary Requirements set out in Part 3 (Bidding Documentary Requirements) of **VOLUME I (TENDER PROCEDURE)** of the RFP.

This Undertaking shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.

[Date]

**RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)**

---

Reference the Request for Proposals document issued on [●] (the **RFP**) by Karachi Water and Sewerage Corporation (**KWSC**) in relation to the Project.

**UNDERTAKING**  
(THIS UNDERTAKING)

---

We, [insert name], registered under incorporation/registration number [●] under the laws of [●], do hereby solemnly represent, declare, covenant, undertake and submit that:

- (a) as at the date hereof, the representations, declarations, covenants and undertakings in our Bid are correct, true and valid/[including the information representations, declarations, covenants and undertakings provided by [insert name of new entity, in case new entity is proposed as shareholder in terms of Section 2.1.2 of the Instructions to Bidders]];
- (b) as at the date hereof, all submissions, documents, forms and other information provided in our Bid are true, correct and valid;
- (c) we shall notify KWSC immediately, in writing, if any change in the structure, formation, personnel or qualifications reflected in our Bid that could affect our eligibility and qualification under the RFP and we acknowledge that such notification shall not render us eligible and qualified under the RFP;
- (d) we acknowledge and accept that failure to notify KWSC of such changes in a timely manner may result in our disqualification [(including the disqualification of the Consortium)] at any point in time at the discretion of KWSC;
- (e) [we confirm that we do not have any Pakistani shareholders (whether individual or corporate entity) with more than five percent (5%) shareholding (directly, indirectly, legally or beneficially)];<sup>1</sup>
- (f) in case the representations, declarations, covenants, undertakings and submissions contained in this Undertaking are found to be incorrect, untrue and/or invalid, we shall indemnify and hold harmless KWSC and the GoS against any loss, damage or action/claim which may arise due to:
  - (i) any representation, declaration, covenant, undertaking and submission being found incorrect, untrue and/or invalid; and/or
  - (ii) our disqualification from the Tender Procedure; and/or
  - (iii) cancellation of the award of Concession for the Project to us (in case the Concession has been so awarded at that time);
- (g) for the purposes of the Project, the shareholding of the SPV shall be as follows:

---

<sup>1</sup> Applicable in case of foreign entities.

ROLE <sup>2</sup>	NAME OF ENTITY	EQUITY SHARE/PERCENTAGE INTEREST IN THE SPV
Lead Developer		
Consortium Member (If applicable)		
Name of the entity (Lead Developer) with the power to direct the management, policies and decisions of the SPV.		

Capitalized terms used herein and not otherwise defined shall bear the meaning ascribed thereto in the RFP.

IN WITNESS WHEREOF, we have signed this Undertaking at \_\_\_\_\_ on this \_\_\_\_\_ Day of \_\_\_\_\_ 20\_\_\_\_.

Yours sincerely,

\_\_\_\_\_ [Insert name of the Bidder/Consortium Member]

\_\_\_\_\_ [insert name of authorized signatory, authorized to execute this Undertaking for and on behalf of the Bidder/Consortium Member]

\_\_\_\_\_ [signature of authorized signatory, executing this Undertaking]

**WITNESSES**

**WITNESS 1:**

**WITNESS 2:**

.....

.....

NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

<sup>2</sup> Bidders to note that in case the Bidder is a single entity, such Bidder shall be the Lead Developer for the purposes of the Project.

**BIDDING FORM T5 - FORM OF CONSORTIUM UNDERTAKING AND  
REQUIREMENTS FOR CONSORTIUM**

**PART 1 - FORM OF CONSTRUCTION UNDERTAKING**

**Note:** See Bidding Documentary Requirements set out in Part 3 (Bidding Documentary Requirements) of **VOLUME I (TENDER PROCEDURE)** of the RFP.

This Undertaking shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.

[Date]

**RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)**

---

Reference the Request for Proposals document issued on [●] (the **RFP**) by Karachi Water and Sewerage Corporation (**KWSC**) in relation to the Project.

**CONSORTIUM UNDERTAKING  
(this Undertaking)**

---

We, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ (each hereinafter referred to individually as a **Consortium Member** and collectively as **Consortium Members**) have formed a consortium (the **Consortium**) in accordance with the requirements of the RFP and hereby issue this Undertaking as per the requirements of the RFP.

We, the Consortium Members, do hereby solemnly represent, declare, covenant, undertake and submit that:

- (a) the Lead Developer i.e. [*insert name of the Lead Developer*]:
  - (i) shall hold minimum forty percent (40%) equity/shareholding stake in the SPV;
  - (ii) meets the minimum net worth requirements set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP; and
  - (iii) shall be liable in respect of the obligations of the Consortium Members in relation to the Project;
- (b) the Lead Developer i.e. [*insert name of the Lead Developer*] meets the requirements set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;
- (c) the Consortium Authorized Representative i.e. the Lead Developer, shall have the authority to conduct all business for and on behalf of the Consortium during the Tender Procedure, and in the event the Consortium is awarded the Concession for the Project, during signing of the GoS Project Documents;
- (d) we have read the GoS Project Documents and shall execute the same as per the requirements of the RFP;
- (e) we shall incorporate a SPV for the purposes of execution of the relevant agreements and for undertaking the Project, as per the requirements of the RFP and the applicable Laws;
- (f) [*the Lead Developer*] shall have the power to direct the management, policies and decisions, in each case, of the SPV;

- (g) each Consortium Member, other than the Lead Developer, shall hold the minimum net worth, as follows:

*[list the net worth of each Consortium Member]*

- (h) for the purposes of the Project, the shareholding of the SPV shall be as follows:

ROLE	NAME OF ENTITY	EQUITY SHARE/PERCENTAGE INTEREST IN THE SPV
Lead Developer/Consortium Authorized Representative		
Consortium Member (If applicable)		
Name of the entity (Lead Developer) with the power to direct the management, policies and decisions of the SPV		

*Capitalized terms used herein and not otherwise defined shall bear the meaning ascribed thereto in the RFP.*

**IN WITNESS WHEREOF**, we, the Consortium Members, have signed<sup>3</sup> this Undertaking on this \_\_\_\_\_ Day of \_\_\_\_\_ 20\_\_\_\_

For: \_\_\_\_\_ *[insert name of Consortium Member]*  
(Signature)

**Name:** \_\_\_\_\_ *[Insert name of the person executing this Undertaking on behalf of the Consortium Member]*

**Name:** \_\_\_\_\_ *[Insert name of the person executing this Undertaking on behalf of the Consortium Member]*

**Title/Designation:** \_\_\_\_\_ *[Insert title/designation of the person executing this Undertaking on behalf of the Consortium Member]*

**Address:** *[Insert address of the person executing this Undertaking on behalf of the Consortium Member]*

For: \_\_\_\_\_ *[insert name of Consortium Member]*  
(Signature)

**Name:** \_\_\_\_\_ *[Insert name of the person executing this Undertaking on behalf of the Consortium Member]*

**Title/Designation:** \_\_\_\_\_ *[Insert title/designation of the person executing this Undertaking on behalf of the Consortium Member]*

**Address:** *[Insert address of the person executing this Undertaking on behalf of the Consortium Member]*

For: \_\_\_\_\_ *[insert name of Consortium Member]*  
(Signature)

**Title/Designation:** \_\_\_\_\_ *[Insert title/designation of the person executing this Undertaking on behalf of the Consortium Member]*

<sup>3</sup> Authorized representative of each Consortium Member is required to sign this Undertaking.

**Address:** *[Insert address of the person executing this Undertaking on behalf of the Consortium Member]*

**WITNESSES:**

**WITNESS 1:**

**WITNESS 2:**

.....  
NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

.....  
NAME:  
CNIC/PASSPORT NUMBER:  
ADDRESS:

*(To be executed by the authorized representatives of all the Consortium Members)*

## **PART 2 - REQUIREMENTS FOR CONSORTIUM**

*[to be submitted by each Consortium Member on its letterhead]*

Subject to the requirements set out in Section 2.1.1 of the RFP, each Consortium Member, through its authorized representative, is required to submit letter of intent, specifying:

- (a) its intention to form a consortium with other Consortium Members;
- (b) the Consortium Authorized Representative, with the authority to conduct all business for and on behalf of the Consortium Member during the Tender Procedure to be conducted for the Project, and in the event the Consortium is awarded the contract for the Project, during signing of the Concession Agreement;
- (c) its intent to enter into a formal consortium agreement with the Consortium Members during the Tender Procedure as per the requirements of the RFP. The consortium agreement shall contain at least the following information:
  - each Consortium Member's binding commitment to the Consortium and to the GoS Parties in regard to the performance of the Concession Agreement;
  - the proposed shareholding of each Consortium Member in the Concessionaire;
  - identification of the Consortium Member that will assume the role of Lead Developer;
  - irrevocable power for the Lead Developer to represent the Consortium and bind all Consortium Members in connection with the Tender Procedure, the Bid and the signing of the Concession Agreement;
  - brief description of the obligations of each of the Consortium Members for performance of the Concession Agreement;
  - a statement that the Consortium Members shall be bound by the shareholding change restrictions set out in the Concession Agreement;
  - a statement that the Leader Developer shall be liable in respect of the obligations of the Consortium Members in relation to the Project; and
  - their intent to incorporate the Concessionaire for the purposes of execution of the Concession Agreement and for undertaking the Project.

## **BIDDING FORM T6 - FORM OF AFFIDAVIT**

### **PART 1 - FORM OF AFFIDAVIT BY BIDDER**

#### **Notes for Execution of Affidavit**

- *The mode of execution of the Affidavit should be in accordance with the procedure, if any, laid down under applicable laws and the same should be under common seal affixed in accordance with the required procedure.*
- *The Affidavit is to be executed on a stamp paper of PKR 100 /-.*
- *Also, the Bidder/ each Consortium Member should submit for verification a resolution/ power of attorney in favour of the person executing this Affidavit for and on behalf of the Bidder/ each Consortium Member.*
- *If executed in Pakistan, the Affidavit shall be notarized by the notary public and certified by the Oath Commissioner.*
- *For an Affidavit executed and issued overseas, the same will have to be notarized by notary public and:*
  - (a) *attested by the Pakistani Embassy/ Consulate in the country where the Affidavit is executed; or*
  - (b) *subject to applicable laws of the country where the Affidavit is executed, authenticated by an apostille under the Apostille Convention.*
- *To be submitted by each Bidder/ each Consortium Member.*
- *This Affidavit shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.*

*Please find below the form and substance of the Affidavit.*

Date: \_\_\_\_\_

[●]  
[●]  
[Address]

**RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)**

---

Reference the RFP issued on [●], by Karachi Water and Sewerage Corporation (KWSC), in relation to the design, finance, build, operate, maintain and transfer of **5 MGD SEAWATER DESALINATION PLANT PROJECT** (the **Project**).

**AFFIDAVIT**  
(THIS **AFFIDAVIT**)

---

1. I, [*in case of company, insert name of the authorized person and its designation*] of [*insert name of company*]/[*in case of sole proprietor, insert name of sole proprietor and its CNIC or Passport No.*] of [*insert name of sole proprietorship, if any*]/[*in case of partnership, insert name of authorized person and its CNIC or Passport No.*] of [*insert name of partnership, if any*] (the **Entity**), a [*in case of company/partnership, insert nature of company/partnership (if any)*] duly organised and existing under the laws of [*Pakistan*] [*insert country of incorporation*] with its registered office located at [*insert registered address*], do hereby solemnly affirm, declare and state that:
- (a) the Entity is not ineligible/blacklisted to participate in the Tender Procedure or undertake any contract or project (including the Project) through any form of public tender (due to reasons, including but not limited to corrupt practices and poor performance) by any Federal or Provincial governmental or non-governmental department/agency in Pakistan, [or any other provincial government/governments of any foreign countries or their governmental bodies and/or International Organizations (e.g. World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.)] at the date of submission of this Affidavit;
  - (b) neither the Entity nor any Affiliate:
    - (i) is included as a debarred person pursuant to the public sanctions list of any multilateral development bank that is party to the Agreement on Mutual Enforcement of Debarment Decisions of 9 April 2010 ([www.crossdebarment.org](http://www.crossdebarment.org));  
or
    - (ii) is included on any sanctions lists promulgated by the UN Security Council or its Committees, or any other recognised international sanctions list;
  - (c) no action, suit or other legal proceeding or governmental investigation is pending against the Entity or any of its respective officers, directors or employees, or that any of the foregoing has received any notice thereof, which questions the validity and execution of this Affidavit or the representations provided in this Affidavit;
  - (d) the Entity has no tax liabilities or liabilities in respect of judgments awarded by any court or similar proceedings in the period of three (3) years prior to the date of this Affidavit, save in each case to the extent that it has made suitable accounting provision for such liabilities in accordance with applicable accounting regulations;
  - (e) the Entity has not directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the award of any contract, project or transaction in the period of five (5) years prior to the date of this Affidavit;

- (f) the Entity (including the Affiliate) is not in bankruptcy or liquidation proceedings or receivership, or wound up, or its affairs are not being administered by a court or a judicial officer, or its business activities have not been suspended or it is not the subject of legal proceedings of any of the foregoing and has a reasonable expectation of being able to discharge all financial liabilities as they fall due;
- (g) the Entity has not failed to sign a contract with any procuring authority following award;
- (h) there is no conflict of interest or potential conflict of interest arising from prior or existing contracts or relationships which could materially affect potential involvement of the Entity in the Project and to comply with the obligations set out in the RFP or with respect to the Project;
- (i) [the Entity is legally and financially autonomous and operates under commercial law]<sup>4</sup>; and
- (j) neither the Entity, nor I have concealed any information that might hinder the Tender Procedure being conducted for the Project.

2. That whatever stated above is true and correct to the best of my knowledge and belief and nothing has been concealed thereto.

*All capitalized terms unless defined herein shall bear the meaning as ascribed thereto in the RFP.*

\_\_\_\_\_  
**Deponent**

Verified on oath at \_\_\_\_\_ on this \_\_\_\_ Day of \_\_\_\_\_, 20\_\_ that the contents of the above Affidavit are true and correct to the best of my knowledge and belief.

\_\_\_\_\_  
**Deponent**

**WITNESSES:**

**WITNESS 1:**

**WITNESS 2:**

1. \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 CNIC No.: \_\_\_\_\_

2. \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 CNIC No.: \_\_\_\_\_

\_\_\_\_\_  
<sup>4</sup>Only relevant for the government owned enterprise or institution.

## PART 2 - FORM OF AFFIDAVIT BY PROPOSED EPC CONTRACTOR

### NOTES FOR EXECUTION OF AFFIDAVIT

- *Mode of execution of the Affidavit should be in accordance with the procedure, if any, laid down under applicable laws and the same should be under common seal affixed in accordance with the required procedure.*
- *The Affidavit is to be executed on a stamp paper of PKR 100/-; or if executed overseas, to adequately adhesive stamped when brought into Pakistan with a stamp duty of PKR 100/-.*
- *If executed in Pakistan, the Affidavit shall be notarized by the notary public and certified by the Oath Commissioner.*
- *For an Affidavit executed and issued overseas, the same will have to be notarized by notary public and:*
  - (a) *attested by the Pakistani Embassy/Consulate in the country where the Affidavit is executed; or*
  - (b) *subject to applicable laws of the country where the Affidavit is executed, authenticated by an apostille under the Apostille Convention;*
- *To be submitted by the Proposed EPC Contractor.*
- *This Affidavit shall be witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.*
- *See Bidding Documentary Requirements set out in Part 3 (Bidding Documentary Requirements) of **VOLUME I (TENDER PROCEDURE)** of the RFP.*
- *Bidders are required to ensure that the person issuing this affidavit on behalf of a Proposed EPC Contractor has valid legal authority to execute the Affidavit on behalf of the Proposed EPC Contractor.*

*Please find below the form and substance of the Affidavit.*

Date: \_\_\_\_\_

**RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)**

---

Reference the Request for Proposals document issued on [●] (the **RFP**) by Karachi Water and Sewerage Corporation (**KWSC**) in relation to the Project.

**AFFIDAVIT**  
(THIS **AFFIDAVIT**)

---

1. I, *[in case of company, insert name of the authorized person and its designation]* of *[insert name of company]*/*[in case of sole proprietor, insert name of sole proprietor and its CNIC or Passport No.]* of *[insert name of sole proprietorship, if any]* / *[in case of partnership, insert name of authorized person and its CNIC or Passport No.]* of *[insert name of partnership, if any]* (the **Entity**), a *[in case of company/partnership, insert nature of company/partnership (if any)]* duly organised and existing under the laws of *[Pakistan]* *[insert country of incorporation]* with its registered office located at *[insert registered address]*, do hereby solemnly affirm, declare and state that:
- (a) the Entity is not ineligible/blacklisted (due to reasons, including but not limited to corrupt practices and poor performance) by any Federal or Provincial governmental or non-governmental department/agency in Pakistan, or any other provincial government/governments of any foreign countries or their governmental bodies and/or International Organizations (e.g. World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.) at the date of submission of this Affidavit;
  - (b) the Entity is not included:
    - (i) as a debarred person pursuant to the public sanctions list of any multilateral development bank that is party to the Agreement on Mutual Enforcement of Debarment Decisions of 9 April 2010 ([www.crossdebarment.org](http://www.crossdebarment.org)); or
    - (ii) on any sanctions lists promulgated by the UN Security Council or its Committees, or any other recognised international sanctions list;
  - (c) no action, suit or other legal proceeding or governmental investigation is pending against the Entity or any of its respective officers, directors or employees, or that any of the foregoing has received any notice thereof, which questions the validity and execution of this Affidavit or the representations provided in this Affidavit;
  - (d) the Entity has no tax liabilities or liabilities in respect of judgments awarded by any court or similar proceedings in the period of three (3) years prior to the date of this Affidavit, save in each case to the extent that it has made suitable accounting provision for such liabilities in accordance with applicable accounting regulations;
  - (e) the Entity has not directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the award of any contract, project or transaction;
  - (f) the Entity is not in bankruptcy or liquidation proceedings or receivership, or wound up, or its affairs are not being administered by a court or a judicial officer, or its business activities have not been suspended or it is not the subject of legal proceedings of any of the foregoing and has a reasonable expectation of being able to discharge all financial liabilities as they fall due;
  - (g) in case the Entity has been nominated as the Proposed EPC Contractor in terms of the RFP, the Entity shall execute all instruments as may be required to be executed by the Entity in relation to the Project as per the requirements of the RFP; and
  - (h) there is no conflict of interest or potential conflict of interest arising from prior or existing contracts or relationships which could materially affect potential involvement of the Entity

in the Project and to comply with the obligations set out in the RFP or with respect to the Project.

2. That whatever stated above is true and correct to the best of my knowledge and belief and nothing has been concealed thereto.

*All capitalized terms unless defined herein shall bear the meaning as ascribed thereto in the RFP.*

\_\_\_\_\_  
**[Deponent**

Verified on oath at \_\_\_\_\_ on this \_\_\_\_ Day of \_\_\_\_\_, 20\_\_\_\_ that the contents of the above Affidavit are true and correct to the best of my knowledge and belief.]<sup>5</sup>

\_\_\_\_\_  
**Deponent**

**WITNESSES:**

**WITNESS 1:**

**WITNESS 2:**

1. \_\_\_\_\_

2. \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CNIC No.: \_\_\_\_\_

CNIC No.: \_\_\_\_\_

\_\_\_\_\_  
<sup>5</sup> Bidders to note that in case this Affidavit is executed outside Pakistan, such verification will not be required.

## **BIDDING FORM T7 - TECHNICAL PROJECT METHODOLOGY/APPROACH**

This form must respond to the entire scope of work for the Project described in **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP.

The Bidder must outline the proposed technical approach/methodology to design, carry out the construction works and operations of the Project during the Construction Period and Operations Period. The approach paper should articulate what added value the Bidder will provide in achieving the stated objectives for the Project and how compliance with requirements set out in the RFP (including **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP will be achieved.

The Bidder must explain its understanding of the objectives and requirements of the Project, highlight the issues of importance, and explain the technical approach it would adopt to address such issues. The approach paper should explain the methodologies and technologies which are to be adopted and demonstrate the compatibility of those with the proposed approach, making it clear that only proven and reliable technologies will be used for the implementation of the Project. The approach should also indicate how risks will be managed and what contribution will be made regarding value engineering and management.

The Bidder must attach its approach paper as Bidding Form T7 (*Technical Project Methodology/Approach*). The approach paper should not be longer than twenty-five (25) pages.

## **BIDDING FORM T8 - OPERATION & MAINTENANCE PLAN AND PROCEDURES**

Bidders are required to develop an outline a Management, Operation & Maintenance (MOM) Plan which is specific to the Project and details the approach and procedures to be implemented as part of the Project to ensure overall efficient operations and maintenance of the Project, after commissioning, during the Operations Period, as well as define adequate management structures to ensure compliance with best practices.

A MOM Plan should include, as a minimum, the Bidder's approach towards overall asset management, monitoring and maintenance which should be integrated with an outline control philosophy for the infrastructure which considers interfaces with supporting utilities and intelligent solutions to optimize efficiencies where possible.

Such a plan should also detail the daily and monthly reports and communication protocols which will be provided to KWSC in terms of performance specification compliance as well as operational and maintenance monitoring reporting in compliance with the requirements specified in **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP.

The Bidder must attach its outline of the MOM Plan as Bidding Form T8 (*Operation & Maintenance Plan and Procedure*). The MOM plan should not be longer than fifteen (15) pages.

**BIDDING FORM T9 - IMPLEMENTATION SCHEDULE**

The Bidders are required to submit a detailed estimated implementation schedule of the proposed works to be attached as Bidding Form T9 (*Implementation Schedule*). The implementation schedule should detail, as minimum, the main planning and delivery components of the Project from inception up to the construction completion, operation and maintenance, plus the final handover to KWSC, considering all aspects of the Project including long lead time items, time related to approvals, etc. each in accordance with the requirements of the RFP (including the Concession Agreement). The implementation schedule should also clearly indicate the Project's critical path. Compliance with the timelines set out in **SCHEDULE B (IMPLEMENTATION SCHEDULE)** to the Concession Agreement shall be required to be ensured while preparing this Bidding Form T9 (*Implementation Schedule*).

**Name of Bidder:** \_\_\_\_\_

**Signature:** .....

[Seal]

**BIDDING FORM T10 - LIST OF MANUFACTURERS OF MAIN EQUIPMENT<sup>6</sup>**

The Bidders shall list in the table below the proposed manufacturers for all the main equipment specified in VOLUME II (*TECHNICAL SPECIFICATIONS*) of the RFP.

<b>EQUIPMENT</b>	<b>NAME OF MANUFACTURER</b>	<b>ADDRESS OF MANUFACTURER</b>	<b>YEARS OF EXPERIENCE OF THE MANUFACTURER FOR THE EQUIPMENT PROPOSED</b>

Name of Bidder: \_\_\_\_\_

Signature: .....

[Seal]

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<sup>6</sup> All equipment proposed by the Bidders shall be brand new.

**BIDDING FORM T11 - SCHEDULE OF EQUIPMENT & TECHNOLOGY SUPPLIERS<sup>7</sup>**

The Bidders shall list in the table below the proposed equipment and technology suppliers to be engaged for the Project and include any relevant documents (specifically Quality Control Certification i.e. ISO 9001), data sheets, performance guarantees and warranties relevant to major components and equipment specified in **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP.

NAME OF THE PROPOSED EPC CONTRACTOR	COMPONENT/MAJOR EQUIPMENT	DETAILS OF EQUIPMENT SUPPLIER (NAME, COUNTRY, CONTACT, QUALITY CONTROL ACCREDITATION/CERTIFICATION, ETC.)	DATA SHEETS SUBMITTED [Y/N]	ESTIMATED LEAD TIME FOR EQUIPMENT DELIVERY

Name of Bidder: \_\_\_\_\_

Signature: .....

[Seal]

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<sup>7</sup> All equipment proposed by the Bidders shall be brand new.

**BIDDING FORM T12 - ORGANIZATION & STAFFING**

The Bidders should propose the structure and composition of their team i.e., the main disciplines involved, the key staff member/expert responsible for each discipline, and the proposed managerial, technical and support staff and site staff. The roles and responsibilities of each key staff member/expert should be set out as job descriptions. In the case of an association/joint venture/consortium, it should, indicate how the duties and responsibilities are to be shared.

The Bidder shall list in the table below the key personnel to be engaged for the Project and include any relevant document required to demonstrate the suitable level of experience and qualifications for each role and project responsibilities.

<b>ROLE</b>	<b>PROJECT RESPONSIBILITY</b>	<b>NAME</b>	<b>NATIONALITY</b>	<b>QUALIFICATIONS</b>	<b>WORKING YEARS IN THE ENTITY</b>	<b>YEARS OF RELEVANT EXPERIENCE</b>

**Name of Bidder:** \_\_\_\_\_

**Signature:** .....  
 [Seal]

**BIDDING FORM T13 - QUALITY CONTROL PRACTICES & PROCEDURES**

The quality control practices and procedures which will ensure compliance with the Project requirements and international best practices, should be attached as Bidding Form T13 (*Quality Control Practices & Procedures*).

Bidders should briefly outline their procedures in relation to the Project and attach any relevant documentation such as ISO 9001 certification, etc.

The quality control practices and procedures paper should not be longer than five (5) pages.

## **BIDDING FORM T14 - HEALTH & SAFETY PLAN AND PROCEDURES**

Bidders are required to develop an outline health and safety plan which is specific to the Project and details the approach and procedures to be implemented as part of the Project to ensure the overall health and safety compliance with international best practices and other applicable laws, including the Environmental and Social Standards (as specified in the Concession Agreement) applied throughout the Project lifecycle.

The health and safety plan should also include an outline methodology of risk assessments, health and safety audits, safety check lists and confirmation that all necessary allowances have been made for these procedures and the required personal protective and other equipment, training, inductions and control, etc.

Bidders should briefly outline their procedures in relation to the Project and attach any relevant documentation such as OSHAS 18001 certification, etc.

The Bidder must attach details regarding health and safety plan and procedure as Bidding Form T14 (*Health & Safety Plan and Procedures*), which should not be longer than five (5) pages.

**BIDDING FORM T15 - METHODOLOGY/APPROACH FOR THE ENVIRONMENTAL & SOCIAL  
MANAGEMENT PLAN AND PROCEDURES**

Bidders are required to develop an outline Environmental and Social Management Plan (ESMP) which is specific to the Project and sets out the approach and procedures to be implemented as part of the Project to ensure protection of the environment and community as well as compliance with relevant international best practices and the Laws. Bidders should review the requirements set out in **VOLUME II (TECHNICAL SPECIFICATIONS)** of the RFP and **SCHEDULE L (ENVIRONMENT, HEALTH AND SAFETY REQUIREMENTS)** of the Concession Agreement while preparing this form.

The ESMP should include the approach to develop the ESIA and an indication of how this plan will be developed and audited to ensure compliance. Confirmation should be provided that all necessary allowances have been made for these procedures.

Bidders should briefly outline their procedures in relation to the project and attach any relevant documentation such as ISO 14001 certification, etc.

The Bidder must attach relevant details as Bidding Form T15 (*Methodology Approach for the Environmental & Social Management Plan and Procedures*), which should not be longer than fifteen (15) pages.

**BIDDING FORM T16 - OTHER TECHNICAL DATA SUBMISSION**

Bidders shall attach to any additional relevant technical data including process descriptions, designs calculations, drawings, specifications, data sheets etc., which should be summarized, clear and practically grouped per section of the proposed works for ease of evaluation, in each case as per the requirements of the RFP.

The Bidder must attach relevant details as Bidding Form T16 (*Other Technical Data Submission*), which should not be longer than ten (10) pages.

**BIDDING FORM T17 - LEAD DEVELOPER TECHNICAL CRITERIA EVIDENCE SHEET**

<b>Name of Applicant</b>			
<b>Name of Lead Developer (if applicable)</b>			

<b>Technical Criterion</b>	<i>[Yes/No]</i>	<i>[Name of the Lead Developer satisfying the criteria]</i>	<i>[Percentage of shareholding of Lead Developer in the Concessionaire]</i>	<u>RELEVANT EXPERIENCE</u> (a) one (1) standalone project in the water or energy sector with at least a capacity of ten (10) MGD or twenty (20) megawatts; or  (b) one (1) water or energy project integrated within a manufacturing facility including (without limitation) textile, cement, chemical, leather, or sugar industries with water treatment/processing capacity of at least ten (10) MGD or power generation capacity of at least twenty (20) megawatts;  <u>Note:</u> The Lead Developer must have had minimum equity ownership of fifty one percent (51%) in the Eligible Project(s) (listed in (a) to (b) above) and such Eligible Project must be operational as of the Bid Submission Deadline.  <u>PROJECT FINANCING EXPERIENCE</u> (a) The Lead Developer must have funded an Eligible Project through a combination of debt and equity of a total amount of at least United States Dollars Five Million only (USD 5,000,000/-).  (b) In terms of debt financing for an Eligible Project, the Lead Developer must possess the experience of raising full scope project financing from lenders (either local and/or international financial institutions). Such project financing must have been raised to include a full suite of typical project finance associated lender requirements including (without limitation) cost overruns support, project progress and monitoring associated conditions as well as project completion requirements.

				<p><u>CREDIT RATING</u></p> <p>(a) In case the Lead Developer is a local entity, it must have a clear Electronic Credit Information Bureau (ECIB) report from the SBP. Relevant evidence in this regard must be submitted by the Lead Developer as part of its Bid.</p> <p>(b) In case the Lead Developer is a foreign entity, it must submit a credit rating report from a renowned internationally recognized credit rating agency with a minimum credit rating/score that indicates:</p> <ul style="list-style-type: none"> <li>(i) investment grade (S&amp;P, Fitch, or Moody's);</li> <li>(ii) moderate risk (Dun &amp; Bradstreet); or</li> <li>(iii) any equivalent score indicating low to moderate risk from other renowned internationally recognized agencies.</li> </ul>
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NAME OF PLANT/PROJECT	LOCATION AND COUNTRY OF PROJECT	DESCRIPTION (OVERVIEW) OF THE PROJECT /PLANT ALONG WITH PROJECT/PLANT COMPONENTS	SCOPE OF WORK UNDERTAKEN BY THE APPLICANT / LEAD DEVELOPER	DATE OF PLANT/PROJECT COMMERCIAL OPERATION	OWNERSHIP IN PLANT/PROJECT
[one line per plant /project]					

DIRECT OR INDIRECT OWNERSHIP IN THE RELEVANT PLANT	TERM OF OWNERSHIP (CONSTRUCTION PERIOD AND NUMBER OF OPERATING YEARS)	GOVERNMENT COUNTERPARTY, ORGANIZATION AND INDIVIDUAL FOR REFERENCE. ADDRESS/ TELEPHONE/ EMAIL:	CAPACITY OF PLANT /PROJECT	PROJECT COST (USD) <sup>8</sup>
[one line per plant /project]				

The Bidder/Lead Developer (in case of a Consortium) shall provide a clear statement of relevant technical criteria (set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP) it aims to qualify as per Bidding Form T17 (*Lead Developer Technical Criteria Evidence Sheet*), along with a summary of the supporting evidence. For each plant/project submitted by the Bidder/Lead Developer (in case of a Consortium) as evidence of meeting a technical criterion, the Bidder shall provide:

- (a) as per Bidding Form T17 (*Lead Developer Technical Criteria Evidence Sheet*), details regarding the project/plant: (i) name; (ii) location; (iii) description along with capacity and project components; (iv) commercial operations date; and (v) direct or indirect shareholding in the relevant project/plant with the name of the special purpose vehicle and its ultimate parent company or companies; and
- (b) verifiable and independently and objectively produced documentary evidence confirming the information in section (a) above, which should include, without limitation:
  - (i) work order or project completion certificate clearly indicating: (I) name of the project and Bidder/Lead Developer (in case of a Consortium); (II) role and scope of the work; (III) shareholding percentage and shareholding term (construction and operations period); and (IV) project construction cost. Such evidence (containing information mentioned in (I) to (IV) above) to be provided through: (A) project completion certificate issued by the relevant governmental counterparty; or (B) a letter issued by the project company supported by relevant project agreements signed with government counterparty such as contract or work order; and

<sup>8</sup> **Note:** Exchange rate to be based on the rate published by Reuters on <https://www.reuters.com/markets/currencies> at close of business UK time, on the date of issuance of the RFP.

- (ii) either: (I) evidence of the required direct or indirect shareholding, a statement from an auditor confirming the Bidder's/the Lead Developer's (in case of a Consortium) shareholding in the project/plant; or (II) project company's audited financial statements covering the construction and operating period reflecting such direct or indirect shareholding of the Bidder/the Lead Developer (in case of a Consortium) in the project company.

**BIDDING FORM T18 - BIDDERS FINANCIAL CRITERIA EVIDENCE SHEET**

<b>FINANCIAL QUALIFICATION CRITERIA OF BIDDERS<sup>9</sup></b>						
	<b>2023<sup>10</sup></b>		<b>2022</b>		<b>2021</b>	
<b>Currency</b>	<b>In currency of the financial statements [insert name of currency] Million</b>	<b>In PKR Million</b>	<b>In currency of the financial statements [insert name of currency] Million</b>	<b>In PKR Million</b>	<b>In currency of the financial statements [insert name of currency] Million</b>	<b>In PKR Million</b>
Exchange rate (in comparison to financial statements currency)		[Financial statement currency to PKR]		[Financial statement currency to PKR]		[Financial statement currency to PKR]
Total Assets (for three most recent full financial years)						
Total Liabilities (for three most recent full financial years)						
Revaluation Surplus (or similar entry)						
Net Worth						

<sup>9</sup> For financial statements in currencies other than PKR, the financial statements in PKR, for the purposes of completing this form, will be calculated either using the December month-end or June month-end (depending on financial year ending month) exchange rate for the relevant year as specified in the relevant 'Month-End Ex Rates in PKR' tab in the file uploaded by State Bank of Pakistan which can be accessed using the following link [https://www.sbp.org.pk/ccodata/IBF\\_Arch.xls](https://www.sbp.org.pk/ccodata/IBF_Arch.xls). For currencies not mentioned in the file, Bidders are advised to contact GoS/KW&SC and relevant conversion rates shall be provided.

<sup>10</sup> Bidders for whom financial statements are available in terms of the applicable law for the financial year 2024, shall submit the required information based on financial years 2024, 2023 and 2022.

**BIDDING FORM T19 - PROPOSED EPC CONTRACTOR TECHNICAL CRITERIA EVIDENCE SHEET**

Bidders shall attach to this form information that describes the Proposed EPC Contractor’s background and experience in similar works. A summary table shall be provided for each project or reference, and relevant documents shall be attached herein as evidence (completion certificates, technical reports, etc.).

**Note:** Please do not include projects under development or under construction or projects executed more than ten (10) years prior to the Bid Submission Deadline.

<b>Suitable relevant project experience with specific details of the Proposed EPC Contractor</b>	<b>One (1) seawater desalination plant project (which includes intake infrastructure) with cumulative capacity of at least twenty (20) MGD with at least one (1) project of minimum capacity of ten (10) MGD</b>
<i>[Insert name of the Project]</i>	[Y/N]
<i>[Insert name of the Project]</i>	[Y/N]

**PROJECT DETAILS**

Name of plant/project	Location and country of project	Description (overview) of the project /plant along with project/plant components	Scope of work undertaken by the Proposed EPC Contractor	Date of plant/project commercial operation	Ownership in plant/project (if applicable)
<i>[one line per plant /project]</i>					

Name of Developer counterparty, organization and / or individual for reference.	Capacity of plant /project	Name of project company	Value of contract (USD) <sup>11</sup>	Duration of construction period
<i>[one line per plant /project]</i>				

<sup>11</sup> For conversion of values in USD, the exchange rate will be calculated using the December month-end exchange rates for the year of project completion as specified in the ‘Month-End Ex for the relevant year of the project commercial operations. Rates in ‘US \$’ tab in the file uploaded by State Bank of Pakistan which can be accessed using the following link [https://www.sbp.org.pk/ecodata/IBF\\_Arch.xls](https://www.sbp.org.pk/ecodata/IBF_Arch.xls). For currencies not mentioned in the file, Bidders are advised to contact GoS/KWSC and relevant conversion rates shall be provided.

**BIDDING FORM T20 - PROPOSED EPC CONTRACTOR FINANCIAL CRITERIA EVIDENCE SHEET**

NET WORTH REQUIREMENTS OF PROPOSED EPC CONTRACTOR <sup>12</sup>						
	2023 <sup>13</sup>		2022		2021	
Currency	In currency of the financial statements [insert name of currency] Million	In USD Million	In currency of the financial statements [insert name of currency] Million	In USD Million	In currency of the financial statements [insert name of currency] Million	In USD Million
Exchange rate (in comparison to financial statements currency)		[Financial statement currency to USD]		[Financial statement currency to USD]		[Financial statement currency to USD]
Total Assets (for three (3) most recent full financial years)						
Total Liabilities (for three (3) most recent full financial years)						
Revaluation Surplus (or similar entry)						
Net Worth						

<sup>12</sup> For financial statements in currencies other than USD, the financial statements in USD, for the purposes of completing Bidding Form T20 (*Proposed EPC Contractor Financial Criteria Evidence Sheet*), will be calculated using the **December month-end** exchange rates for the relevant year as specified in the 'Month-End Ex. Rates in USD' tab in the file uploaded by State Bank of Pakistan which can be accessed using the following link [https://www.sbp.org.pk/ccodata/IBF\\_Arch.xls](https://www.sbp.org.pk/ccodata/IBF_Arch.xls). For currencies not mentioned in the file, Bidders are advised to contact GoS/KWSC and relevant conversion rates shall be provided.

<sup>13</sup> Bidders for whom financial statements are available in terms of the applicable law for the financial year 2024, shall submit the required information based on financial years 2024, 2023 and 2022.

**BIDDING FORM T21 - LITIGATION HISTORY**

<b>PENDING LITIGATION</b>			
<b>Pending litigation</b> - All pending litigation shall in total not represent more than fifty percent (50%) of the Bidder's/Consortium Member's net worth and shall be treated as resolved against the Bidder/Consortium Member.			
<b>YEAR</b>	<b>OUTCOME AS PERCENT OF TOTAL ASSETS</b>	<b>OUTCOME AS PERCENT OF TOTAL ASSETS</b>	<b>TOTAL CONTRACT AMOUNT (USD)<sup>14</sup></b>
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute:	

<sup>14</sup> For conversion of values in USD, the exchange rate will be calculated using the December month-end exchange rates for the year of project completion as specified in the 'Month-End Ex for the relevant year of the project commercial operations. Rates in 'US \$' tab in the file uploaded by State Bank of Pakistan which can be accessed using the following link [https://www.sbp.org.pk/ecodata/IBF\\_Arch.xls](https://www.sbp.org.pk/ecodata/IBF_Arch.xls). For currencies not mentioned in the file, Bidders are advised to contact GoS/KWSC and relevant conversion rates shall be provided.

**BIDDING FORM T22 - FORM OF BID SECURITY**

**BANK GUARANTEE**

Guarantee No. \_\_\_\_\_  
(hereinafter referred to as the **Bank Guarantee**)

Executed on \_\_\_\_\_

Expiry date \_\_\_\_\_

Name of Guarantor (Bank) with address: \_\_\_\_\_

[Name of Principal (Bidder) with address:]<sup>15</sup> \_\_\_\_\_

Guaranteed Amount (express in words and figures): \_\_\_\_\_

Date of Bid \_\_\_\_\_

The above premises, we (the **Guarantor Bank**) hereby undertake irrevocably and unconditionally on demand to pay to the Karachi Water and Sewerage Corporation (**KWSC**), without any notice, reference or recourse to the Bidder or to any other entity or without any recourse or reference to any document, agreement, instrument or deed, any sum or sums (or any part thereof) equivalent in aggregate up to but not exceeding a maximum amount of:

[●] [●]/- ([●][●])  
(the **Guaranteed Amount**)

at sight and immediately upon the receipt of the KWSC's first written demand (the **Demand**) at the Guarantor Bank's offices located at [●] or through SWIFT instructions transmitted by KWSC's bank on behalf of KWSC, to the Guarantor Bank, or through fax sent by KWSC at the Guarantor Bank's fax number i.e., [●], such Demand stating:

- (i) that the Bidder is in breach of its obligations towards KWSC; and
- (ii) the total amounts demanded.

A Demand shall only be honoured by us: (i) in the case of a written Demand, if it is made by and bears the signature of an authorised officer or other representative of KWSC; or (ii) in the case of a Demand transmitted through SWIFT, if it is transmitted through authenticated SWIFT instructions by KWSC's bank on behalf of KWSC; or (iii) in the case of a Demand made through fax, it is made by and bears the signature of an authorised officer or other representative of KWSC.

We, the Guarantor Bank, shall unconditionally honour a Demand hereunder made in compliance with this Bank Guarantee at sight and immediately on the date of receipt of your Demand, as stated earlier, and shall transfer the amount specified in the Demand to the bank account, as notified in the Demand, in immediately available and freely transferable funds in the currency of this Bank Guarantee, free and clear of and without any set-off or deduction for or on account of any present or future taxes, levies, imposts, duties, charges, fees, deductions or withholdings of any nature whatsoever and by whomsoever imposed.

This Guarantee shall come into force and shall become automatically effective upon its issuance.

Such demand must be received by us on or before the [●] (the **Expiry Date**), when this Bank Guarantee shall expire and shall be returned to us.

---

<sup>15</sup> Bidders to note that the Bid Security may be issued by any Consortium Member.

Upon expiry, this Bank Guarantee shall be returned to the Bidder without undue delay. Multiple Demands may be made by KWSC under this Bank Guarantee, but our aggregate liability will be restricted up to the Guaranteed Amount.

We hereby agree that any amendment, renewal, extension, modification, compromise, release or discharge by mutual agreement by KWSC, the Bidder or any other entity of any document, agreement, instrument or deed shall not in any way impair or affect our liabilities hereunder and maybe undertaken without notice to us and without the necessity for any additional endorsement, consent or guarantee by us.

This Bank Guarantee for its validity period shall not be affected in any manner by any change in our constitution or of the Bidder's constitution or of their successors and assignees and this Bank Guarantee shall be legally valid, enforceable and binding on each of their successors and permitted assignees.

All references to any contract, agreement, deed or other instruments or documents are by way of reference only and shall not affect our obligations to make payment under the terms of this Bank Guarantee.

If one or more of the provisions of this Bank Guarantee are held or found to be invalid, illegal, or unenforceable for any reason whatsoever, in any respect, any such invalidity, illegality, or unenforceability of any provision shall not affect the validity of the remaining provisions of this Bank Guarantee.

The Guarantor Bank hereby declares and confirms that under its constitution and applicable laws and regulations, it has the necessary power and authority, and all necessary authorizations, approvals and consents thereunder to enter into, execute, deliver and perform the obligations it has undertaken under this Bank Guarantee, which obligations are valid and legally binding on and enforceable against the Guarantor Bank under the laws of Pakistan.

Further, the Guarantor Bank hereby declares and confirms that the signatory(ies) to this Guarantee is/are its duly authorized officer(s) to execute this Guarantee.

This Bank Guarantee and all rights and obligations arising from this Bank Guarantee shall be governed and construed in all respects in accordance with the laws of Pakistan. The courts in Pakistan shall have exclusive jurisdiction in respect of any dispute relating to any matter contained herein.

The issuance of this Bank Guarantee is permitted according to the laws of Pakistan and the laws of the jurisdiction where this Bank Guarantee is issued.

This Bank Guarantee is subject to the Uniform Rules for Demand Guarantee, ICC Publication No.758. To the extent that there is any inconsistency between the terms of this Bank Guarantee and the Uniform Rules for Demand Guarantees, ICC Publication No. 758, the terms of this Bank Guarantee shall prevail.

Name: .....

Designation: .....

## B. FINANCIAL PROPOSAL BIDDING FORMS

### BIDDING FORM F1 - LETTER OF FINANCIAL PROPOSAL

[Date]

To: Karachi Water and Sewerage Corporation, Government of Sindh  
[●]

RE: DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND TRANSFER OF THE 5 MGD  
SEAWATER DESALINATION PLANT PROJECT (THE PROJECT)

Reference the Request for Proposals document issued on [●], by Karachi Water and Sewerage Corporation (KWSC), (the RFP) in relation to the Project.

Dear [Sir/Madam],

We, [Name of the Bidder] hereby submit our Financial Proposal in conformity with the requirements of the RFP.

*All capitalized terms unless defined herein shall bear the meaning as ascribed thereto in the RFP.*

We, agree, confirm, undertake and declare that:

- (a) We have examined and have no reservations to the RFP, including Addenda No(s) [●]/Corrigenda No(s) [●].
- (b) We, [including all Consortium Members,] fully and completely understand and accept the terms of the RFP and hereby undertake to comply with the requirements specified therein.
- (c) Our Bid Price, comprising of **Levelized Net Water Tariff per Gallon of Desalinated Water**, is **Pakistani Rupees [insert amount in words] only (PKR [insert amount in figures]/-)**.
- (d) The Total Project Cost based in our Financial Proposal (read with our Technical Proposal) is **Pakistani Rupees [insert amount in words] only (PKR [insert amount in figures]/-)**.
- (e) We have submitted our Financial Model in PDF on SPPRA EPADS and our Financial Model in Microsoft Excel file is available at link [insert weblink to Financial Model in Microsoft Excel format]<sup>16</sup>. We confirm that the weblink shall remain unrestricted and accessible to KWSC for viewing and downloading of the Financial Model in Microsoft Excel format during the Financial Proposal opening date and time. We agree that in the case of any discrepancies between the Microsoft Excel file and the PDF of the Financial Model, the latter shall prevail.
- (f) We offer to perform and undertake the works and services in respect of the Project in conformity with the RFP, including the GoS Project Documents, without any omission, reservation and deviation; and we accept and undertake to comply with all requirements in the RFP including the appendices/annexures attached to the RFP.
- (g) We, [including all Consortium Members,] and the EPC Contractor, as per the requirements of the RFP, respectively:
  - (i) have nationalities of Eligible Countries;

<sup>16</sup> Bidder shall create an unrestricted weblink using a cloud-based storage service (e.g., Google Drive, One Drive, iCloud, Mega, pCloud, Sync, Icedrive, Koofr, MediaFire, etc.) as available to store and provide KWSC with online access to the Financial Model in Microsoft Excel format.

- (ii) do not have any conflict of interest; and
  - (iii) have not been declared ineligible/blacklisted by any of our employers, by any Federal or Provincial governmental or non-governmental department/agency in Pakistan, [or any other provincial government/governments of any foreign countries or their governmental bodies and/or International Organizations (e.g., World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.)], as at the Bid Submission Deadline.
- (h) Neither we, [including all Consortium Members], any Affiliate, nor the EPC Contractor:
- (i) are included as a debarred person pursuant to the public sanctions list of any multilateral development bank that is party to the Agreement on Mutual Enforcement of Debarment Decisions of 9 April 2010 ([www.crossdebarment.org](http://www.crossdebarment.org)); or
  - (ii) are included on any sanctions lists promulgated by the UN Security Council or its Committees, or any other recognised international sanctions list,
- (i) Our Bid consisting of the Technical Proposal and the Financial Proposal shall be valid for a period of one hundred twenty (120) Days from the date fixed for the Bid Submission Deadline in accordance with the RFP, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (j) We understand that all the volumes, appendices/annexures attached to the RFP are integral parts of the RFP.
- (k) We have reviewed and accepted the form of the Concession Agreement along with the Schedules attached thereto (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP) and undertake to execute the same within the time period stipulated in Notification of Award.
- (l) We acknowledge that KWSC (and the GoS) will be relying on the information provided in our Bid and the documents accompanying them to determine the Successful Bidder. We certify that all information provided in our Bid is true and correct and that nothing has been omitted which renders such information misleading.
- (m) We satisfy and meet all the requirements specified in the RFP, including the qualifications requirements set out in the RFP and there has been no material event relating to us or, if we are a Consortium, to any of our Consortium Members, which would require disclosure to KWSC (and the GoS) or which might cause us to fail to become a Bidder.
- (n) We understand that this Bid, together with your written acceptance thereof included in your Notification of Award, shall constitute a binding contract between us, until the Concession Agreement (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP) is executed.
- (o) We are not participating, as a Bidder in more than one Bid in this Tender Procedure in accordance with the requirements of the RFP.
- (p) We understand that KWSC may cancel the Tender Procedure at any time and that KWSC is not bound either to accept any Bid that it may receive, without incurring any liability to the Bidders.
- (q) We agree to permit KWSC, the GoS and any persons, representatives or auditors appointed and authorized by KWSC and/or the GoS to inspect and audit our accounts, records and other documents relating to our Bid.
- (r) All the information submitted along with our Bid, including the enclosed forms and documents, is accurate in all respects.
- (s) We accept the right of KWSC to: (i) request additional information reasonably required to assess the

Bid; (ii) amend the procedures and requirements or make clarifications thereof; and (iii) extend or amend the timelines as stipulated in the RFP.

- (t) All information, representations and other matters of fact communicated (whether in writing or otherwise) to KWSC by us or on our behalf, in connection with or arising out of the Bid are true, complete and accurate in all respects.
- (u) We hereby declare that all the information and statements made in this Bid are true and accept that any misrepresentation contained in it shall lead to our disqualification, forfeiture of the Bid Security and/or our blacklisting by the KWSC.
- (v) We, [including all Consortium Members,] have made our own investigations and research and have satisfied ourselves in respect of all matters (whether actual or contingent) relating to the Bid and the Project.
- (w) We undertake, if our Bid is accepted, to furnish the Construction Performance Security as per the requirements of the RFP.
- (x) We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a Bid for the Project.
- (y) We understand that the RFP has been issued by KWSC for the Project; and undertake and confirm that if our Bid is accepted, we and the SPV (to be incorporated by us, in case the Project is awarded to us), as applicable, shall execute the Concession Agreement (including other applicable GoS Project Documents) (attached as **VOLUME III (CONCESSION AGREEMENT)** to the RFP and all other instruments as may be required to be executed in relation to the Project as per the requirements of the RFP.

Name .....

In the capacity of .....

Signed .....

..... (Seal)

Duly authorized to sign the Bid for and on behalf of: *(Insert Name of the Bidder/ names of all Consortium Members)*

Date .....

**WITNESSES**

**WITNESS 1:**

**WITNESS 2:**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

CNIC/Passport No.: \_\_\_\_\_

CNIC/Passport No.: \_\_\_\_\_

## **BIDDING FORM F2 - FINANCIAL FORMS**

Bidding Form F2 (*Financial Forms*) comprises of the following forms:

- Bidding Form F2-A - Bid Sheet in Microsoft Excel format
- Bidding Form F2-B - Letter of Intent

### **Notes for filling in the forms in Bidding Form F2 (Financial Forms):**

*Capitalized terms (including the abbreviations) used in the aforesaid forms, shall have the meaning given to them in Concession Agreement (including **SCHEDULE H (Water Tariff Payment Calculation)** of the Concession Agreement).*

*Bidders are required to fill in Bidding Form F2-A available at the following websites:*

**PPP Unit** - <https://www.pppunitsindh.gov.pk/>  
**KWSC** - <https://kwsc.gos.pk> / <https://tiny.cc/KWSC>  
**SPPRA EPADS** - <https://portalsindh.eprocure.gov.pk>

- *Bidders are also required to follow the procedure mentioned in Section 4.5.3(b) of the Instruction to Bidders for submission of Bidding Form F2-A - Bid Sheet in Microsoft Excel format.*

## BIDDING FORM F2-A - BID SHEET

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Bidding Form F2-A available at the following websites:

**PPP Unit** - <https://www.pppunitsindh.gov.pk/>

**KWSC** - <https://kwsc.gos.pk/>/<https://tiny.cc/KWSC>

**SPPRA EPADS** - <https://portalsindh.eprocure.gov.pk>

**BIDDING FORM F2-B - LETTER OF INTENT<sup>17</sup>**

<b>BORROWER/CUSTOMER</b>	
<b>PROJECT SPONSORS</b>	
<b>SHAREHOLDERS</b>	
<b>TRANSACTION/PROJECT</b>	
<b>PROJECT COST</b>	
<b>FACILITY AMOUNT</b>	
<b>CURRENCY OF THE FACILITY</b>	
<b>PRICING ON FACILITY (FIXED OR FLOATING, INCLUDING FLOATING BASE RATE AND MARGIN)</b>	
<b>TENOR</b>	
<b>FACILITY EFFECTIVE DATE</b>	
<b>AVAILABILITY PERIOD</b>	
<b>REPAYMENT OF FACILITY (PERIOD AND FREQUENCY OF REPAYMENT)</b>	
<b>SECURITY/COLLATERAL</b>	
<b>ARRANGEMENT/COMMITMENT FEE</b>	
<b>VALIDITY</b>	

Signatory for and on behalf of  
**[insert name of the financial institution]**

\_\_\_\_\_  
**Name:**  
**Designation:**

Signatory for and on behalf of  
**[insert name of the relevant Bidder]**

\_\_\_\_\_  
**Name:**  
**Designation:**

<sup>17</sup> This format of the letter of intent is indicative only. Bidders may provide the letter of intent on standard formats of the relevant financial institutions.

**PART 3**  
**BIDDING DOCUMENTARY REQUIREMENTS**

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## BIDDING DOCUMENTARY REQUIREMENTS

No.	DOCUMENT	REQUIREMENTS <sup>18</sup>	
		LOCAL ENTITY	FOREIGN ENTITY
1.	<b>LETTER OF TECHNICAL PROPOSAL AND LETTER OF FINANCIAL PROPOSAL</b>	To be dated, signed by the authorized representative and duly stamped with the company's stamp and witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.	To be dated, signed by the authorized representative and to be duly stamped with the company's stamp and witnessed by two (2) male witnesses or one (1) male and two (2) female witnesses.
2.	<b>FORM OF BID SECURITY</b>	To be issued by Acceptable Bank; and dated, signed by an authorized representative of the relevant bank and duly stamped (PKR 500/-).	To be issued by Acceptable Bank; and dated, signed by an authorized representative of the relevant bank and duly stamped (PKR 500/-).  The Bid Security issued by a foreign bank should be counter-guaranteed/confirmed from a local bank in Pakistan.
3.	<b>POWER OF ATTORNEY</b>	To be dated; witnessed; notarized by notary public; duly stamped (PKR 200/-); signed by an authorized representative; and in the language as required under the Instructions to Bidders.	To be dated; witnessed; signed by an authorized representative and adequately adhesive stamped when brought into Pakistan with a stamp duty of PKR 200/-.  The Power of Attorney executed and issued overseas will have to be notarized by notary public and;  (i) attested by the Pakistani Embassy/Consulate in the country where the Power of Attorney is executed. In case a person in Pakistan is being appointed as an attorney pursuant to the Power of Attorney, the Power of Attorney, once brought into Pakistan, will also be required to be attested by Ministry of Foreign Affairs, Pakistan; or  (ii) subject to applicable laws of the country where Power of Attorney is executed, authenticated by an

<sup>18</sup> Under the Laws of Pakistan (Qanun-e-Shahadat Order, 1984), the minimum witnessing requirement mandates the presence of either two (2) males, or one (1) male and two (2) females to witness.

			apostille under the Apostille Convention.
4.	<b>UNDERTAKING</b>	To be dated; signed by the authorized signatory; witnessed; duly stamped (PKR 100/-); and in the language as required under the Instructions to Bidders.	<p>To be in the English language and in compliance with the requirements under the Instructions to Bidders, dated, signed by the authorized signatory, witnessed, and adequately adhesive stamped when brought into Pakistan with a stamp duty of PKR 100/-.</p> <p>For an Undertaking issued overseas, the same will have to be notarized by notary public and:</p> <p>(i) attested by the Pakistani Embassy/Consulate in the country where the Undertaking is issued; or</p> <p>(ii) subject to applicable laws of the country where the Undertaking is executed, authenticated by an apostille under the Apostille Convention.</p>
5.	<b>INTEGRITY PACT</b>	To be dated and signed by the authorized representative.	To be dated and signed by the authorized representative.
6.	<b>AFFIDAVIT</b>	To be dated; notarized by notary public and verified by Oath Commissioner, signed by the authorized signatory; witnessed; duly stamped (PKR 100/-); and in the format as required under the Instructions to Bidders.	<p>To be in the English language and in compliance with the requirements under the Instructions to Bidders, dated; signed by the authorized signatory; witnessed; and adequately adhesive stamped when brought into Pakistan with a stamp duty of PKR 100/-.</p> <p>For an Affidavit executed and issued overseas, the same will have to be notarized by notary public and:</p> <p>(i) attested by the Pakistani Embassy/Consulate in the country where the Affidavit is executed; or</p> <p>(ii) subject to applicable laws of the country where Affidavit is executed, authenticated by an apostille under the Apostille Convention.</p>

**PART 4**  
**ANNEXURES**

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## ANNEXURE A - BASIC INFORMATION REQUIREMENTS

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A Technical Proposal received from a Bidder shall only be considered if all the following information/components have been provided and the requirements herein are satisfied:

*In case any document/information furnished is in a language other than English, it will need to be accompanied by an English translation (duly notarized by notary public and: (i) attested by Pakistan Embassy/Consulate and, once brought into Pakistan, should be attested by Ministry of Foreign Affairs, Pakistan); or (ii) subject to applicable laws of the country where English translation is issued, authenticated by an apostille under the Apostille Convention. In case of any discrepancy, the English translation shall prevail.*

### ➤ **CONSTITUTIVE DOCUMENTS**

A detailed description of the Bidder (including each Consortium Member) containing:

- legal name;
- complete head office contact information, including mailing address, telephone and fax numbers, and an e-mail address;
- incorporation details, including corporate charter, articles of incorporation, and proof of legal authorization to operate in Pakistan. If a Bidder (including a Consortium Member) is an unincorporated legal entity, then the proof of that legal entity's existence must be provided.

Foreign entities participating in the Tender Procedure should submit certified true copies of their constitutive documents.

In case any document/information furnished is in a language other than English, it will need to be accompanied by an English translation (duly notarized by notary public and: (a) attested by Pakistan Embassy/Consulate and, once brought into Pakistan, should be attested by Ministry of Foreign Affairs, Pakistan; or (b) subject to applicable laws of the country where English translation is issued, authenticated by an apostille under the Apostille Convention. In case of any discrepancy, the English translation shall prevail.

### ➤ **REGISTRATION WITH TAX AUTHORITIES**

The Bidder (including each Consortium Member) must possess a valid registration certificate from the income tax authority (i.e. the NTN certificate) and relevant sales tax authority, if applicable. Valid NTN certificate(s) and tax returns filed for last three (3) years are to be attached and relevant sales tax certificate, if applicable.

Foreign entities participating in the Tender Procedure should submit a tax certificate of their country and tax returns filed for last three (3) years (if applicable).

### ➤ **AFFIDAVIT FOR GOVERNMENT OWNED LEGAL ENTITIES**

In case a Bidder (including a Consortium Member) is a government owned legal enterprise or institution, such entity, must establish that it is legally and financially autonomous and operating under commercial law.

A Bidder (or a Consortium Member) that is a government owned legal enterprise or institution shall submit an affidavit as set out in Bidding Form T6 (*Form of Affidavit*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** confirming that they are legally and financially autonomous and operating under commercial law.

➤ **NO CONFLICT OF INTEREST**

Bidders (including Consortium Members) and the Proposed EPC Contractor may be considered to be in a conflict of interest if they, *inter alia*, participated as a consultant in the preparation of the design or technical/commercial/financial/legal specifications for the works and/or services for the Project, that are the subject of the Tender Procedure, or is an affiliate of KWSC or any of its advisors.

A Bidder (including a Consortium Member) may be considered to be in a conflict of interest if it (including a Consortium Member) participated in more than one Bid in the Tender Procedure, either individually or as a partner in a Consortium or as a Proposed EPC Contractor. This will result in the disqualification of all Bids in which it is involved.

The circumstances provided above which may constitute a conflict of interest are not exhaustive, and the KWSC and TFEC shall be the sole determinant of whether a conflict-of-interest situation has arisen.

In case there is no conflict, the Bidder (in case of a Consortium, each Consortium Member) shall provide evidence in the form of an affidavit set out as Bidding Form T6 (*Form of Affidavit*).

➤ **NON-BLACKLISTING**

Each Bidder (including each Consortium Member) shall provide evidence, in the form of an affidavit set out as Bidding Form T6 (*Form of Affidavit*), of its and the Proposed EPC Contractor's non-blacklisting by its employers, by any Federal or Provincial governmental or non-governmental department/agency in Pakistan, or any other provincial government/governments of any foreign countries or their governmental bodies and/or International Organizations (e.g. World Bank, Asian Development Bank, United Nations, International Monetary Fund etc.) as at the Bid Submission Deadline.

➤ **LITIGATION HISTORY**

All pending litigation against the Bidder (including each Consortium Member) shall in total not represent more than fifty percent (50%) of the Bidder's (including each Consortium Member) net worth as per the audited financial statements for the year 2023, nor shall there be any litigation that prevents or materially impedes the Bidder (including a Consortium Member) from its obligations in respect of the Project.

Bidder (including each Consortium Member) shall provide details of the litigation in the format attached as Bidding Form T21 (*Litigation History*) or in case of no litigation, submit an affidavit in the format set out in Bidding Form T6 (*Form of Affidavit*).

➤ **BID SECURITY**

The Bidder shall provide the Bid Security as an irrevocable, unconditional and on-demand bank guarantee in the form attached as Bidding Form T22 (*Form of Bid Security*) of Part 2 (*Bidding Forms*) of **VOLUME I (TENDER PROCEDURE)** of the RFP.

➤ **ELIGIBLE COUNTRIES**

A Bidder, including all Consortium Members, shall be incorporated in/have nationality of an Eligible Country. A Bidder, including all Consortium Members, shall be deemed to have the nationality of an Eligible Country, if the Bidder (including all Consortium Members) is a national of that country; or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country.

A Bidder shall be deemed to have the nationality of a country if the Bidder is a national of that country; or is constituted, incorporated, or registered and operates in conformity with the provisions of the laws of that country.

**ANNEXURE B - EVALUATION CRITERIA**

**PART 1 - TECHNICAL EVALUATION CRITERIA**

Along with the requirements set out in the Instructions to Bidders and the information required pursuant thereto, this section will be used to determine whether a Bid is technically compliant to the requirements of the RFP. In case a Bidder intends to undertake the works and/or services itself, such Bidder shall be required to submit the relevant information regarding its experience as per the requirements set out below.

SR. NO.	DESCRIPTION	COMPLIANCE WITH RFP REQUIREMENTS	DETAIL TO BE EVALUATED
1	Suitable relevant project development experience with specific details of the Lead Developer	Yes/No	<p>A Bidder shall be required to satisfy the following technical criteria and submit the relevant supporting documentation:</p> <p><u>RELEVANT EXPERIENCE</u></p> <p>The Lead Developer must have developed at least:</p> <ul style="list-style-type: none"> <li>(a) one (1) standalone project in the water or energy sector with at least a capacity of ten (10) MGD or twenty (20) megawatts; or</li> <li>(b) one (1) water or energy project integrated within a manufacturing facility including (without limitation) textile, cement, chemical, leather, or sugar industries with water treatment/processing capacity of at least ten (10) MGD or power generation capacity of at least twenty (20) megawatts;</li> </ul> <p>(each of the above, the <b>Eligible Project</b>).</p> <p>Provided that the Lead Developer must have had minimum equity ownership of fifty one percent (51%) in the Eligible Project and such Eligible Project must be operational as of the Bid Submission Deadline.</p> <p><u>PROJECT FINANCING EXPERIENCE</u></p> <ul style="list-style-type: none"> <li>(a) The Lead Developer must have funded an Eligible Project through a combination of debt and equity of a total amount of at</li> </ul>

			<p>least United States Dollars Five Million only (USD 5,000,000/-).</p> <p>(b) In terms of debt financing for an Eligible Project, the Lead Developer must possess the experience of raising full scope project financing from lenders (either local and/or international financial institutions). Such project financing must have been raised to include a full suite of typical project finance associated lender requirements including (without limitation) cost overruns support, project progress and monitoring associated conditions as well as project completion requirements.</p> <p>For an Eligible Project to be recognized as evidence of meeting the technical criteria stated above</p> <p>(a) the Eligible Project should have a government entity as a counterparty; and</p> <p>(b) the relevant milestone(s) in relation to the Eligible Project required under the heading '<i>Relevant Experience</i>' and '<i>Project Financing Experience</i>' must have been achieved within a period of ten (10) years prior to the Bid Submission Deadline.</p> <p><u>CREDIT RATING</u></p> <p>(a) In case the Lead Developer is a local entity, it must have a clear Electronic Credit Information Bureau (ECIB) report from the SBP. Relevant evidence in this regard shall be submitted by the Lead Developer as part of the Bid.</p> <p>(b) In case the Lead Developer is a foreign entity, it must submit a credit rating report from a renowned internationally recognized credit rating agency with a minimum credit rating/score that indicates:</p>
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			<ul style="list-style-type: none"><li>(i) investment grade (S&amp;P, Fitch, or Moody's);</li><li>(ii) moderate risk (Dun &amp; Bradstreet); or</li><li>(iii) any equivalent score indicating low to moderate risk from other renowned internationally recognized agencies.</li></ul>
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			<p><u>NET WORTH REQUIREMENTS:</u></p> <p>A Bidder shall be required to satisfy the following financial criteria and submit the relevant supporting documentation:</p> <p>(a) if the Bidder comprises a single entity (as the Lead Developer), such Bidder shall have a Net Worth of at least United States Dollars Fifteen Million only (USD 15,000,000/-) or equivalent calculated pursuant to section below; and</p> <p>(b) if the Bidder is a Consortium, the cumulative Net Worth of the entire Consortium should be at least United States Dollars Twenty-Five Million only (USD 25,000,000/-) such that:</p> <p>(i) the Lead Developer shall have a Net Worth of at least United States Dollars Ten Million only (USD 10,000,000/-) or equivalent based on the latest audited financial statements; and</p> <p>(ii) the other Consortium Members (except the Lead Member) shall have an aggregate Net Worth of United States Dollars Fifteen Million only (USD 15,000,000/-) or equivalent based on the latest audited financial statements,</p> <p>in each case, calculated pursuant to Section 6.5.5 of Instructions to Bidders.</p> <p>(the technical and Net Worth criteria at Serial No.1, collectively, the <b>Lead Developer Criteria</b>).</p>
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2	Suitable relevant project experience with specific details of the Proposed EPC Contractor	Yes/No	<p>The Proposed EPC Contractor must have undertaken engineering, procurement and construction works for seawater desalination plant project(s) (which includes intake infrastructure) with cumulative capacity of at least twenty (20) MGD with at least one (1) project of minimum capacity of ten (10) MGD, within a period of ten (10) years prior to the Bid Submission Deadline.</p> <p><b>Net Worth Requirements:</b></p> <p>A Proposed EPC Contractor shall be required to satisfy the following Net Worth requirements and submit the relevant supporting documentation, such Proposed EPC Contractor shall have a Net Worth of at least United States Dollars Twenty-Five Million only (USD 25,000,000/-) calculated pursuant to Section 6.5.7 of Instructions to Bidders.</p> <p>(the technical and Net Worth criteria at Serial No.2, collectively, the <b>EPC Contractor Criteria</b>).</p>
3	Suitable Technical Project Methodology/ Approach	Yes/No	Bidding Form T7 ( <i>Technical Project Methodology/ Approach</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
4	Suitable Operation & Maintenance Plan and Procedures	Yes/No	Bidding Form T8 ( <i>Operation &amp; Maintenance Plan and Procedures</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
5	Implementation Schedule suitable to PCOD target date	Yes/No	Bidding Form T9 ( <i>Implementation Schedule</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
6	List of Manufacturers of Main Equipment	Yes/No	Bidding Form T10 ( <i>List of Manufacturers of Main Equipment</i> ) provided Part 2 ( <i>Bidding Forms</i> ) of

			<b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
7	Suitable Schedule of Equipment & Technology Suppliers	Yes/No	Bidding Form T11 ( <i>Schedule of Equipment &amp; Technology Suppliers</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
8	Suitable Organization & Staffing	Yes/No	Bidding Form T12 ( <i>Organization &amp; Staffing</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
9	Suitable Quality Control Practices & Procedures	Yes/No	Bidding Form T13 ( <i>Quality Control Practices &amp; Procedures</i> ) provided Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with of <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
10	Suitable Health & Safety Plan and Procedures	Yes/No	Bidding Form T14 ( <i>Health &amp; Safety Plan and Procedures</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
11	Suitable Methodology/Approach for the Environmental & Social Management Plan and Procedures	Yes/No	Bidding Form T15 ( <i>Methodology/Approach for the Environmental &amp; Social Management Plan and Procedures</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
12	Suitable Other Technical Data Submission	Yes/No	Bidding Form T16 ( <i>Other Technical Data Submission</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance

			with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
13	Technical Criteria Evidence Sheet of Bidders	Yes/No	Bidding Form T17 ( <i>Lead Developer Technical Criteria Evidence Sheet</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
14	Financial Qualification Criteria of Bidders	Yes/No	Bidding Form T18 ( <i>Bidders Financial Criteria Evidence Sheet</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
15	Project References of Proposed EPC Contractor	Yes/No	Bidding Form T19 ( <i>Proposed EPC Contractor Technical Criteria Evidence Sheet</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP, prepared as per the requirements specified therein and in compliance with <b>VOLUME II (TECHNICAL SPECIFICATIONS)</b> of the RFP.
16	Net Worth Requirements of Proposed EPC Contractor	Yes/No	Bidding Form T20 ( <i>Proposed EPC Contractor Financial Criteria Evidence Sheet</i> ) provided in Part 2 ( <i>Bidding Forms</i> ) of <b>VOLUME I (TENDER PROCEDURE)</b> of the RFP.

## **PART 2 - FINANCIAL EVALUATION CRITERIA**

KWSC/TFEC shall evaluate the presence and completeness of all the supporting Bidding Forms and other documentation/information required to be submitted by a Bidder with the Financial Proposal, as per the requirements set out in the Instructions to Bidders.

A Bidder whose Bid has been determined the Best Evaluated Bid in terms of lowest Levelized Net Water Tariff per Gallon of Desalinated Water shall be declared the Successful Bidder.

The Bid Price shall be calculated in the Bid Sheet as per the following formula:

**Bid Price = Levelized Net Water Tariff per Gallon of Desalinated Water**

The Bid Price is calculated solely for the purpose of the evaluation and comparison of Bids and does not represent the actual payments that will be made by the GoS to the Concessionaire in terms of the Concession Agreement.

**Note:** *Capitalized terms (including the abbreviations) used in herein, shall have the meaning given to them in the Concession Agreement (including **SCHEDULE H (Water Tariff Payment Calculation)** of the Concession Agreement).*

### **METHODOLOGY FOR CALCULATION OF LEVELIZED NET WATER TARIFF**

#### **1.1 METHODOLOGY**

The Levelized Net Water Tariff shall be calculated in accordance with the formulae set out in Section 1.2 (*Assumptions for Calculations of Required Values*) below. Levelized Net Water Tariff will serve as the single price criterion for the evaluation of the Financial Proposals. The formulae takes into account the differing charge rates offered by the Bidders.

To standardize the calculation of the Levelized Net Water Tariff, the Bidders are required to complete the Bid Sheet; using the underlying assumptions as set out in Section 1.2 (*Assumptions for Calculations of Required Values*) below.

#### **1.2 ASSUMPTIONS FOR CALCULATION OF REQUIRED VALUES**

##### **1.2.1 LEVELIZED NET WATER TARIFF**

Levelized Net Water Tariff per Gallon of Desalinated Water or, in other words, single value of tariff in PKR per Gallon for each of the Operating Contract Years. The Levelized Net Water Tariff per Gallon of net Desalinated Water will be calculated as a uniform annuity value for the stream of tariff over the Concession Period.

Bidders will be required to work out Bid Price in accordance with the instructions outlined in the Bid Sheet and as set out below:

- (a) Bid Price Calculation: The Bid Sheet is designed to automatically calculate the Bid Price based on the values entered in the input cells. Please ensure that all required Input Cells (highlighted in blue) are filled accurately to avoid any discrepancies in the Bid Price calculation;
- (b) Input Cells: The Bid Sheet contains designated input cells where Bidders are required to enter the details of their Bid. These cells are clearly marked and are the only editable fields in the Bid Sheet;
- (c) Bid Price tab, Cell C5: EPC Costs;
- (d) Bid Price tab, Cell C7: SPV Management Costs;

- (e) Bid Price tab, Cell C8: Independent Engineer and Independent Auditor Costs;
- (f) Bid Price tab, Cell B9: Insurance during Construction - Bidders are advised to add insurance cost as % of EPC costs. However, insurance costs will be capped at one point five percent (1.5%) of the EPC costs;
- (g) Bid Price tab, Cell B19: Insurance during Operations - Bidders are advised to add insurance cost as % of EPC costs. However, insurance costs will be capped at one point five percent (1.5%) of the EPC costs;
- (h) Bid Price tab, Cell C28: Bidders are advised to add input for Contracted Specific Net Electricity Consumption. However, Electricity Consumption will be subject to a ceiling of 3,191 KW/hr. This ceiling will be subject to revision by the Independent Engineer based on the approved Detailed Engineering Design;
- (i) Bid Price tab, Cell F11: Spread on KIBOR - Bidders are advised to add spread, subject to a cap of one point five percent (1.5%);
- (j) Bid Price tab, Cell F13: Financing Fees - Bidders are advised to add a financing fee, subject to a cap of one point seven percent (1.7%);
- (k) Bid Price tab, Cell F17: Return on Equity;
- (l) Bid Price tab, Cells S6 to S30: Bidders are advised to add input for the Bottled Water (Committed Volume) in Gallons per Day for any of the Operating Contract Years;
- (m) Bid Price tab, Cells T6 to T30: Bidders are advised to add input for the Bottled Water Revenue (Guaranteed GoS Share Payment) based on the Bottled Water Revenue (GoS Share Factor) for each Gallon, for purposes of arriving at Levelized Net Water Tariff. However, if the Bidder does not envisage Bottled Water Revenue (Guaranteed GoS Share Payment), it may assume the input in this column as zero;
- (n) O&M Costs tab, Cells B6 to B11: Bidders are advised to add annual costs for the Fixed O&M Cost Recovery Charge for Water in each head;
- (o) O&M Costs tab, Cells B16 to B19: Bidders are advised to add annual costs for Variable O&M Cost Recovery Charge for Water in each head;
- (p) O&M Costs tab, Cells B24 to B48: Bidders are advised to add input for Electricity Consumption in Kw/Hr for each Operating Contract Year, capped at 3,191 Kw/Hr. This ceiling will be subject to revision by the Independent Engineer based on the approved Detailed Engineering Design;
- (q) Editable Cells: Only the cell highlighted in blue in the Microsoft Excel Sheet are to be populated by the Bidders;
- (r) Pass-Through Items: Please note that the following items are considered pass-through and will be actualized. These items will be adjusted based on actual rates from time to time. For clarity, the Bidders are advised not to assume the rates of the following pass-through items:
  - (i) Inflation (N-CPI Rate);
  - (ii) KIBOR;
  - (iii) Taxes (excluding Taxes applicable for Bottled Water Revenue);

(iv) Electricity Price;

Indexation of charge rates and the relevant costs will be calculated in accordance with the mechanism detailed in **SCHEDULE H (*Water Tariff Payment Calculation*)** of the Concession Agreement.

(s) Submission: Once all input fields are filled, please press the “Calculate” button to arrive at the Bid Price and save the Microsoft Excel Sheet.

#### 1.2.2 NET WATER OUTPUT

The Guaranteed Supply Capacity of the Desalinated Water Supply System shall be five (5) MGD. However, the Concessionaire may install an Additional Capacity System for a capacity of up to one point five (1.5) MGD for the sale of Bottled Water. GoS shall only guarantee offtake of five (5) MGD Desalinated Water under the terms of the Concession Agreement.

**ANNEXURE C - IZP KYC INFORMATION**

<b>DOCUMENTS/INFORMATION REQUIRED (EITHER ORIGINAL OR DULY CERTIFIED COPY)</b>	<b>ATTACHED (Y/N)</b>	<b>REMARKS/COMMENTS IF NOT PROVIDED</b>
<b>CONCESSIONAIRE/BORROWER</b>		
Latest Organizational Structure Chart		
Shareholding Structure (Form 34 also to be provided where applicable)		
Filled and Signed BBFS/KYC Form (not to be dated older than one (1) month)		
Source of Corporate assets/Wealth ((if applicable) last three (3) years' annual audited accounts along with tax filed statement)		
Certificate of incorporation/certificate of change of name		
Constitution/memorandum and articles of association		
Corporate Profile		
Register of Directors		
Register of Shareholders		
Proof of registered office		
Proof of place of business		
List of authorized signatories with their specimen signatures		
Certified copy of latest Form A/Form II/Form B/Form C		
Certified copy of latest Form 29		
Certified copy of latest Form 45		
Please confirm are there any previous/ongoing AML/Tax Evasion/Bribery/Corruption allegation against the company. If yes, please provide details/documents and if they have been resolved.		
<b>PROPOSED DIRECTORS/SPONSORS OF THE CONCESSIONAIRE</b>		
Valid NIC copies of all the proposed directors/individual Sponsors of the Concessionaire		
Valid passport copies of all the foreign proposed directors/individual Sponsors showing signature, clear photograph and date of expiry		
Latest tax returns filed of all the proposed directors/Sponsors proposed to have more than ten percent (10%) equity stake in the Concessionaire		

Proof of residential address (preferably in form of utility bill) of all the proposed directors/individual Sponsors dated less than three (3) months ( <b>Note:</b> P.O Box address is not acceptable)		
Please confirm whether any proposed director/individual Sponsor is a politically exposed person (PEP) or closely associated with PEP		
Please confirm if there are any previous/ongoing AML/Tax Evasion/Bribery/Corruption allegation against any of the proposed directors/Sponsors. If yes, please provide details/documents and if they have been resolved.		
<b>ULTIMATE BENEFICIARY OWNERS UBO (APPLICABLE IN CASE OF MULTI LAYERED OWNERSHIP STRUCTURE)</b>		
Complete breakdown of shareholders of the Ultimate Beneficiary Owners (UBO) (required for all entities in the chain up to the UBO)		
<p>Identification documents required for all individual shareholders with ten percent (10%) or more shareholding of the UBO:</p> <ul style="list-style-type: none"> <li>• Valid passport showing the signature, date of expiry and a clear photograph</li> <li>• Valid NIC copies</li> </ul>		
<p>Source of corporate assets/wealth of the UBO:</p> <ul style="list-style-type: none"> <li>• Latest audited financial statements</li> <li>• Latest tax return statement (for individuals)</li> </ul>		
Certificate of incorporation/certificate of change of name		
Certified copy of latest Form 45		
Register of UBO		
Please confirm are there any previous/ongoing AML/Tax Evasion/Bribery/Corruption allegation against any of the company/directors/shareholders of the UBO. If yes, please provide details/documents and if they have been resolved.		

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**VOLUME II - TECHNICAL SPECIFICATIONS**

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## **1. SCOPE OF WORK**

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The broad details of the scope of work of the Concessionaire are as follows:

- 1.1 The scope of work of the Concessionaire includes the design, finance, build, operate, maintain and transfer of the Desalinated Water Supply System and includes (without limitation) the following components:
  - 1.1.1 establishment and operation of the Desalinated Water Supply System to produce the Desalinated Water at the Guaranteed Supply Capacity based on seawater reverse osmosis (RO) with all associated works at the coastal location of Ibrahim Hyderi, Karachi;
  - 1.1.2 establishment of the seawater intake system with required screens, pumping and conveying system;
  - 1.1.3 establishment of high-pressure pump facilities;
  - 1.1.4 pre-treatment process consisting of pH correction, coagulation, flocculation, dissolved air flotation, dual media filtration and ultra filtration;
  - 1.1.5 treatment process consisting of seawater RO;
  - 1.1.6 post treatment process consisting of remineralization, stabilization and disinfection;
  - 1.1.7 all required chemical system required for the treatment;
  - 1.1.8 establishment of the feed water storage tank;
  - 1.1.9 establishment of product water storage of required additional capacity tank;
  - 1.1.10 establishment of reject management system; and
  - 1.1.11 undertaking any other activities set out in the Concession Agreement.
- 1.2 The Concessionaire shall prepare a site plan (and general arrangements and sectional views) for the Desalinated Water Supply System, which shall depict, as a minimum, the following information:
  - 1.2.1 the boundaries of the Project Site;
  - 1.2.2 all key permanent on-site structures including but not limited to:
    - 1.2.2.1 intake and outfall arrangements;
    - 1.2.2.2 intake pump station;
    - 1.2.2.3 source seawater pre-treatment facilities;
    - 1.2.2.4 RO building;
    - 1.2.2.5 post-treatment system;
    - 1.2.2.6 chemical storage facilities, and chemical unloading areas;
    - 1.2.2.7 membrane flush tank;
    - 1.2.2.8 neutralization tank for membrane cleaning chemicals;

- 1.2.2.9 potable water pump station and storage tank;
- 1.2.2.10 electrical substation and switch yard;
- 1.2.2.11 plant maintenance workshop, equipment and materials storage area and spares storage facility;
- 1.2.2.12 plant control area (incorporating central or main plant control equipment);
- 1.2.2.13 all piping with diameter equal to or larger than one hundred (100) mm;
- 1.2.2.14 all flow and/or pressure meters and valves outside of the buildings;
- 1.2.2.15 provision for expansion of the plant;
- 1.2.2.16 administration building;
- 1.2.2.17 architectural features and arrangements;
- 1.2.2.18 sound-proof room for generator and its control;
- 1.2.2.19 external lighting;
- 1.2.2.20 external security cameras;
- 1.2.2.21 site entry and exit points;
- 1.2.2.22 site emergency exit point;
- 1.2.2.23 all required and connected civil, mechanical, electrical, instrumentation and piping works;
- 1.2.2.24 all other miscellaneous works for proper completion of works; and
- 1.2.2.25 any other ancillary facilities for the Desalinated Water Supply System.

## **2. SEAWATER INTAKE**

---

### **2.1 PRIMARY FLOWS**

- 2.1.1 The seawater intake works shall consist of intake screen, intake pipeline connecting the intake header to the SWRO Desalination Plant intake wet well, which shall be located at the plant site; intake pump station, and associated service facilities (electrical substation and instrumentation and control equipment). The conventional intake system shall have coarse screen and the on-shore intake pump station must include intake screens of twenty (20) to one hundred and fifty (150) mm openings.
- 2.1.2 The intake system (intake well and intake pumping station) to produce the Guaranteed Supply Capacity permeate. The Desalinated Water Supply System shall be designed to produce minimum capacity of Guaranteed Supply Capacity permeate. The intake conduits shall be sized with additional capacity to take care for bio-growth which shall result in reduction of carrying capacity. Hence, the inlet pipe shall be sized for a flow of required quantity. The intake conduit shall be sized accordingly and shall be of HDPE. (PE 100) as per ISO: 4427:96 or latest standards at a preferred location. The HDPE pipeline shall be laid in compliance with applicable regulations without any hindrance for the boat movements. Porous concrete blocks shall be used for anchoring the pipelines. However, the Concessionaire shall carry out necessary surveys to designate the Input Water Delivery Point with the approval of the Independent Engineer and KWSC.

### **2.2 INTAKE STRUCTURE WITH SCREEN OFFSHORE**

- 2.2.1 A suitable sized intake screen shall be provided along with the hydro-burst system at the intake facility to exclude larger marine life suited for marine conditions meeting the hydrodynamic conditions of sea and salinity. When debris in the water is high, the hydro-burst system should provide fast and effective cleaning of the screen cylinders. Marker buoy with signaling shall be kept near the intake facility to prevent damages to the intake facility. The approach velocity shall have to be maintained as  $<0.15$  m/s for negligible the entrapment of marine species. Any material removed by the screens shall be disposed as described in the Environmental and Social Management Plans (ESMPs).
- 2.2.2 A fish net shall be provided to minimize the ingress of fish to the intake. The fish net shall be required to inspect and replaced from time to time, as the same is likely to be damaged by marine lives. The head loss through the intake system shall also have to be monitored, and in any increase in system losses indicating fouling at the intake, or the growth of biomass within the intake conduit, the same shall be cleaned immediately to meet the Guaranteed Supply Capacity.

### **2.3 INTAKE PIPING**

- 2.3.1 Source water collected by an intake structure shall be conveyed to an intake pump station located at the Desalinated Water Supply System site via intake pipeline. The intake pipeline material which can be used for the Project shall be high-density polyethylene (HDPE). Suitable provisions shall be made for pigging, air bursting arrangement and chlorine dosing system in the intake pipe and the onshore intake well.
- 2.3.2 The intake piping must be designed and constructed such that it is complied with the E&S Laws without any hindrance for the boat movements. It is proposed to draw seawater for the Desalinated Water Supply System from intake structure proposed to be constructed at a designed water depth.
- 2.3.3 The Concessionaire shall conduct detailed bore logging test and other required Geological surveys to ensure the strata during the design phase itself and design accordingly.
- 2.3.4 The offshore pipes shall be laid with Good International Industry Practice with the following precautionary measures. The pipe laying by the Concessionaire shall follow the sequence indicated below:

## **2.4 DESIGN**

2.4.1 Detailed Engineering Design of the seawater intake and outfall system complete with modelling, hydraulic and mechanical analysis, on bottom stability for the pipeline, hydrodynamic and structural analysis for the velocity cap intake and diffuser section.

### **2.4.2 PIPE LAUNCH WAY**

2.4.3.1 Pipe launch way to be prepared for stringing and launching the pipe with blocks. Roller system to be used for facilitating the pipe welding/doubling works. Specifically, designed rollers to be deployed for sliding the pipe up till HTL into the sea from the shore. However, the Concessionaire may specify detailed methodology for pipe laying.

## **2.5 CONSTRUCTION WORKS**

### **2.5.1 ANTI-BUOYANCY BLOCKS CASTING**

2.5.1.1 Blocks to be casted based on design and spacing requirements, the shape and weight of the blocks to meet the on-bottom stability requirements for the pipeline.

2.5.1.2 Anti-buoyancy/anchor blocks to be pre-casted and installed on the pipe at defined intervals to meet the requirements for on- bottom stability. Blocks to be lined by EPDM strip offer higher grip on the pipe to avoid sliding of the blocks as also to prevent abrasion of the pipe surface with the concrete.

2.5.1.3 All bolts, washers and fasteners to be used for the anti- buoyancy blocks to be suitable for sea water application. All steel in direct contact with seawater will be super duplex (PREN  $\geq 40$ ).

2.5.1.4 Thrust/reaction blocks for diffuser to counter the reaction of the discharge velocity and pressure from the diffuser ports, for outfall and intake elbow. Detailed Engineering Design for the anti-buoyancy will be prepared and evaluated during the engineering stage and the most suitable system/design that suits the site and construction conditions will be adopted.

### **2.5.2 PIPE JOINTING**

2.5.2.1 HDPE pipe end to end welding to be carried out using heat fusion welding method as per the design requirements of the HDPE manufacturer. The welding machine must be capable to generate QC report print out with data logging for each joint.

### **2.5.3 MITIGATION OF BIOFOULING**

2.5.3.1 The intake pipelines must be equipped with a system that should focus on low and sustainable energy consumption along with mitigation of biofouling. In addition to the conventional methods of pretreatment and RO train design the system should include following design features.

2.5.3.2 The system should be designed such that membranes operate at best efficiency point to deliver low energy consumption for the sea water desalination process including pre and post treatment and produce desired Desalinated Water quality on a continuous basis.

2.5.3.3 Frequency of chemical cleaning shall be restricted to a minimum possible extent for longer membrane life and lower replacement rate. In addition, chemical free, online membrane cleaning techniques shall be incorporated in the design.

2.5.3.4 The Concessionaire shall describe the system that is proposed for pipeline cleaning and how the system operates.

#### 2.5.4 ACTIVE SCREENS BEFORE THE SEAWATER PUMPS

2.5.4.1 Travelling band screens shall be provided before the pumps onshore and shall be the first level of defense to the plant against all foreign matter like floating, seashells, diatoms etc.

2.5.4.2 The travelling water screens shall be of self-cleaning type consisting of a series of wire screen mesh panels fastened to vertical strands of chain. The screen shall be of “*through flow*” arrangement where water passes through the screen from the upstream ascending screen to the downstream of the descending screen. As the water flows through the mesh panels, debris shall be retained within the mesh panels and the accumulated debris shall then conveyed to the top of the screen where it shall be dislodged using a spray wash system and discharged into a gully in the civil works. The spray water system shall consist of spray nozzle piping network served by the spray wash pump, which takes suction from a tap off in the intake water pumps discharge line. The requirements are:

- (a) number of travelling water screens with all necessary embedment (primary and secondary), grooves etc.;
- (b) mesh opening of appropriate size for the screens;
- (c) type: through flow;
- (d) velocity of flow through the screen at low-low condition;
- (e) speed of screen travel < 2 m/minute;
- (f) minimum two (2) sets of spray systems at different elevations with adequate non-clogging nozzles to cover entire span of the mesh panel;
- (g) material of construction: Copper Nickel MOC for all like screen wire, Chain/Chain rollers/Chain links/Bush, Side guide cum track, Head and Foot Shaft, Frame (Top/intermediate/Bottom);
- (h) all Embedment’s/grooves, Mechanical Fasteners, Head and Foot Sprocket, Baffle plate, Spray nozzles and Torque tube/torque arm;
- (i) material of Construction: FRP for Splash/Rear Housing/deflector plate/chain guard Material of Construction: RCC for Refuse Trench.

#### 2.5.5 SEAWATER PUMPING STATION

2.5.5.1 Vertical shaft pumps shall be provided in a wet well that are particularly suitable for sites with a low tidal range.

#### 2.5.6 PUMP CONFIGURATION

There shall be at least one (1) standby pump along with required operating pumps sets with a provision of VFD in wet well as cited below:

2.5.6.1 the operating pumps, delivering to a common manifold with a pump as standby. With pumps in operation, each pump must be capable of delivering the required quantity of raw sea water. Isolation valves along with flow meters shall be installed in main and branch manifolds. These pumps (vertical turbine pumps) with large clear passages shall be as per the design parameters as set out below:

- (a) generic type of pump: vertical shaft mounted in pump well;

- (b) material: super duplex stainless steel, PREN No  $\geq 40$ ;
- (c) equipment per pump unit: Isolation valves, non-return valve and magnetic flow meter;
- (d) pump motors: Electric variable speed;
- (e) pump station control: by plant PLC based upon target flow rate;
- (f) pump/equipment removal: by Electrically operated Crane.

#### 2.5.7 CHLORINATION SYSTEM

2.5.7.1 Chlorination shall be provided to minimize marine growth in the inlet pump station and pressure main. Location for the chlorine dosing shall be at the Intake head, Intake well and in product water. Type of the Chlorination shall preferably be Sodium Hypo Chlorite with minimum of twelve percent (12%) concentration. For chlorine dosing at Intake head, HDPE pipelines shall also be laid along with intake pipeline.

### 3. PRE-TREATMENT SYSTEM

#### 3.1 PRE-TREATMENT PROCESS

The Concessionaire to provide process calculation for the pre-treatment equipment to guarantee long-term performance and durability. The key water quality parameters relevant to the selection of pre-treatment processes include total suspended solids, turbidity, and marine biomass, jelly fish, larvae and algae etc. However, no later than thirty (30) Days after the Effective Date, the Concessionaire shall prepare influent water quality testing procedure and commence the water quality analysis by taking regular daily samples of the seawater from the area adjacent to the proposed seawater intake. This shall continue up to completion of the design phase and weekly water quality analysis and shall continue up to successful commissioning of the plant. Organic pollutants contamination is indicated by BOD, COD, NO<sub>2</sub>, NO<sub>3</sub>, and NH<sub>3</sub> measurements. The flow equipment or upstream of the Desalinated Water Supply System equipment shall be of minimum fifteen (15) MGD or more to meet the inlet flow requirements of the Desalinated Water Supply System.

#### 3.2 PH CORRECTION

If required, the seawater shall be dosed with acid/alkali to achieve the optimum pH, the pH shall be maintained as eight (8) preferably. Minimum of two (2) dosing pumps, one working and one standby shall be provided.

#### 3.3 COAGULATION

- 3.3.1 Seawater turbidity is found to be low and ranges between 0.5 to 10.0 NTU. Turbidity normally indicates the presence of mineral particles which can cause colloidal-particle fouling of RO membranes, thus reducing the flux rate of the membranes. The Concessionaire shall reduce the turbidity to an acceptable level, i.e. to less than 0.5 NTU, perhaps as low as 0.1 NTU during the pre-treatment i.e. in the UF Filtrate Tank.
- 3.3.2 A widely used test is the Silt Density Index (SDI). In UF product, the SDI should be less than 3.0 for ninety five percent (95%) and less than 3.5 for one hundred percent (100%) of the time, under all operating conditions, to produce the Guaranteed Supply Capacity. Mineral particles can be destabilized by the addition of coagulant, The Concessionaire shall design the process in such a way that the pH is adjusted first, then the coagulant shall be added and flash mixed with the water.
- 3.3.3 Coagulation shall be followed by flocculation; a flocculant is added at this stage. Thereafter the flocs are removed by settling. Coagulant shall be dosed at the flash mixer with minimum two flash mixer tanks. The coagulation and rapid mixing design parameters are summarized in Table 1 below.

**TABLE 1 - COAGULATION AND RAPID MIXING (INDICATIVE)**

PARAMETER	UNITS	VALUE
Design maximum seawater flow	MGD	Concessionaire to provide
Coagulant		Ferric chloride
Mixer type		Flash mixer
Mixing energy (G)	S-1	Concessionaire to provide
Mixing time Minimum	s	60
MOC of Paddle		SS 316 with FRP lined
Flash Mixer	No	Concessionaire to provide
MOC of Flash Mixer Tank	IMGD	MSFRP/FRP

### 3.4 **FLOCCULATION**

- 3.4.1 Flocculation shall be made preferably with minimum of two (2) flocculation tanks. Flocculent (flocculation aid) shall be dosed at the inlet of each flocculation tank.
- 3.4.2 Due to the warm temperature, minimum fifteen (15) minutes of flocculation shall be proposed. The flocculation and flocculent design parameters shall be summarized as per Table 2:

**TABLE 2 - FLOCCULATION AND FLOCCULATION AID**

PARAMETER	UNITS	VALUE
Design maximum seawater flow	IMGD	Concessionaire to provide
Type of flocculation aid or alternate on approval from Independent Engineer		Polyelectrolyte
Number of flocculation tanks	No.	Concessionaire to provide
Detention time (minimum)	min	Concessionaire to provide
Type of mixers		Turbine impellers
Mixing energy (G)	S-1	Concessionaire to provide
MOC for Flocculation Tank		MSFRP/FRP
MOC for Mixer		SS 316 with FRP lined
Tank Dimensions (L x W x D) in m		Concessionaire to provide

### 3.5 **DISSOLVED AIR FLOTATION**

DAF systems are designed to remove suspended solids (TSS), biochemical oxygen demand (BOD5), and oils and greases (O&G) from the feed water. Contaminants are removed through the use of dissolved air-in-water solution produced by injecting air under pressure into recycle stream of clarified DAF effluent. This recycle stream is then combined and mixed with incoming wastewater in an internal contact chamber where the dissolved air comes out of solution in the form of very fine bubbles that attach to the contaminants. The bubbles and contaminants rise to the surface and form a floating bed of material that is removed by a surface skimmer into an internal hopper for disposal after treatment. DAF system design to remove oil and grease contributing COD assumed in the proposed design. DAF System design provided in the Table 3.

**TABLE 3 - DISSOLVED AIR FLOTATION (INDICATIVE)**

PARAMETER	UNITS	
Design maximum seawater flow	MGD	Concessionaire to provide
Number of DAF Tanks	No	Concessionaire to provide
Tank Dimensions (L x W x D) in m		Concessionaire to provide
MOC		MSFRP/FRP

### 3.6 **DUAL MEDIA FILTERS (DMF)**

- 3.6.1 Pressurized dual media filters are generally used in water treatment system to remove the particles carried over from the settlers. These filters also effectively reduce the turbidity to some extent and its performance is comparable, less energy intensive and robust for operation.
- 3.6.2 Feed cum backwash pump provided to minimize the energy required for the backwash of the system. Considering higher suspended solids in the feed water. Dual media filter shall be provided with filtration velocity of 12 m/hr.

### 3.7 ULTRA-FILTRATION (UF)

3.7.1 Membrane filtration is passing of water through a PVDF polymeric high strength, hollow fiber membranes. The filtration process is called ultra filtration. The pore diameter of membrane is about 0.03  $\mu\text{m}$  nominal. The ultrafiltration (UF) modules are made from high strength, hollow fiber membranes that have excellent for removal of bacteria, viruses, and particulates including colloids to protect downstream processes of the Desalinated Water Supply System.

**TABLE 4 - OPERATING PARAMETERS OF UF**

	<b>SI units</b>	<b>US units</b>
Filtrate Flux @ 25°C	40-120 l/m <sup>2</sup> / hr	24-70 gfd
Flow range	3.1-9.3 m <sup>3</sup> /hr	13.6 – 40.9 gpm
Temperature	1-40°C	34-104°F
Max. inlet module pressure (@ 20°C)	6.25 bar	93.75 psi
Max. operating TMP	2.1 bar	30 psi
Max operating air scour flow	12 nm <sup>3</sup> /hr	7.1 scfm
Max backwash pressure	2.5 bar	36 psi
Operating pH	2- 11	
NaOCl (max.)	2,000 mg/L	
TSS (max.)	100 mg/L	
Turbidity (max.)	300 ntu	
Particle size (max.)	300 $\mu$	
Flow configuration	Outside in, dead end flow	
Expected filtrate turbidity	$\leq 0.1$ NTU	
Expected filtrate SDI	$\leq 2.5$	

3.7.2 Feed water is pumped through the membranes and UF is vertical in configuration. Pressure systems are typically supplied as modular skid mounted systems with skids varying in size depending on the duty requirement.

3.7.3 The UF System should comprised of backwash system, CIP and CEB system including chemical dosing system.

### 3.8 ULTRAFILTRATION FILTRATE STORAGE

3.8.1 Filtered water i.e. UF permeate storage shall preferably be located immediately downstream of the UF unit. This will serve as feed tank to RO. The tank shall be sized to provide about minimum one-hour storage. The backwash water for UF shall also be withdrawn from the same tank. The design parameters for the Filtered Seawater Storage Tanks are summarized in Table below.

**TABLE 5 - UF FILTERED SEAWATER STORAGE**

<b>PARAMETER</b>	<b>UNITS</b>
Design seawater flow	MGD
Number of tanks	Concessionaire to provide
Fill time	Concessionaire to provide
Capacity	Concessionaire to provide
Tank Dimensions - L x W x D	Concessionaire to provide

## **4. REVERSE OSMOSIS PLANT**

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### **4.1 OVERVIEW OF RO PLANT**

- 4.1.1 The RO shall be designed with optimum recovery based on membrane manufacturers design software projection from 35%-40%. The plant shall be configured modular with multiple RO trains plus one train stand by. Each of the RO trains consist of one RO rack each, with dedicated pumping system and Energy Recover Devices (ERDs).
- 4.1.2 The trains shall be configured to allow for each individual train to be isolated for cleaning, maintenance, or membrane replacement.
- 4.1.3 Sizing of plant and membrane flux LMH has to be selected as per designed standard of membrane manufacturers.
- 4.1.4 Selection of RO membranes shall be subject to approval by the Independent Engineer based on the technical details/projection reports for the selected membranes. RO membrane winding is an integral part of membranes and are supplied along with the membrane-by-membrane supplier. The guarantee/warranty for RO membranes shall extend to their respective winding also. Pressure tube is a protective cover, wherein membrane elements are re housed. RO pressure tubes shall be as per applicable American Society of Mechanical Engineers (ASME) standards.
- 4.1.5 The entire operation of RO system shall be completely automatic (PLC based). Only the cleaning of RO membrane shall be manual and the cleaning operation shall be under operator's supervision.

### **4.2 PUMPING SYSTEM DESIGN AND PRESSURE CONTROL**

Varying feed pressure to the RO system based on the design temperature and salinity ranges mentioned in the report, a combination of VFD driven booster pumps with energy recovery units and VFD driven RO HP pumps shall be selected for operational flexibility and to minimize electrical energy cost.

### **4.3 CARTRIDGE FILTRATION**

To protect the RO membranes, cartridge filtration shall be provided for each RO train downstream of the filtered water transfer pumps. The cartridge filters shall be of five (5) microns wound type made of Polypropylene.

### **4.4 OXIDANT CONTROL**

The provision of sodium bisulphite (SBS) dosing is included in the design to neutralize residual oxidants present in the feed water due to intake shock dosing. This will be controlled by measurement of oxidation reduction potential of the RO feed water. The details of the bisulphite dosing system are given in approaching sections.

### **4.5 SCALE CONTROL**

Provision for scale control by means of antiscalant dosing is included in the design. The sulphuric acid addition as part of the pre-treatment system will also assist with prevention of scaling.

### **4.6 REVERSE OSMOSIS PUMPING AND ENERGY RECOVERY SYSTEM**

- 4.6.1 The energy recovery devices shall be an isobaric design. Either the Energy Recovery International (ERI) or Calder DWEER technology could be used. The design shall be based on the Energy

Recovery International technology but consideration of both makes are acceptable. Details of the booster pumps are shown in Table 6.

**TABLE 6 - ERD AND ERD FEED BOOSTER PUMPS**

PARAMETER	UNIT	ENERGY RECOVERY DEVICE	BOOSTER PUMP
No. of units per RO train	No.	Concessionaire to provide	Concessionaire to provide
Total No. of units for 0.5 MGD	No.	Concessionaire to provide	Concessionaire to provide
Max flow capacity	MGD	Concessionaire to provide	Concessionaire to provide
Delivery Pressure (are dependent on final membrane and ERD selection and performance)	bar	Concessionaire to provide	Concessionaire to provide
Type of drive		Concessionaire to provide	Variable Speed
Materials (PREN $\geq$ 40 for contact with seawater or brine):			
Casing		Stainless Steel (Super duplex)	
Pump impeller		Stainless Steel (Super duplex)	
Shaft		Stainless Steel	

4.6.2 Design parameters for the high-pressure RO pumps are shown in Table:

High pressure RO pump with VFD shall be considered to meet pressure requirements due to change in temperature and TDS. Head of RO feed pumps should be designed such that it is suitable for at least three (3) approved makes of membranes at design condition. Adequate margins over and above design calculations shall be considered for capacity and head so that quality and quantity of water always assured from the plant.

**TABLE 7 - HIGH PRESSURE PUMPS**

PARAMETER	UNIT	VALUES
Number of units per RO train	No.	Concessionaire to provide
Total number of pumps	No.	Concessionaire to provide
Type of drive		Electric motor
Materials (PREN $\geq$ 40 for contact with seawater or brine):		
Casing		Stainless Steel (Super duplex)
Pump impeller		Stainless Steel (Super duplex)
Shaft		Stainless Steel

4.6.3 The design parameters of the proposed ERD system and ERD Booster pumps are shown in Table 8 and 9 respectively.

4.6.4 The RO system feed pressure increases with decrease in the feed water temperature. As a conservative design the RO Feed Pump head is arrived by considering a feed water temperature of 20°C. It is also envisaged to provide this high-pressure RO feed pump motors with Variable Frequency Drive (VFD) so as to economize the plant operating cost during the initial stages of plant operation.

**TABLE 8 - ENERGY RECOVERY SYSTEM**

PARAMETER	UNIT	VALUE
Number of ERD skid per RO train	No.	Concessionaire to provide
Total number of ERD Skid	No.	Concessionaire to provide
Total number of ERD units standby	%	10
Type of system	-	Isobaric System
Materials (PREN $\geq$ 40 for contact with seawater or brine):		
Casing		FRP
Rotor		Ceramic

**TABLE 9 - ERD BOOSTER PUMPS**

PARAMETER	UNIT	VALUE
Number of pumps per RO train	No.	Concessionaire to provide
Total number of pumps	No.	Concessionaire to provide
Maximum flow capacity	m <sup>3</sup> /hr.	Concessionaire to provide
Type of drive		Variable speed
Materials (PREN $\geq$ 40 for contact with seawater or brine):		
Casing	-	Stainless Steel (Super duplex)
Pump impeller	-	Stainless Steel (Super duplex)
Shaft	-	Stainless Steel

#### 4.7 RO TRAIN DESIGN

- 4.7.1 The RO system design shall be based on the use of spiral-wound, polyamide composite type membrane elements. Suitable RO membrane products of standard 8-inch diameter by 40-inch length. The design parameters of the preferred membranes are summarized in Table 10 below:

**TABLE 10 - SWRO MEMBRANE**

PARAMETER	UNIT	VALUE
Number of RO trains -Total	No.	Concessionaire to provide
RO Plant Recovery	%	35-40
Material of membranes		Concessionaire to provide
Type of membrane		Concessionaire to provide
Active area per membrane element	m <sup>2</sup>	Concessionaire to provide
RO membrane flux rate	Normal	LMH
Salt Rejection	Nominal	%
Salt Passage Increase	%/a	Concessionaire to provide
Flux Decline	%/a	Concessionaire to provide
Average Membrane Life Time	years	Concessionaire to provide
No. of membranes per vessel	No.	Concessionaire to provide
Feed Water SDI requirements		Concessionaire to provide
Pressure tube connection.		Limited to Multi- port pressure tubes

**Note:** RO correction curve to be provided by the Concessionaire

- 4.7.2 To allow trial and testing of individual elements to determine performance, a single one-element vessel shall be installed and operated in parallel to one of the RO racks. Projections for the selected membrane for different ages and temperatures in the range to be provided along with proposal.

- 4.7.3 The Concessionaire shall also provide a hard copy of the projections besides calculations and a membrane supplier's software so as to evaluate the projections provided. The projections shall also be vetted by the membrane supplier for which the membrane supplier shall provide its willingness certificate to review the Concessionaire's design, drawing and operation and maintenance manuals.
- 4.7.4 The RO system design considerations also include another vital parameter called the membrane age/rejection ratio of membranes. The rejection ratio of membranes during the initial stage of plant operation is high which leads to lesser TDS in permeate water. As the membrane ages, the rejection ratio decreases leading to increased TDS of permeate stream. During design, due consideration shall be given and as standard conservative design procedure followed widely, the membrane age shall be taken as minimum three (3) years so that the permeate TDS designed is higher than actual.
- 4.7.5 It shall also be noted that the membrane age has direct implication of the feed pressure requirement of the system. The feed pressure considered also includes a membrane min. age of 3 years which will result in higher design value than actual pressure expected during operation of the plant in the initial years in addition to the temperature effect as stated in the earlier point. VFD driven pumps are provided to optimize the actual operating pressure requirements. All the membrane should be 100% wet tested in the factory before dispatch and details of the test shall be shared with the Independent Engineer for approval.

#### **4.8 RO CLEAN IN PLACE (CIP) SYSTEM**

- 4.8.1 A RO clean in place (CIP) system shall be that includes a chemical cleaning preparation tank, chemical cleaning buffering tank, pumps, cartridge filters, cleaning chemical storage tanks, cleaning network and cleaning recirculation loop piping and a neutralization system.
- 4.8.2 Provision shall be made in the design for storage and dosing of the following cleaning and preservation chemicals: Caustic soda, Sodium bisulphite, hydrochloric acid, phosphoric acid, citric acid, detergents (surfactant).
- 4.8.3 Cleaning occurs intermittently and all of these chemicals would not be used at the same time. The amount and type of cleaning chemical required would vary depending upon the degree of membrane fouling and the nature of the fouling. Depending on the membrane selected, the system may be designed to enable cleaning of the RO system from both directions, i.e. from the front to the back and from the back to the front. This would allow employing specific cleaning procedures for a particular type of fouling/scaling. The CIP system shall be sized to clean each individual RO rack separately. The system, including the chemicals for the CIP shall be located in a dedicated building located next to the main RO building.
- 4.8.4 The design parameters of the chemical cleaning preparation tank are shown in Table 11.

**TABLE 11 - CHEMICAL CLEANING PREPARATION TANK**

PARAMETER	UNIT	VALUE
Number of tanks	No.	1
Net volume of tank	m <sup>3</sup>	System Volume + 20% (min)

MATERIAL	
Body/ends	GRP
Pipes/valves	GRP/PP/SS
Form of construction	Concessionaire to provide

- 4.8.5 The design parameters for the chemical cleaning pumps are shown in Table 12.

**TABLE 12 - CHEMICAL CLEANING PUMPS**

PARAMETER	UNIT	VALUE
Number of pumps	No.	Concessionaire to provide
Flow capacity of each pump	m <sup>3</sup> /hr.	Concessionaire to provide
Pumping head	bar	Concessionaire to provide
Number of stages	No.	Concessionaire to provide
MOC		SS 316L

#### 4.9 **RO PIPING SYSTEM**

The material for the low-pressure piping carrying seawater in the RO section shall be GRP. The high-pressure line shall be either Super Duplex 2507 or high grade austenitic SS 254 SMO. On the permeate side material of piping shall be SS316 L. Connection between the membrane pressure vessels and the piping be through Victaulic coupling. The design parameters of piping material for the RO system shall be as shown in Table 13.

**TABLE 13 - PIPING MATERIALS**

PIPING	MATERIAL
High pressure feed piping	Super duplex 2507, PREN $\geq$ 40 or 254 smo
High pressure feed and concentrate piping and headers	Super duplex 2507, PREN $\geq$ 40 or 254 smo
Connecting pipe work feed/concentrate headers to pressure vessels	Super duplex 2507, PREN $\geq$ 40 or 254smo with Victaulic coupling
Service Lines	uPVC
Backwash Lines	GRP
Piping for cleaning	HDPE /GRP
Low Pressure Lines (Sea Water)	GRP or PVC
Low Pressure Lines (Permeate)	uPVC

#### 4.10 **PERMEATE COLLECTION TANK**

One permeate storage tank shall be located. The tank shall be sized for at least one (1) hour net storage at the maximum permeate flow.

## 5. POST TREATMENT

Post treatment of permeate is required to meet the Output Water Quality Specifications. Post treatment will consist of remineralization/stabilization and disinfection of the water.

### 5.1 RE-MINERALIZATION/STABILIZATION

#### 5.1.1 REQUIREMENT FOR STABILIZATION

5.1.1.1 Water produced by a RO process has very low residual hardness and alkalinity, which renders it very aggressive to most materials including steel and concrete thus causing corrosion and premature aging of assets. Post-treatment works have two key components in order to protect public health and to safeguard integrity of the water distribution system.

- (a) Remineralization/Stabilization;
- (b) Disinfection.

5.1.1.2 The design parameters of re-mineralization/stabilization are indicated in Table 14.

**TABLE 14 - STABILIZATION**

ITEM	REQUIREMENT
Stabilization Process	Limestone Water/Carbon Dioxide Dosing
Target Langlier Index	positive
Maximum Total Dissolved Solids	Less than 500 mg/l

#### 5.1.2 LIMESTONE AND CARBON DIOXIDE

5.1.2.1 Water shall be stabilized by dissolving carbon dioxide and limestone (calcium carbonate). Calcium dosed as limestone is of ninety three percent (93%) purity in the limestone filter.

5.1.2.2 Equipment typically required for dosing of lime would consist of: Main loading Hopper, Filling Hopper, Screw feeder, two-way diverter gates, Limestone ejector, Limestone recharging booster pumps and manually operated electric hoist. Carbon dioxide would be stored and dosed using a proprietary package plant consisting of storage vessels, evaporators and dosing ventures.

5.1.2.3 Sufficient quantity of limestone and Carbon dioxide used for demineralization shall be delivered and stored at the Project Site during the Operations Period.

**TABLE 15 - CARBON DIOXIDE**

COMPONENT/PARAMETER	SPECIFICATIONS/DESIGN CRITERIA
Carbon dioxide dosage (as 100% pure product)	For Calcite/CO2 system
Storage time (Days)	10
Structure Material Type	Carbon steel

5.1.2.4 The Concessionaire may also recommend a post-treatment system of its preference and provide a brief analysis of the cost and operational advantages of the post-treatment stabilization system they propose vs. the post-treatment method indicated above along with the Successful Bidder's Technical Proposal.

## 5.2 DISINFECTION

### 5.2.1 REQUIREMENT FOR DISINFECTION

5.2.1.1 Chlorine based disinfection (i.e. chlorination) is suggested for the Project. This is because this process is by far the most common form of disinfection in the country and has a shelf life as compared to other disinfection process which usually does not have the required shelf life in distribution system. Chlorine is the most widely used water disinfection method. Chlorine kills the micro-organisms by immobilizing their metabolism rendering them harmless. Chlorine is a slow stable reaction thus its main advantage of chlorine is the formation of residuals which remain in the water for longer periods of time protecting the system from bacterial contamination.

### 5.2.2 NECESSITY FOR DISINFECTION OF RO PROCESS WATER

5.2.2.1 The continuous disinfection of the RO permeate is considered as an additional safety measure as a reverse osmosis permeate will have a relatively low or nil level of microbiological contamination. The reverse osmosis treatment process will remove most of the organic matter present in the feed water and micro-organisms cannot establish and survive in the water without food.

5.2.2.2 However, to have a residual chlorine in the distribution network chlorination is envisaged for the treated water out of the proposed plant.

### 5.2.3 CHLORINE DOSING RATES

5.2.3.1 Continuous disinfection of potable water using chlorine required to achieve a residual chlorine of 0.2 mg/l as per IS: 10500. Disinfection of the Desalinated Water will be carried out using sodium hypochlorite solution of ten percent (10%) to twelve percent (12%) concentration.

5.2.3.2 The Concessionaire may also recommend a disinfection system of its preference and provide a brief analysis of the cost and operational advantages of the disinfection system they propose vs the disinfection system indicated above along with its Technical Proposal.

## 6. CHEMICAL SYSTEMS

The following chemicals are suggested part of the pre-treatment process:

**TABLE 16 - CHEMICALS LIST (INDICATIVE)**

CHEMICAL NAME	CHEMICAL USE
Sulphuric acid	Inlet sea water pH correction
Sodium hypochlorite	For Intake system to prevent entry of marine organisms
Ferric chloride	Coagulant
Polyelectrolyte	Flocculation aid
Sulphuric acid	UF CIP
Sodium hydroxide	UF CIP
Sodium hypochlorite	UF CIP
Sodium bisulphite	Anti-oxidant
Antiscalant	RO membrane scale prevention
Carbon Dioxide	Post treatment for mineralization and stabilization
Limestone (calcite)	Post treatment for mineralization and stabilization
Sodium hypochlorite	Post treatment for disinfection
Citric/Hydrochloric acid	RO CIP
Sodium hydroxide	RO CIP
Surfactants	RO CIP
Biocides	RO CIP

**Note:** Chemicals shall be of food grade quality, as it is proposed to be utilized for the crystallization of salt in the salt pan. Details of the chemical systems are summarized in the following sections.

### 6.1 ANTISCALANT

Antiscalant is required to be dosed into the reverse osmosis system to minimize the formation of mineral scale on the surface of the membranes. Stock to be maintained for minimum fifteen (15) Days and dosing tank for twenty-four (24) hours capacity to be provided. Design parameters of the antiscalant system are shown in Table 17.

**TABLE 17 - ANTISCALANT SYSTEM**

PARAMETER	UNIT	VALUE
Design RO system feed flow rate	MGD	Concessionaire to provide
Antiscalant concentration	%	Concessionaire to provide
Dose rate	mg/l	Concessionaire to provide
Dosing point		Concessionaire to provide
Antiscalant consumption	kg/Day	Concessionaire to provide
Dosing flow rate of Antiscalant	Lph	Concessionaire to provide
No. of dosing pumps	No.	Concessionaire to provide
	No.	Concessionaire to provide
Mode of Operation		Auto
Dosing pump capacity	Lph	Concessionaire to provide
No. of Antiscalant preparation tanks	No.	Concessionaire to provide

## 6.2 CARBON DIOXIDE

Carbon Dioxide is required to be dosed in association with Limestone for pH control and stabilization of the permeate water. The chemical dosing design parameters are summarized in Table 18.0. Bulk storage tank with min fifteen (15) Days capacity to be provided.

**TABLE 18 - CARBON DIOXIDE DOSING**

PARAMETER	LEVEL	UNITS	VALUE
Carbon Dioxide Vessels	Number	No.	Concessionaire to provide
Mode of Operation			Auto
Period		Days	10.0

## 6.3 SODIUM HYPOCHLORITE

Sodium hypochlorite solution of ten percent (10%) concentration shall be stored in tanks required for disinfection of the Desalinated Water and for shock chlorination of sea water. Bulk storage tank with min fifteen (15) Days capacity and dosing tank for twenty-four (24) hours capacity to be provided.

## 6.4 FERRIC CHLORIDE

Ferric chloride shall be dosed to coagulate particles in the flash mixer.

## 6.5 LIMESTONE

Limestone shall be supplied to site as calcite ( $\text{CaCO}_3$ ) and it is dissolved with carbonated water to maintain alkalinity and hardness. The commercial limestone available should have a purity of minimum ninety three percent (93%).

## 6.6 FLOCCULATION AID POLYELECTROLYTE

Polyelectrolyte is required to be dosed to assist with the formation of settle able flocs in the clarifier. The polymer will be dosed in the flocculation tank. The specific polymer to be used will be determined during the design stage.

## 6.7 SODIUM HYDROXIDE

Sodium hydroxide shall be used to correct the pH of the RO permeate, UF membranes cleaning and RO membranes.

## 6.8 SODIUM (META) BISULPHITE

6.8.1 Sodium bisulphite (SBS) ( $\text{NaHSO}_3$ ) shall be prepared by dissolving sodium metabisulphite (SMBS) ( $\text{Na}_2\text{S}_2\text{O}_5$ ) in water. Dosing of bisulphite shall be applied to remove residual chlorine from the system resulting from intake shock dosing as well as to neutralize oxidants used for cleaning of the UF membranes.

6.8.2 The redox potential (ORP) shall be measured downstream of the dosing point to ensure that the dosing is effective. Ventilation shall be provided to manage any fumes that may be evolved in the chemical area.

## 6.9 SULPHURIC ACID

The sulphuric acid shall be used to provide pH correction for optimum seawater coagulation.

## 6.10 ULTRA-FILTRATION CHEMICALS

TABLE 19 - ULTRA FILTRATION CHEMICALS

PARAMETERS	UNITS	VALUE
Maintenance cleaning		as per UF manufacturer
Recovery cleaning		as per UF manufacturer
Number of tanks	No.	One
Volume	m <sup>3</sup>	as per UF manufacturer
Proposed Acid		HCl
Proposed Alkali		NaOH
Proposed Oxidant		NaOCl
CIP pump capacity	m <sup>3</sup> /hr.	as per UF manufacturer

## 6.11 MISCELLANEOUS CHEMICALS

This section covers miscellaneous chemicals used only for the purpose of cleaning the RO membranes (i.e. RO CIP). Examples of these chemicals include (but may not be limited to):

6.11.1 Biocide;

6.11.2 Detergent;

6.11.3 Caustic solution; and Acids (such as Hydrochloric, Phosphoric, etc.).

## 6.12 CLEANING-IN-PLACE (CIP)

6.12.1 To manage membrane fouling and scaling, periodical cleaning is required. Depending on the performance of the pre-treatment system and on the actual operational envelope, it is anticipated that four cleanings per year per train are necessary. Typical cleaning solutions include low pH, and high pH solutions and special detergents. Preservation solution would also be prepared within the CIP system.

6.12.2 to facilitate membrane cleaning a CIP system is required with the following features:

6.13.2.1 CIP tank: Chemical storage and dosing facilities for the preparation of various cleaning solutions (typically includes caustic soda, citric acid, sodium dodecyl sulphate, sodium bisulphite);

6.13.2.2 recycling pumps;

6.13.2.3 cartridge filter (typically five (5) micron);

6.13.2.4 pipework allowing each RO train to be cleaned individually; and

6.13.2.5 if required, holding tank to neutralize spent cleaning solution and enable discharge to environment.

## 6.13 FLUSHING

6.13.1 After chemical cleaning and prior shutdown of membrane trains the brine and spent cleaning solution should be flushed out of the RO and ERD racks using RO permeate. Flushing prior train shutdown will reduce potential for scale build up and corrosion.

6.13.2 The flushing system would consist of flushing pumps and pipework along each RO train to be flushed individually.

6.13.3 The Concessionaire may also recommend chemical system of their preference and provide a brief analysis of the cost and operational advantages of the chemical system they propose vs the chemical system indicated above along with their technical proposal.

## **7. WATER STORAGE**

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### **7.1 POTABLE WATER STORAGE**

The Desalinated Water post treatment shall be stored in the plant site and transferred to the Output Water Delivery Point for consumption. Tank capacity of sufficient size shall be constructed for potable water storage in RCC construction with food grade epoxy lining of DFT 250 may be considered and the tank shall be a covered one.

## **8. SEAWATER OUTFALL**

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### **8.1 OUTFALL PIPELINE**

8.1.1 The Desalinated Water Supply System generating filtrate from filter press, backwash from the dual media filters, backwash and CIP waste from UF system, reject water from RO system along with other washings shall be disposed into the sea through the outfall pipeline and provide details as under:

8.1.1.1 flow;

8.1.1.2 diameter of pipe;

8.1.1.3 max working pressure (including water hammer allowance) (Pipe SDR details to be provided by the Bidders).

8.1.2 The Concessionaire should ensure stability of the outfall pipe being laid on the breakwater supported by saddle blocks. Suitable arrangements shall be made to ensure the pipeline is intact. The pipeline shall be completely secured by anchor blocks of at least five hundred (500) kg weight approximately at regular intervals of 3m to ensure the stability. Rock anchoring can be recommended for submerged and nearshore portion of HDPE pipe. The spacing between the anchor blocks to secure HDPE pipe can be increased for regions that are away from the shore.

### **8.2 DIFFUSERS**

8.2.1 The outlet pipeline will discharge seawater concentrate and other waste flows into the ocean via a system of diffusers. These comprise a large number of small diameter nozzles discharging jets of seawater concentrate from the seabed into the water body to entrain dilution flows. Wider dispersion of the saline plume shall be achieved through the action of wind, waves and currents. Both the seawater concentrates jets and the dispersion will be modelled using appropriate dispersion model and approval of the modelling should be vetted by the Independent Engineer. The design criteria for the diffuser design shall be as follows:

8.2.1.1 minimum Flow range: Concessionaire to provide;

8.2.1.2 discharge temperature range: 00C > 30C above ambient;

8.2.1.3 target dilution: 5% above ambient salinity;

8.2.1.4 jet, diffuser material: rubber/EPDM;

8.2.1.5 backflow prevention: In line rubber check valve at diffuser;

8.2.1.6 diffuser of suitable number of ports made of HDPE material and length to be designed, fabricated and installed at the required location for the given discharge quantity. The ports and risers to be of parent material;

8.2.1.7 non-return valve arrangement to be used to prevent ingress of sediments, marine life into the diffuser ports. The outlet diffuser riser ports are designed to open at required exit velocity. Reaction blocks of defined weights to be provided at required intervals to provide stability to the diffuser;

8.2.1.8 material will be suitable for seawater application. All steel in direct contact with seawater will be SDSS (PREN $\geq$ 40).

## **9. CIVIL, BUILDING AND STRUCTURAL WORKS**

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### **9.1 PLANT BUILDINGS**

The Desalinated Water Supply System will also include the following:

#### **9.1.1 BUILDINGS**

9.1.1.1 Intake well, sludge tank, reject disposal tank, administration building cum lab container, MCC/Control building, chemical storage buildings, electrical switchgear buildings/substation, product water tank, essential amenities building etc. will cover the scope of civil structures.

9.1.1.2 All designs shall be based on the latest BS Standard (BS) Specifications or Codes of Practice. If such BS is not available for a particular item of work, then any international standard can be adopted. The design standards adopted shall follow the best modern engineering practice in the field based on any other international standard or specialist literature subject to such standard reference or extract of such literature in the English language being supplied to and approved by the Independent Engineer.

9.1.1.3 All buildings and structures/underground structures shall be designed to resist the worst combination of the following loads/stresses under test and working conditions these include dead load, live load, wind load, seismic load, stresses due to temperature changes, shrinkage and creep in materials, dynamic loads and uplift pressure.

9.1.1.4 Buildings will generally be of concrete foundation slabs, sheet metal clad, insulated and suitable for cyclonic conditions with a design life of thirty (30) years. Buildings shall comply with the relevant building codes. Buildings will be provided with internal power, communications, lights, air conditioning, ventilation, water, and air and sewerage disposal.

9.1.1.5 Facilities as well as equipment and furnishings to provide fully functional facilities.

9.1.1.6 The Finished Floor Level (FFL) shall be a minimum of six hundred (600) mm above the external finished ground level. External parking, laydown and walkway areas shall be landscaped and illuminated. Equipment buildings will be provided with appropriate doors to suit the operation of the plant including removal and replacement of all equipment. Some buildings will be provided with precast concrete walls to reduce noise levels and provide heat insulation.

### **9.2 PLATFORMS, ACCESS WAYS AND STAIRWAYS**

Platforms, access ways and stairways will be included in the design to allow sufficient access for operations and maintenance. Ladders will be avoided wherever possible.

### **9.3 LIFTING DEVICES**

Lifting devices will be included in the design where necessary. These will include electrically operated Cranes (EOT's) for removal of pumps and air blowers etc. Gantry cranes will be provided RO buildings and the Chlorine building. Mobile cranes will be required to move pumping and other equipment to a suitable truck loading area.

### **9.4 ROAD WORKS**

9.4.1 The Desalinated Water Supply System area shall be designed as a large, evenly graded area with provision for adequate access to the Desalinated Water Supply System such that vehicles need not cross open drains. Grading around the plant shall be arranged to ensure drainage away from the plant at an appropriate grade to minimize the potential for ponding or flooding.

- 9.4.2 Working areas around the Desalinated Water Supply System shall be surfaced in a road base or appropriate capping layer to provide all-weather hard standing areas for maintenance traffic. Areas of significant traffic, such as around workshops and offices and roads between facilities plus roads surrounding and internal to the process plant shall be concrete sealed. Any areas that are sensitive to vehicle impact, in particular building edges, workshop door openings etc., exposed items such as fire hydrants and other vulnerable infrastructure, shall be protected by one hundred and fifty (150) mm diameter steel bollards painted or marked (in reflective material) and, filled with concrete or by roadside type guardrail.
- 9.4.3 All underground electrical cable in ducts/conduit shall have concrete cable pits at changes of direction. These pits shall be provided with removable concrete covers at plate level capable of taking the load from the outrigger of a fifty (50) t rough terrain crane. The covers shall be levelled to the finished road level.
- 9.4.4 All Internal roads shall have a minimum carriage width of 6.0 m. Roads will be wider in areas adjacent to chemical storage facilities to allow a chemical truck to be unloading without restricting through traffic. Road widening will also be required at bends to provide sufficient room for turning of a trailer. Road cross fall shall generally be designed at two percent (2%) for sealed pavements and five percent (5%) for unsealed with vertical and horizontal alignment to be designed in accordance with relevant international standards.

## **9.5 SITE SERVICES**

- 9.5.1 Existing site level varies from 1.0 to 1.75 m above MSL and the nearby road is at 2.5 m above MSL.
- 9.5.2 All electrical and communication services shall be located in suitable underground trays.
- 9.5.3 Site pipework will be buried where ever feasible.

## **9.6 STORM WATER DRAINAGE**

Local drainage design around buildings shall be based on a one (1) in five (5) year average recurrence interval. Collector drains shall be based on a one (1) in twenty (20) year return period and over-all site drains shall be designed for one (1) in one hundred (100) year rainfall intensity. Drainage flows shall generally be handled by drains mostly covered. The drainage design shall be checked for a one (1) in one hundred (100) year average recurrence interval rainfall event to ensure that no facilities (including electrical equipment) suffer any permanent damage from such a storm. Storm water drainage from all facilities shall be contained and directed into run-off channels. Drainage from process overflows shall be returned back to the process.

## **9.7 FIRE DETECTION AND ALARM SYSTEMS**

In order to mitigate the damage caused by occurrence of accidental fire hazard, fire alarm and protection system shall be proposed based on National Fire Protection Association (NFPA) standards.

## **10. MECHANICAL COMPLETION, FUNCTION TESTS, RELIABILITY AND PERFORMANCE TEST**

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### **10.1 MECHANICAL COMPLETION INSPECTIONS**

10.1.1 After completion of Construction Activities, the process set out in Article 8 and with **SCHEDULE E (Testing)** of this Agreement shall be followed.

10.1.2 In addition to Article 8 and with **SCHEDULE E (Testing)** of this Agreement, the Concessionaire shall include the following activities during the process for achievement of COD:

#### **10.1.2.1 ELECTRICAL**

- (a) IR checking of all cables bus bars testing of all protection devices. Testing of earthing system. Panel interlock testing.
- (b) Battery discharge/charge testing. Calibration of all panel meters, CT/PT. Bus bar contact resistance testing.
- (c) Transformer testing without power.

#### **10.1.2.2 INSTRUMENTS**

Bench calibration of all pressure measurement instruments and switches. Loop checking up to PLC/SCADA. Instrument and control cable IR check and continuity check-up to PLC/SCADA marshalling panels.

#### **10.1.2.3 PIPING AND TANKS**

- (a) Hydro static testing of all pipes and tanks (if this test is not done at factory).
- (b) The Concessionaire should include all supporting documents along with the mechanical completion inspection sheet such as welding radiography test report, painting thickness measurement record, GRP lamination hardness check reports etc.,

#### **10.1.2.4 FUNCTION TEST**

- (a) Function test involves energization of all the equipment once the Electricity is received at the Electricity Connection Point.
- (b) These tests involve the following:
  - (i) no load running of all the motors;
  - (ii) site acceptance testing of PLC/SCADA;
  - (iii) interlock and sequence logic testing;
  - (iv) running all the pumps at its duty point and check the parameters;
  - (v) running of individual filters and check back wash auto sequence;
  - (vi) plug testing of RO units.

**11. NOT USED**

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## **12. SPECIFIC REQUIREMENTS**

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### **12.1 WORKS DESCRIPTION**

As stated above, the scope of work of the Concessionaire includes the design, finance, build, operate, maintain and transfer of the Desalinated Water Supply System.

### **12.2 KEY SYSTEMS AND FACILITIES**

The Construction Activities shall include (but not limited to) the following key systems and facilities:

### **12.3 SEAWATER INTAKE SYSTEM**

12.3.1 The seawater intake system shall be sized to Guaranteed Supply Capacity delivery and shall comprise:

12.3.1.1 offshore intake structure, screens and arrangements to minimize any adverse impact to local fishing community;

12.3.1.2 offshore and on-shore pipework (conduit), civil and mechanical connections;

12.3.1.3 wet well, surge chamber;

12.3.1.4 intake screens, inlet isolation valves, mechanical screening equipment (rotating band screens) upstream of the intake pumps;

12.3.1.5 pump well with all required flood-prevention sumps and all required controls (wet or dry);

12.3.1.6 seawater intake pumps and pipework;

12.3.1.7 intake system chemical dosing system (dual redundant (duty/standby));

12.3.1.8 electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;

12.3.1.9 earthwork, piling, foundations, temporary and permanent works to achieve environmental, social and community obligations;

12.3.1.10 local control panel, interface with the plant control system;

12.3.1.11 instrumentation including the following:

- (a) Silt Density Index (SDI2.5);
- (b) Turbidity;
- (c) Total Organic Carbon (TOC);
- (d) Total Suspended Solids (TSS);
- (e) Algal Content Expressed as Algae Concentration of Chlorophyll;
- (f) parameters listed in Input Water Quality Specifications;
- (g) total hydrocarbons;

- (h) protection system to trigger shutdown of the intake pump station should the values exceed unacceptable level;

12.3.1.12 intake pump station building with HVAC, maintenance crane, access stairs, personnel lift, sump pump;

12.3.1.13 equipment shall provide to monitor the biological growth within the intake pipe and intake structure;

12.3.1.14 any other equipment to achieve Guaranteed Supply Capacity, guaranteed performance, operational flexibility and durability (and service life) of the asset;

12.3.1.15 provision needs to be made for safe access to the pipeline for inspection and maintenance purposes;

12.3.1.16 a surface marker buoy is to be anchored at the place of intake.

12.3.2 PRE-TREATMENT SYSTEM

12.3.2.1 The Concessionaire shall supply, install, commission and operate a pre-treatment system sized to supply a RO system with a capacity of Guaranteed Supply Capacity of Desalinated Water. The pre-treatment system will:

- (a) remove suspended and settleable colloids and particles;
- (b) achieve a pre-treatment product water quality as defined in Table 20;

**TABLE 20 - MINIMUM PRE-TREATMENT WATER QUALITY REQUIREMENT**

Parameters	Concentrations/Levels	Units
Turbidity (daily avg./max)	Granular Media Filters May never exceed 1 NTU, and must not exceed 0.3 NTU in 90% of daily samples in any month Membrane Filters May never exceed 0.5 NTU, and must not exceed 0.2 NTU in 90% of daily samples in any month	NTU
Silt Density Index (SDI <sub>15</sub> )	< 3 (90% time) Never exceed 4.0	
Total Organic Carbon	< 1.0	mg/L
pH (min)/(max)	4.0/9.0	pH Units
Oxidation Reduction Potential (ORP)	Less than 250	mV
Chlorine Residual	≤ 0.02	mg/L
Total Hydrocarbons	≤ 0.04	mg/L

- (c) The Concessionaire shall configure the pre-treatment system using unit operations listed in Table. The Concessionaire will include space and hydraulic capacity for the future installation of pre-treatment equipment to remove algae and allow for uninterrupted operation of the reverse osmosis system during algal bloom events in the water located above and around the intake structure.

12.3.2.2 Other components of the pre-treatment system shall include:

- (a) all pumps and recirculation pipework;
- (b) backwash and clean-in-place system, waste and drains collection, storage and pumping;
- (c) provision to prevent contamination of treated seawater from airborne particles;
- (d) electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;
- (e) local control panel, interface with the plant control system;
- (f) instrumentation including the following to monitor seawater quality at the entrance to the pre-treatment system:
  - (i) flow;
  - (ii) turbidity;
  - (iii) pH;
  - (iv) conductivity;
  - (v) temperature;
  - (vi) chlorine residual;
  - (vii) dissolved oxygen;
  - (viii) any other instrument required to meet E&S Approvals;
- (g) building for filters and membranes with HVAC, maintenance crane, access, sump pump (Note dissolved air floatation may be located outside area served by HVAC);
- (h) safe shut-down and safety system;
- (i) earthwork, piling, foundations, temporary and permanent works;
- (j) environmental controls;
- (k) floor space in the layout for future installation of an additional pre-treatment system to cater for any expansion works;
- (l) any other equipment to achieve Guaranteed Supply Capacity, guaranteed performance, operational flexibility and durability (and service life) of the asset;
- (m) safe and adequate access by operators and maintenance personnel must be available to all instruments, sampling points, manually operated fittings, change out equipment, joints and mechanical equipment such as pumps and valves for the purposes of inspection, maintenance and replacement. Where appropriate (such as ladders, walkways and platforms) access must comply with relevant national standards.

### 12.3.3 REVERSE OSMOSIS SYSTEM

12.3.3.1 The RO system shall be sized for Guaranteed Supply Capacity and shall comprise:

- (a) RO feed water conditioning facilities and instrumentation and controls to protect the integrity and useful life of the RO membranes;
- (b) RO membrane trains (incorporating high pressure pumps, pipework, valves and manifolds);
- (c) membrane cleaning system;
- (d) membrane flushing system;
- (e) isobaric pressure-exchanger type energy recovery system and all required controls and protection;
- (f) interface with and connections to the post-treatment system and other systems;
- (g) drains and waste collection, storage and conveyance system;
- (h) electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;
- (i) local control panel, interface with the plant control system;
- (j) instrumentation including the following to monitor seawater quality leaving the pre-treatment system;
  - (i) turbidity;
  - (ii) pH;
  - (iii) chlorine residual;
  - (iv) conductivity;
  - (v) SDI;
  - (vi) ORP (oxidation reduction potential);
  - (vii) boron;
  - (viii) any other instrument required to provide operator information and plant control;
- (k) building with HVAC, maintenance crane, access, sump pump;
- (l) safe shut-down and safety system;
- (m) earthwork, piling, foundations, temporary and permanent works;
- (n) environmental controls;
- (o) floor space and associated provisions such as plinths or embedded conduits in the layout to cater for future installation of plant expansion;
- (p) any other equipment to achieve Guaranteed Supply Capacity, guaranteed performance, operational flexibility, safety and durability (and service life) of the asset.

#### 12.3.4 POTABLE WATER POST-TREATMENT SYSTEM

12.3.4.1 The potable water post-treatment system shall be sized for Guaranteed Supply Capacity and comprise:

- (a) re-mineralization system incorporating lime and carbon dioxide or calcite and carbon dioxide (or sulphuric acid) dosing system;
- (b) disinfection system incorporating chlorine gas dosing system;
- (c) interface with and connections to the RO plant and Desalinated Water storage and transmission systems;
- (d) drains and waste collection, storage and conveyancing system;
- (e) electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;
- (f) local control panel, interface with the plant control system;
- (g) instrumentation including the following to monitor the water quality:
  - (i) turbidity;
  - (ii) conductivity;
  - (iii) temperature;
  - (iv) pH;
  - (v) boron;
  - (vi) any other instrument required to provide operational flexibility for the post-treatment system;
- (h) building with HVAC, maintenance crane, access, sump pump;
- (i) safe shut-down and safety system;
- (j) earthwork, piling, foundations, temporary and permanent works;
- (k) environmental controls;
- (l) floor space and associated provisions such as plinths or embedded conduits to add additional post-treatment equipment to expand Plant capacity from five (5) MGD to the future and floor space and pipeline connections blank ended for future installation of Ultra-violet (UV) treatment stage;
- (m) any other equipment to achieve Guaranteed Supply Capacity, guaranteed performance, operational flexibility and durability (and service life) of the asset;
- (n) safe and adequate access by operators and maintenance personnel must be available to all instruments, sampling points, manually operated fittings, change out equipment, joints and mechanical equipment such as pumps and valves for the purposes of inspection, maintenance and replacement. Where appropriate (such as ladders, walkways and platforms) access must comply with relevant National Drinking Water Quality Standards.

### 12.3.5 POTABLE WATER STORAGE AND CONVEYANCE SYSTEM

12.3.5.1 The potable water conveyance system comprises a storage tank, a pump station and a pipeline as follows;

- (a) one above-ground reinforced concrete potable water storage tank of working two (2) MGD capacity;
- (b) on-site pump station building with all required facilities;
- (c) suction and delivery pipework;
- (d) potable water transmission pipe line with isolation valves and valve chambers;
- (e) pipeline surge control devices capable of limiting surge pressure to within the maximum design pressure of the entire potable water system;
- (f) All required pipework connections, air valves, scour valves, pipe supports, bridge crossings, recirculation lines, drains, vents, instrumentation and necessary works to ensure a functional and reliable system;
- (g) Interface with and connections to the two (2) MGD storage tank and post-treatment facility;
- (h) drains and waste collection, storage and conveyance system;
- (i) electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;
- (j) local control panel, interface with the plant control system;
- (k) instrumentation including the following to monitor Desalinated Water quality:
  - (i) turbidity;
  - (ii) conductivity;
  - (iii) pH;
  - (iv) chlorine residual;
  - (v) boron;
  - (vi) any other instrument required to measure Output Water Quality Specifications and ensure public health;
- (l) building with HVAC, maintenance crane, access, sump pump;
- (m) safe shut-down and safety system;
- (n) earthwork, piling, foundations, temporary and permanent works;
- (o) environmental controls;
- (p) any other equipment to achieve Guaranteed Supply Capacity, guaranteed performance, operational flexibility and durability (and service life) of the asset;

- (q) cathodic protection must be provided to all metal pipelines and tanks using either suppressed current or sacrificial anodes. Suppressed current systems must be connected to the SCADA system;
- (r) instrumentation including the following to monitor water quantity: flow and pressure monitors connected to the SCADA system at the beginning and end of the transmission line.

#### 12.3.6 CONCENTRATE AND OTHER WASTE DISCHARGE FACILITIES

12.3.6.1 The concentrate and other waste discharge facilities shall be sized to the Guaranteed Supply Capacity including the waste retention tank (see below) and shall comprise the following:

- (a) concentrate discharge system including outfall pipework, valves, offshore structure, diffuser pipe and diffusers;
- (b) waste retention tank sized for two (2) hours' waste streams based on five (5) MGD capacity;
- (c) integrated system for accepting drains and waste streams from the entire Desalinated Water Supply System to the discharge retention tank;
- (d) pump station building, pumps, suction and delivery pipework, full-flow recirculation line back to the discharge retention tank;
- (e) all required interconnecting pipework, valves, drains, vents, instrumentation and necessary works to ensure a functional and reliable system;
- (f) interface with and connections to the other systems;
- (g) overflow and drains collection, storage and conveyance;
- (h) discharge tank mixing and pH correction (neutralization system);
- (i) electrical works, transformers, switchgear, earthing, lighting and all required electrical control and protection system;
- (j) local control panel, interface with the plant control system;
- (k) instrumentation including the following to monitor waste water quality - before discharge to the brine concentrate system;
  - (i) conductivity;
  - (ii) change flow rate;
  - (iii) temperature;
  - (iv) pH;
  - (v) dissolved oxygen;
  - (vi) turbidity;
  - (vii) chlorine residual;

- (viii) any other measurement required by the Environmental Approval to ensure there will be no harm to the marine environment;
- (l) building with HVAC, maintenance crane, access, drains sump pump;
- (m) safe shut-down and safety system;
- (n) earthwork, piling, foundations, marine/dredging, pipe laying, rock armour, temporary and permanent works;
- (o) environmental controls, instrumentation and monitoring;
- (p) diffuser arrangement with smooth contours to mitigate adverse impacts to local fishing community;
- (q) marine exclusion zone marker buoys (temporary and permanent facilities) and marine monitoring devices;
- (r) any other equipment to achieve Guaranteed Supply Capacity, environmental performance commitment, operational performance, flexibility and plant durability (and service life);
- (s) safe and adequate access by operators and maintenance personnel must be available to all instruments, sampling points, manually operated fittings, change out equipment, joints and mechanical equipment such as pumps and valves for the purposes of inspection, maintenance and replacement. Where appropriate (such as ladders, walkways and platforms) access must comply with relevant standards;
- (t) a surface marker buoy is to be anchored at the place of the diffusers.

### 12.3.7 GENERAL SITE SERVICE FACILITIES

12.3.7.1 The general site service facilities shall be sized for Guaranteed Supply Capacity and shall comprise the following:

- (a) plant and Equipment Buildings, Civil Works and Foundations for each of all of the systems as noted above;
- (b) administration building and facilities including minimum specified floor areas as mentioned table below.

**TABLE 21 - KEY ROOMS AND SERVICE AREAS IN THE ADMINISTRATION BUILDING**

Offices	80 m <sup>2</sup>
Control Room	35 m <sup>2</sup>
Break Room	40 m <sup>2</sup>
Reception Lobby	25 m <sup>2</sup>
Records	40 m <sup>2</sup>
Conference Room	60 m <sup>2</sup>
Restrooms	40 m <sup>2</sup>
Workshop & Storage Area	200 m <sup>2</sup>
Electrical Room	30 m <sup>2</sup>
Laboratory	60 m <sup>2</sup>
Auditorium with stage / podium facilities, sound system and multimedia facilities to accommodate 40 participants	250 m <sup>2</sup>

- (c) paved areas, parking facilities, hard-stands, site roads;
- (d) all required building utilities, facilities, locker rooms, shower, toilets, plumbing, valves, drains, vents, instrumentation and necessary works to ensure a functional and reliable building;
- (e) workshop facility along with special tools and equipment required for plant maintenance;
- (f) suitable storage for spares with storage racks and forklift access;
- (g) suitable air-conditioned and heat-alarmed fire-proof room to securely house computer and communication equipment and with fire suppression system;
- (h) maintenance access doors and craneage;
- (i) electrical works, transformers, switchgear include MCCB, MCB, RCB and isolating switches, earthing, lighting, cabling, cable trenches, cable management system;
- (j) building fire and alarm system, local control panel, interface with the plant control system;
- (k) earthwork, piling, foundations, temporary and permanent works;
- (l) storm water management system draining to a single site discharge point, storm water basins, site-wide sump pumps and pipework;
- (m) construction facilities, laydown areas, access and road improvements, temporary and permanent storm water and other drainage works;
- (n) all required temporary and permanent housing facilities for site works, construction, commissioning, operations and maintenance staff and subcontractors;
- (o) HVAC, access stairs, fire doors and other building facilities;
- (p) landscaping and irrigation facilities;
- (q) environmental controls;
- (r) any other facilities required to achieve Desalinated Water Supply System operational flexibility and durability (and service life);
- (s) CCTV coverage of the site is to be provided and connected to screens in the control room with seven (7) Days' storage capacity of video data;
- (t) the Concessionaire shall establish new access roads.

### 12.3.8 ANCILLARY AND SUPPORT SERVICES

12.3.8.1 The ancillary and support services shall be sized for the Guaranteed Supply Capacity and shall comprise the following:

- (a) service air system;
- (b) instrument air system;
- (c) fire detection, fire alarm, fire protection and fire-fighting system;

- (d) chemical unloading, storage, handling, metering, mixing, injection and distribution systems and controls;
- (e) potable water system for use in the Desalinated Water Supply System;
- (f) service water system;
- (g) general site services, utilities, safety showers system;
- (h) membrane flush system;
- (i) manual sample system and sampling points must be located at the following locations;
  - (i) seawater pump discharge;
  - (ii) inlet to pre-treatment facilities;
  - (iii) inlet to RO process (outlet from the pre-treatment facilities);
  - (iv) permeate from each RO train;
  - (v) brine concentrate from each RO train;
  - (vi) potable water prior to entry to the Potable Water Storage Tank;
  - (vii) potable water at the outlet of the Potable Water Storage Tank;
  - (viii) potable water at just before the Output Water Delivery Point;
- (j) site security, site fencing, plant roads and access control system, plant and building access control system;
- (k) fire detection and protection system, very early smoke detection and alarm system, firefighting system including fire water storage tank, fire hydrants and potable fire extinguishers throughout the Project Site.

### 12.3.9 INSTRUMENTATION AND CONTROLS

12.3.9.1 The instrumentation and control system are sized for Guaranteed Supply Capacity and shall comprise:

- (a) Plant Control System incorporating Supervisory Control and Data Acquisition (SCADA), Programmable Logic Controllers (PLCs) and integrated system through internet;
- (b) plant instruments, control elements and remote equipment;
- (c) shielded data highway (including dual-redundant fibre loop) connecting all plant items;
- (d) engineer and operator workstations and a control desk with a Mimic and HMI Panel for operator information;
- (e) all required hardware, servers, software, redundancy;
- (f) local control panels, emergency stop devices, hard-wired controls and interface terminals;
- (g) alarm management system and reporting system;

- (h) instrumentation cabling and segregation with power supply system;
- (i) secure power supplies and dual-redundant UPS system;
- (j) remote communications facilities and integration;
- (k) plant communication system, CCTV and cameras, electronic security/access control system;
- (l) interface with KWSC's system;
- (m) redundancy and other features required to ensure Guaranteed Supply Capacity, guaranteed performance, operational control and operational flexibility.

#### 12.3.10 ELECTRICAL SUPPLY SYSTEM

12.3.10.1 The Electrical supply system shall be sized for Guaranteed Supply Capacity for transmission lines and up to the inlet to the step-down transformer and shall comprise:

- (a) power supply infrastructure, Electrical substation, step-down transformers, electrical isolation (breakers), cabling, bus ducts or any required connection to the Power Grid of K-Electric;
- (b) electrical conduits provided for the Desalinated Water Supply System electrical system with the electrical switchgear of the Desalinated Water Supply System and facilities for interconnecting to the Desalinated Water Supply System electrical system;
- (c) electrical switchgear, motor control centre, electrical isolation (circuit breakers), cabling, cable management system, cable trenches, cable draw-pits, conduits;
- (d) construction required by the Concessionaire including substation and connection to the power grid of K-Electric;
- (e) electrical generators, power management system including plant shut-down system;
- (f) cable management system, cable pits, cable trenches, cable supports, cable terminations and cable segregation;
- (g) fire and smoke detection and protection system for the electrical switch rooms, transformer areas and associated works;
- (h) a diesel generator of sufficient size to power the controlled shutdown of the Desalinated Water Supply System in the event of a complete power outage is to be provided;
- (i) a diesel generator of sufficient power to operate the Desalinated Water Supply System;
- (j) arrangement to measure the power consumption of RO system, high lift Potable Water Pumps and Area Lighting and Administration Building separately.

#### **Important Note:**

The K-Electric is the Electricity Supplier and Concessionaire is expected to liaise with K-Electric and include all required expected works to provide a functional and high reliability Electricity supply.

## **12.4 GUARANTEES AND PLANT PERFORMANCE**

### **12.4.1 SCHEDULE OF GUARANTEES**

The Concessionaire shall ensure that the Desalinated Water Supply System meets, as a minimum, guarantees for the following parameters as part of acceptance Tests as well as during the Operations Period:

12.4.1.1 Potable Water Production Quantity for each train as well as the complete Desalinated Water Supply System;

12.4.1.2 Output Water Quality Specifications for each train as well as the complete Desalinated Water Supply System;

12.4.1.3 energy efficiency of the Desalinated Water Supply System;

12.4.1.4 the total leakage of water within the Desalinated Water Supply System shall be nil.

### **12.4.2 OTHER PLANT PERFORMANCE REQUIREMENTS**

In addition to the above guarantees, the Concessionaire shall also demonstrate the following additional performance requirements as part of the Testing and throughout the Operations Period:

12.4.2.1 the chemicals usage for each of the train and the full Desalinated Water Supply System;

12.4.2.2 pressure loss through the cartridge filters;

12.4.2.3 the cost of replacing membranes will be borne by the Concessionaire;

12.4.2.4 plant arrangement is suitable for five (5) MGD of Desalinated Water;

12.4.2.5 quality and reliability of the energy recovery devices;

12.4.2.6 outfall diffuser performance to meet the E&S Approval conditions; including the dispersal requirements of this Agreement;

12.4.2.7 other stakeholder, social and community obligations and key performance outcomes to be delivered.

## **12.5 OPERATION SERVICE**

### **12.5.1 OPERATION MANAGEMENT REQUIREMENTS**

12.5.1.1 The Concessionaire shall provide full O&M Activities to satisfy the performance standards and in accordance with the terms of this Agreement.

12.5.1.2 All O&M Activities shall be performed in accordance with the Legal Requirements, meet the standards set out in this Agreement and Good International Industry Practice standards and will include (without limitation):

(a) operating and maintaining (to include repair and replacement) the Desalinated Water Supply System, including meeting the water quality and quantity obligations and conformance to the agreed dispatch protocol. The Concessionaire shall be responsible for purchasing the necessary chemicals, membranes and other consumables required to achieve plant operation;

(b) providing an annual operating plan; to be approved by the Independent Engineer;

- (c) providing an annual preventative and responsive maintenance and asset condition monitoring plan; to be approved by the Independent Engineer;
- (d) determining appropriate staffing levels and maintaining these levels with competent staff;
- (e) maintaining comprehensive records relating to O&M Activities performance;
- (f) providing reports in terms of this Agreement;
- (g) conducting appropriate inspections and making the O&M Activities available for inspections in terms of this Agreement;
- (h) obtaining and maintaining water, sewer, Electricity and telecommunications services;
- (i) developing, implementing and enforcing of programs for safety, quality assurance and quality control;
- (j) disposing appropriately of all commissioning water, discharge water and concentrate, and other waste, including (without limitation) wastewater and spent chemicals including in compliance with the E&S Laws;
- (k) complying with all permits and Approvals related to the O&M Activities;
- (l) ensuring Concessionaire's key Operation Service Leadership Team is available from the Effective Date and all operators and staff are fully trained and available at least one (1) Month before commencement of commissioning;
- (m) supporting the GoS Parties for maintaining good relationships with water customers, authorities and public (including tours, community relations programs, etc.);
- (n) operating the Desalinated Water Supply System in such a manner commensurate with contemporary practices and the ISO quality and E&S Standards;
- (o) cleaning up and disposing of any chemical spills in accordance with E&S Standards;
- (p) carrying out the services in a safe manner that protects the health and safety of all Project Site personnel and people near the Project Site.

## **12.6 INVENTORY ITEMS AND SPARES**

### **12.6.1 DESCRIPTIONS**

12.6.1.1 Inventory items have been classified as follows:

- (a) Critical Spares:
  - (i) Non-Critical Spares;
  - (ii) Consumables.
- (b) Other related matters are:
  - (i) Warrantied Items;
  - (ii) Asset Replacement Fund Items;

(iii) Damaged Items.

12.6.1.2 The Desalinated Water Supply System is required to achieve a ninety six percent (96%) reliability. If the failure of a part would impact on achieving this reliability, then that part is considered a 'Critical Spare'. Critical Spares must be available and such numbers as to ensure the ninety six percent (96%) reliability is achieved.

12.6.1.3 If the failure of a part did not impact on the plant achieving this reliability, then the part is considered a Non-Critical Spare. A failure in a Non-Critical Spare may, however have other consequences, such as an adverse impact on safety, disruption to the overall functioning or efficiency of the plant, result in a social or environmental non-compliance or adversely affect the operator's reputation. Some Non-Critical Spares therefore play an important part in the inventory of the plant and must be stocked as a mitigation measure to any of the above impacts.

12.6.1.4 Materials are used in the daily maintenance of equipment, such as the replacement of a gasket. These are considered to be 'consumables', and while being kept in an inventory are not considered spares. Consumables are also known as 'sub-assembly parts'.

12.6.1.5 Warrantied Items are any item that comes with a manufacturer's warranty. The Concessionaire is to seek redress from a manufacturer for any warrantied items that malfunction due to a manufacturing fault.

12.6.1.6 Asset Replacement Fund Items are any item that has a nominated asset life greater than or equal to five years and less than or equal to the Operations Period.

12.6.1.7 Damaged Items are those items which become impaired as the result of an act or omission of the contractor, whether intended or unintended. The Concessionaire is to cover the cost of the repair or replacement of damaged items.

12.6.2 OPERATION SERVICE SPARES

12.6.2.1 The Concessionaire shall provide mandatory spares for all systems and facilities identified above including the following:

- (a) the Concessionaire shall provide operation service spares throughout the Operations Period;
- (b) all spares shall be handed over to the KWSC at the end of the Concession Period;
- (c) the assets with the life expectancy of less than five (5) years are not eligible for replacement through the asset replacement fund;
- (d) an inventory of spares is to be maintained throughout the Operations Period.

12.6.3 CRITICAL ITEMS

The Concessionaire shall identify and provide any Critical Items. Critical Items are those items required to ensure the meeting of the delivery requirements for the water. Failure of a critical item would cause a significant disruption to the operation of the works. Critical Items must be available in store on site, and immediately restocked when used.

### **13. PRE-TREATMENT WATER QUALITY**

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- 13.1** The Concessionaire shall design, procure, construct, operate and maintain the pre-treatment system to provide:
- 13.1.1 a filtered seawater to the RO membranes of a quality that fully complies with the membrane manufacturer' requirements, minimizes organic and biological fouling and which satisfies ongoing performance guarantees for the Desalinated Water Supply System;
  - 13.1.2 the required rate of flow, uninterrupted during backwash operations, necessary for operations, over the operational lifetime of Desalinated Water Supply System in accordance with equipment manufacturers' requirements;
  - 13.1.3 a backwash water flow for any media filter to maintain a consistent filter-bed operation;
  - 13.1.4 an arrangement that prevents growth of sunlight-induced biological matter whilst ensuring good access for inspection and maintenance purposes;
  - 13.1.5 protection to the RO membranes from unacceptably high suspended solids loads by including cartridge filters or alternative fine filtration method sized generously to ensure low pressure drop;
  - 13.1.6 integration with a clean-in-place system (as required and in compliance with manufactures recommendations) to condition and maintain system and prevent build-up of excessive fouling and head loss. It must also integrate with an automated waste neutralization and storage prior to disposal in accordance with environmental standards and/or the approved project environmental plan;
  - 13.1.7 arrangement that prevent contamination of treated seawater from airborne particles;
  - 13.1.8 arrangement that will ensure safe shut-down and safety system to prevent harmful chemicals from damaging the membranes or the environment.

### **13.2 POTABLE WATER QUALITY**

- 13.2.1 The Desalinated Water Supply System shall be designed to produce water of quality compliant with the Output Water Quality Specifications set out in **SCHEDULE E (Testing)**.

## **14. GENERAL ENGINEERING, PROCUREMENT AND CONSTRUCTION APPROACH AND CRITERIA**

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### **14.1 DESCRIPTION OF GENERAL EPC APPROACH**

- 14.1.1 The Concessionaire shall consult with the KWSC and the Independent Engineer throughout the design, procurement and construction activities involving the entire Desalinated Water Supply System facilities, access to existing public utilities, power supply to the Project Site as well as establishment of new approach roads (including upgrade to existing roads adjacent to the site), provision of new pipelines, electrical services, other facilities and other utility services in and around the Desalinated Water Supply System.
- 14.1.2 The Concessionaire shall also consult with the KWSC and the Independent Engineer in respect of any works outside of the boundary of the RO plant site such as seawater intake and outfall pipes, seawater intake structures and other brine discharge pipe, etc.

### **14.2 KEY ENGINEERING, PROCUREMENT AND CONSTRUCTION TASKS**

- 14.2.1 The overall project implementation consists of the following general tasks:
- 14.2.1.1 engineering and design. Preparation of all engineering studies and activities needed to complete project design, including but not limited to bathymetric survey, geotechnical survey, topographic survey for construction any other relevant studies;
- 14.2.1.2 preparation of design review packages to achieve design progress;
- 14.2.1.3 mobilization and demobilization for project construction;
- 14.2.1.4 preparation of the project site for construction;
- 14.2.1.5 removal and/or relocation of existing above and underground structures, piping and other facilities, equipment, debris, vegetation and other physical obstacles to execution of project construction located at the Project Site for the five (5) MGD RO plant and or any construction water and other services supply routes;
- 14.2.1.6 identification and removal or alleviation of surface and subsurface obstacles along the route of the intake and discharge piping and on or above the intake pump station, the electrical interconnection facilities and the potable water delivery system;
- 14.2.1.7 construction of electrical supply facilities for interconnecting the Desalinated Water Supply System electrical system from the electrical conduits for the desalination plant electrical system with the electrical switchgear of the Desalinated Water Supply System;
- 14.2.1.8 specification of equipment (aligned with the performance requirements in terms of this Agreement);
- 14.2.1.9 selection of vendors for all mechanical, electrical and instrumentation equipment, membranes, cartridge filters and consumables. Managing of all vendors and logging and exercising all warranties to ensure the efficient highest quality and defect-free products as well as on-time delivery. Completion of final design;
- 14.2.1.10 preparation of design review packages and other deliverables as required to achieve overall plant performance, durability and quality;
- 14.2.1.11 obtaining design, procurement and construction related Approvals ensuring that any assistance or support required from KWSC is identified as soon as possible;

- 14.2.1.12 ensuring timely procurement, manufacture, delivery, unloading, unpacking, inspection, installation and testing of equipment;
- 14.2.1.13 integrate construction of works to ensure safety of personnel, assets and environment;
- 14.2.1.14 pre-commissioning and commissioning of individual equipment, items of plant and entire systems using a consistent step-by-step methodology prioritizing early operation of the seawater intake and brine systems, pre-treatment system and treatment systems – so that each system is reliable and can support uninterrupted operation of the entire system in a safe and reliable manner to produce Desalinated Water;
- 14.2.1.15 performance testing in terms of **SCHEDULE E (Testing)**;
- 14.2.1.16 training of plant operations personnel;
- 14.2.1.17 preparation of works operation service systems, standard procedures and manuals;
- 14.2.1.18 preparation of works “as-built” Construction Drawings;
- 14.2.1.19 provision of construction, commissioning and operation service spare parts for all items of plant.
- 14.2.2 An indicative list of Concessionaire’s key responsibilities is summarized in Table 22. Other items (where noted in other parts of this Agreement) may be added to this list to make it comprehensive.
- 14.2.3 The KWSC shall have the right to seek information, updates and right to inspect works listed works in this Table 22 or other works that are part of the package. The Concessionaire shall consult and coordinate with the KWSC to ensure ongoing Approvals (as required to progress all works noted in Table 22).

**TABLE 22 - CONCESSIONAIRE’S KEY RESPONSIBILITIES**

NO	DESCRIPTION
<b>1.</b>	<b>PROJECT MANAGEMENT/ADMINISTRATION</b>
1.1	Project Management and Coordination
1.2	Initial and Ongoing Design Project Deliverables
1.3	Daily, Weekly, Monthly, Quarterly or Annual Progress and Compliance Reporting
1.4	Any other services required to achieve best Practices in Project Management in accordance with Project Management Standards (including Project Management Institute <a href="http://www.pmi.org/PMBOK-Guide-and-Standards.aspx">http://www.pmi.org/PMBOK-Guide-and-Standards.aspx</a> )
<b>2.</b>	<b>ENGINEERING &amp; DESIGN</b>
2.1	Updates on the Compliance with Environmental Obligations listed in the Environmental Impact Assessment
2.2	Development and Implementation of the Environmental Monitoring Plan
2.3	General Layout, Site Layout, Plant Layouts and Layouts of key Areas of Work or Interfaces
2.4	Roadway Improvements and New Access Roads
2.5	Civil/Site Work (grading, paving, drainage, fencing, security, access control and facilities and landscaping)
2.6	Utility Installations and Connections (electrical, water, sewer, telecommunications)
2.7	Connecting Pipelines, Tanks and Utilities Architecture
2.8	Architecture
2.9	Structures
2.10	Power Consumption for entire system
2.11	Chemical area arrangement and chemical usage within entire treatment process
2.12	RO projection
2.13	Site Landscaping

NO	DESCRIPTION
2.14	Plumbing and Drainage
2.15	Fire Protection
2.16	Heating, Ventilation and Air Conditioning systems (including exhaust systems) and linkage to fire detection & protection systems.
2.17	Electrical systems
2.18	Programming Logic Controllers and SCADA system, servers, IT infrastructure (fibre loops)
2.19	A full set of process and instrumentation drawings (P&IDs)
2.20	Process Instruments and hardwired control systems for all systems including seawater intake, outfall and the entire Works
2.21	Digital Communications
2.22	Process Equipment Layouts
2.23	Process Equipment Design Integration
2.24	Equipment Utility Connections
2.25	Signage for the Construction Site
2.26	Intake Pumps
2.27	Pre-treatment Facilities
2.28	Waste Discharge Systems
2.29	Cartridge Filters
2.30	RO Pumps, Pipework and associated works
2.31	RO Trains & Clean-in-Place System
2.32	Energy Recovery System
2.33	Chemical Unloading, Handling, Feed and Monitoring Systems
2.34	Re-mineralization Equipment and Controls
2.35	Potable water Storage Tank and associated works
2.36	Potable water Pump Station
2.37	Potable water conveyance including required pipework connections, air valves, scour valves, isolation valves, pipe supports, bridge crossings, recirculation lines, drains, vents and instrumentation
2.38	Process Control Panels (Local Panels and Remote Terminal Units)
2.39	Valves & Piping
2.40	Spare Parts (including start-up/construction spares, commissioning spares and Operation Service spares) and Spare Parts storage
2.41	Transfer Pumps
2.42	Chemical Storage Tanks, Bunds and Pipe Connections for Loading, Unloading and Cleaning. All required level indication and alarms to prevent over-flow
2.43	Hoists & Cranes
2.44	Electrical Metering Equipment
2.45	Transformers
2.46	Three phase Standby Generator
2.47	Electrical Switchgear
2.48	Electrical Control Panels
2.49	Cables, Conduits & Trays
2.50	Power and Control Wiring
2.51	Indoor/Outdoor Lighting
2.52	Grounding/Earthing (including visible earthing provision) for all items of plant
2.53	Lightning and Corrosion Protection Systems
2.54	Fire Protection/Detection/Alarm Systems. Early smoke Detection and Alarm systems
2.55	Yard Piping
5.56	Seawater Intake Structure, Grilles and Intake Conduits (Intake System)
2.57	Potable water system
2.58	Service Water and Air
2.59	Valves & Instruments
2.60	Annunciation Panels

<b>NO</b>	<b>DESCRIPTION</b>
2.61	Computers, printers, scanner etc
2.62	Laboratory Equipment
2.63	Furnishings and Office Equipment
2.64	Any other Engineering and Design effort to achieve highest standards of Safety, Environmental Compliance, Public Health, Equipment and Plant Guarantees, Plant Performance, Plant Availability and Durability (Design Life)
2.65	Training and involving the KWSC's Staff in design
<b>3.</b>	<b>CONSTRUCTION SERVICES</b>
3.1	Supply of Power, Water and Other Utilities, Services, Chemicals, and Consumables during the Time of Works Construction, Pre-commissioning and Acceptance Testing Through to Completion
3.2	Relocation of Existing Utilities & Piping
3.3	Building Erection
3.4	Equipment Installation
3.5	Temporary Ground Access
3.6	Outdoor Lighting and Security Systems
3.7	Fencing and Access Control Gates and System
3.8	Any other Construction services to achieve highest standards of Safety, Environmental
3.9	Compliance, Public Health, Equipment and Plant Guarantees, Plant Performance, Plant Availability and Durability (Design Life)
<b>4.</b>	<b>EQUIPMENT PROCUREMENT</b>
4.1	Specification Preparation, Equipment Selection, Purchase & Delivery and Installation
4.2	Review & Analysis for Compliance with Specifications
4.3	Placement of Purchase Orders and Issuance of Subcontracts
4.4	Packing, Marking, Shipping, Expediting, Inspecting, Shipping, International Shipping, Customs, In-land and air transport and all required services to ensure equipment is delivered to site timely and in the best possible condition
4.5	Processing of Invoices for Payment
4.6	Construction materials such as concrete, rebar, small diameter piping, etc., supplied by the Concessionaire
4.7	Initial Set of Equipment Spare Parts (for start-up, commissioning and operation)
4.8	All other items that are included in the Engineering & Design
<b>5.</b>	<b>SITE WORK</b>
5.1	Site Preparation Including Demolition & Relocation of Existing Facilities and Piping
5.2	Roadway Improvements and New Access Roads
5.3	Civil / Site Work (grading, paving, drainage, fencing)
5.4	Utility Installations & Connections (electric, water, sewer, telephone)
5.5	Foundation & Slab Installation
5.6	Building Installation
5.7	Plumbing Installation
5.8	HVAC Installation
5.9	Fire Protection Equipment Installation
5.10	Electrical Power, Grounding, and Lighting Installation
5.11	Instrumentation and Control System Installation, Point-to-Point Checks and any required Calibration and Installation of Field Instruments
5.12	Communications Work
5.13	Equipment Installation
5.14	Landscaping
5.15	Signage Installation
5.16	Any other Site Works to achieve highest standards of Safety, Environmental Compliance, Public Health, Equipment and Plant Guarantees, Plant Performance, Plant Availability and Durability (Design Life)
<b>6.</b>	<b>CONSTRUCTION MANAGEMENT</b>

<b>NO</b>	<b>DESCRIPTION</b>
6.1	Construction Supervision
6.2	Construction Inspection, Quality Assurance (Inspection and Test Plans) and Quality Control
6.3	Shop Drawing Reviews
6.4	Coordination of Field Requests for Information
6.5	KWSC Liaison
6.6	Progress Reporting
6.7	Cost & Scheduling
6.8	Records & Document Maintenance
6.9	Equipment Receipt
6.10	Bulk Receipt
6.11	Safety management systems, equipment and clothing
<b>7.</b>	<b>COMMISSIONING AND ACCEPTANCE TESTING</b>
7.1	Pre-Commissioning Planning and detailed Commissioning Plan
7.2	Supply of Consumables (power, water, chemicals, etc.) during Commissioning and Acceptance Testing and all required spares
7.3	Training to all Operators, Supervisors, Subcontractor and KWSC staffs
7.4	Providing Temporary Operation Service Staff During Commissioning and Acceptance Testing and Assisting the KWSC with Retaining and Training of Permanent Operation Service Staff
7.5	Preparation of Operation Service Manuals
7.6	Start-up and Commissioning of Process and Non- Process Systems of Both Full-Scale Plant
7.7	Final Acceptance Testing, Data Analysis and Reporting
7.8	Punch Listing and rectification of all Defects
7.9	Final Project Documentation
7.10	Transfer of SWRO Desalination Plant to the KWSC upon completion of the Concession Period
<b>8.</b>	<b>PLANT OPERATION</b>
8.1	One-Year Engineering Support to KWSC after the Completion of the Concession Period
8.2	Personnel
8.3	Operation Service
8.4	Chemicals
8.5	Insurance
8.6	Membranes
8.7	Operations Licenses/Regulatory Compliance
8.8	All Required Facilities and Services for the full Operation Service Scope
8.9	Obtaining ISO Standard for the Plant

14.2.4 The Concessionaire is responsible for providing adequate and competent resources for undertaking the Project. As an indication, the following key personnel are suggested.

**TABLE 23 - CONCESSIONAIRE'S KEY PERSONNEL DURING CONSTRUCTION PERIOD (MINIMUM REQUIREMENT)**

<b>NO.</b>	<b>POSITION</b>	<b>MINIMUM QUALIFICATION</b>	<b>TOTAL WORK EXPERIENCE [YEARS]</b>	<b>EXPERIENCE IN SIMILAR WORK [YEARS]</b>
1.	Lead Design Engineer (Treatment Process)	Bachelor degree or equivalent in Mechanical / Chemical Engineering	15	10 Must include SWRO desalination plant experience
2.	Design Engineer (Civil / Structural Design)	Bachelor degree or equivalent in Civil Engineering Masters qualification in Structural Engineering	12	8
3.	Design Engineer (Electrical)	Bachelor degree or equivalent in Electrical Engineering	10	5
4.	Design Engineer (Mechanical)	Bachelor degree or equivalent in Mechanical Engineering	10	Must include SWRO desalination plant experience
5.	Design Engineer (Water Supply & Civil Design)	Bachelor degree or equivalent in Civil Engineering	12	Must include major pipeline design experience
6.	Control Systems/Control Philosophy Specialist	Bachelor degree or equivalent in Mechanical / Process Engineering or Computer Science or Equivalent	12	Must include RO desalination plant experience
7.	PLC and Instrumentation Specialist	Bachelor degree or equivalent in Mechanical / Electrical / Industrial Engineering	12	Must include RO desalination plant experience
8.	Construction Manager – Desalination Plant	Bachelor degree or equivalent in Civil / Mechanical Engineering or Equivalent	15	Must include SWRO desalination plant experience
9.	Construction Supervisor – Intake / Outfall	Bachelor degree or equivalent in Civil Engineering	15	Must include Intake and/or Outfall construction experience
10.	Health and Safety Officer	Bachelor degree or equivalent in Engineering	10	5
11.	Environmental Specialist	Bachelor degree or equivalent in Environmental Management	10	5
12.	Sociologist / Community Development Officer	Bachelor degree or equivalent in relevant field	10	5

#### 14.2.5 DESIGN SERVICES

14.2.5.1 The Concessionaire shall have full responsibility for project design. The design process shall include the following key activities but not limited to:

- (a) engineering of the full-scale plant and all required engineering approval submissions;
- (b) process and mechanical design of the full-scale plant;
- (c) civil and structural design: The standards mentioned below shall be used as applicable; however, other British or other internationally recognized equivalent standards shall be used for specific areas of design;
  - (i) BS 5950 Structural Steel;
  - (ii) BS 5400 Bridges and related structures;
  - (iii) BS 8110 Reinforced Concrete Framed building structures;
  - (iv) BS 8007 Water retaining structures;
  - (v) BS8004 Foundations;
  - (vi) BS 6399 Part 1 Design loading for building - Live Loads;
  - (vii) BS6312 “Design of Buildings for High Winds;
  - (viii) BS 4449 Specification for steel bars for reinforcement of concrete;
  - (ix) BS4461 Rolled steel bars for reinforced concrete;
  - (x) BS 5328 Specifying concrete including ready-mixed concrete;
  - (xi) BS 8110 Part I 1997 – Code of Practice for Design and Construction;
  - (xii) BS 8110 Part II 1985 – Code of Practice for Special circumstances;
  - (xiii) BS 8110 Part III 1985 – Design Charts for Reinforcement elements;
  - (xiv) BS 8007 1987 – Code of Practice for design of concrete structures for aqueous liquids.
- (d) instrumentation & control design;
- (e) electrical systems design;
- (f) development of site layout and architectural plans and specifications;
- (g) specification of Mechanical, Electrical and Instrumentation equipment and items of plant;
- (h) selection of vendors for mechanical, electrical and instrumentation equipment and items of plant;
- (i) development of building, piping and Works layouts and detailed arrangements (and sectional views);

- (j) design of foundations for all structures and equipment;
- (k) design of electrical/mechanical/I&C and other utility systems;
- (l) design of potable water pump station, delivery pipelines, structures and associated equipment;
- (m) design of all equipment, plant and items to ensure safe, efficient and effective use of Desalinated Water Supply System and associated works;
- (n) design for fire detection alarm and protection system according to BS 5839;
- (o) design of standby power supply system for unexpected power failure for the safe shut down of the plant and protect the components of the treatment system and for administrative works;
- (p) design of standby power supply system (generator) to operate at least one train (6 MLD), CIP unit, PLC and SCADA.

#### 14.2.6 DESIGN REVIEW DELIVERABLES

14.2.6.1 The Concessionaire shall prepare all design review deliverables as described below and shall be available to respond to follow-up requests for clarification and to attend meetings associated with the design package review.

14.2.6.2 The following design progress measurement system will be implemented by the Concessionaire to ensure transparency of design deliverables:

- (a) 20% complete - first formal issue of drawing/document/specifications/information for early comments/feedback and design review. This should be submitted within one (1) Month of the Effective Date;
- (b) 45% complete - issue of updated drawings by the Concessionaire following review in terms of this Agreement and resolution of all major issues identified in the design review. Only when this part is completed, should the Concessionaire place major orders. This should be completed within two (2) months of the Effective Date;
- (c) 60% complete - first formal issue to the Independent Engineer for further review and approval. At this stage the Concessionaires shall also complete any change or deviation notices clearly identifying areas where any particular specification requirements cannot be met or an alternate solution is proposed. Concessionaire shall also secure approval from any required authorities. This should be completed within three (3) Months of the Effective Date;
- (d) 75% complete - Issue for Construction (IFC) incorporating any final comments from the Independent Engineer in terms of Article 6. This should be completed within four (4) Months of the Effective Date;
- (e) 90% complete - Further update incorporating feedback from Concessionaire's construction or commissioning teams and enclosing confirmation from the Concessionaire's operation service representative that the drawings/documents will meet the operational requirements for the Desalinated Water Supply System including performance warranty, reliability and operability. At this stage the Independent Engineer may also sign-off the drawings and authorize pre-commissioning and commissioning to take place. This would continue throughout the construction, pre-commissioning and commissioning period;
- (f) 100% complete - when drawings are CAD back-drafted to as-constructed stage. This shall be completed within ninety (90) Days after the issue of the COD Certificate.

#### 14.2.7 CONSTRUCTION SERVICES

14.2.7.1 The Concessionaire shall be responsible for all construction activities, including management of all subcontractors completing portions of the work. The Concessionaire's site manager shall be supported by project engineering staff in the field to resolve technical issues as they develop.

14.2.7.2 Construction activities requiring coordination with the KWSC and the Independent Engineer shall be identified in the Concessionaire's project schedule. Principal areas requiring consultation include:

- (a) construction of intake and outfall;
- (b) connection of the electrical supply system to the K-Electric power supply system;
- (c) re-routing of pipelines passing through the Project Site, as needed if such pipelines are found;
- (d) connection of the Desalinated Water Supply System to the KWSC water supply system at locations and conditions (pressure and flow) designated by KWSC;
- (e) communication, internet and other utilities and services needed for construction and normal operation service of the Desalinated Water Supply System;
- (f) developing Desalinated Water Supply System storm drain system;
- (g) EPC Contractor mobilization and demobilization;
- (h) construction staging areas location, access and use;
- (i) EPC Contractor, subcontractor and other general parking and overall site access;
- (j) EPC Contractor shall secure construction power from the K-Electric;
- (k) use of potable water during construction and commissioning;
- (l) delivery of equipment, materials, chemicals, and other consumables to the site;
- (m) EPC Contractor security, safety, QA/QC and execution plans;
  - (i) RO Membranes: Five (5) to seven (7) years prorated replacement warranty is required based on membrane performance. The replacement of membranes which fail before five (5) years of operation are the responsibility of the Concessionaire;
  - (ii) Cartridge Filters (if used): A minimum of point five (0.5) to one (1) year cartridge filter useful life warranty. All cartridge filters shall be capable of maintaining reasonable performance and the differential pressure increase through the filters shall not exceed 1.0 bar for a period of minimum of eight (8) weeks;
  - (iii) High Pressure RO Pumps, Motors, Energy Recovery Devices (ERDs): A five (5) year extended performance efficiency warranty is required, commencing on the date of satisfactory completion of the tests in terms of **SCHEDULE E (Testing)** and initiation of COD;
  - (iv) Pre-treatment System: A five (5) year extended warranty is required for all primary components of the pre-treatment system, and five (5) year warranty for the membrane modules commencing on the date of satisfactory completion of tests in terms of **SCHEDULE E (Testing)**.

14.2.7.3 Potable water storage tank at the Desalinated Water Supply System and other storage facilities which are part of the potable water distribution system - a 2-year extended warranty is required, commencing on the date of satisfactory completion of Acceptance Test. This tank and other structures shall be built above ground and made of concrete.

14.2.7.4 The agreed Concessionaire's program will become the EPC Contractor's baseline program.

#### 14.2.8 PLANT START-UP, COMMISSIONING AND ACCEPTANCE TESTING

14.2.8.1 Start-up, commissioning and acceptance testing of the both SWRO plant and potable water pipelines shall be the responsibility of the Concessionaire. The Concessionaire shall appoint a dedicated commissioning manager from commencement so that commissioning requirements are considered in the design, procurement, manufacture, and construction stages.

14.2.8.2 Formal plant commissioning and acceptance testing plan for each component of the Project shall be developed to cover these activities as soon as possible and no later than six (6) Months prior to the start of commissioning. This phase of the Project shall culminate in testing in terms of tests in terms of **SCHEDULE E (Testing)**. The Concessionaire shall be responsible for all activities associated with the works start-up, commissioning and acceptance testing.

#### 14.3 PROJECT TEAM ORGANIZATION AND KEY SUBCONTRACTORS

14.3.1 The Concessionaire's organization chart will become the EPC Contractor's organization chart on commencement of the Construction Activities.

14.3.2 All key project task managers of the Concessionaire/EPC Contractor's team are expected to be located in Karachi within a reasonable proximity of the project site for the duration of the activities they oversee.

#### 14.4 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN

##### 14.4.1 DESIGN TEAM QA/QC

14.4.1.1 For each component of the Project, the Concessionaire shall procure from the EPC Contractor a project management plan (the **Project Management Plan**) to describe and communicate to Project personnel the scope of work, goals, objectives and requirements for Project work.

14.4.1.2 One portion of the Project Management Plan shall be the quality management plan (the **Quality Management Plan**), which shall address procedures that the Concessionaire will adhere to ascertain the quality of their work and compliance with all regulatory requirements applicable to Project implementation. An individual shall be assigned as the Project QA/QC manager.

##### 14.4.2 CONSTRUCTION TEAM QA/QC

The Concessionaire shall procure from the EPC Contractor a separate Quality Management Plan for executing the Construction Period of the Project.

##### 14.4.3 INSPECTION

###### 14.4.3.1 Inspection

The Independent Engineer may require that various goods to be supplied under this Agreement conform to the requirements given in this Agreement. If directed by the Independent Engineer, the Concessionaire shall obtain the certificates of inspection from reputed inspection agencies acceptable to the Independent Engineer.

#### 14.4.3.2 Pre-shipment Inspection

- (a) The following materials may be inspected by the Independent Engineer at the factory:
  - (i) RO membranes;
  - (ii) ultra filters membrane (if required);
  - (iii) granular media filter pressure vessels (if required);
  - (iv) RO high pressure feed pumps;
  - (v) LV electrical cabinets, generator sets and all motors;
  - (vi) SCADA, PLC system;
  - (vii) DI/HDPE pipes, fittings, specials and accessories and valves;
  - (viii) any other relevant goods on request of Independent Engineer giving adequate notice.
- (b) Each shipment may be inspected by Independent Engineer before dispatching at manufacturer's factory. The Concessionaire shall organize the inspection and make all arrangements.
- (c) The inspection at the specific manufacturer shall include:
  - (i) introduction to design standards and procedures adopted.
  - (ii) introduction to relevant procedures and quality control standards.
  - (iii) manufacturing process, and Quality Assurance procedure.
  - (iv) testing procedures, mill certificates, product conformity certificate, Quality Management System Certificate and any other relevant certificates etc. regarding the products.
  - (v) packing and dispatching procedure.
- (d) The Concessionaire shall arrange for up to two (2) of the Independent Engineer's personnel for each pre-shipment inspection visit to the country of manufacture. The duration of inspection for each officer shall not be less than five (5) Days excluding travelling to the manufacturer's country and back. All visas, insurance and permits, air fares, taxes, transfer fees accommodation on full board basis and per diem allowance, traveling expenses within the manufacture's country, other minor expenses to perform the inspection during pre-shipment inspection visit at manufacture's country shall be arranged and paid by the Concessionaire under the provided for this purpose.
- (e) The Concessionaire shall submit to the Independent Engineer the reports of all the factory tests to format acceptable to the Independent Engineer including all the conditions of testing, methods, measuring, results and graphs. The Concessionaire shall also submit manufacture's test certificates. Nominated inspection agency should be present during pre-shipment inspection by the Independent Engineer and should assist them for the testing and inspection.
- (f) Any inspections carried out by the Independent Engineer shall not relieve the Concessionaire of its obligations under this Agreement.

## 14.5 SITE ESTABLISHMENT

### 14.5.1 SITE OFFICE

14.5.1.1 The Concessionaire shall provide, erect, furnish, equip, clean, maintain, air condition, heat, light and, if directed, subsequently remove a temporary building as scheduled below for the exclusive use of the representatives of KWSC and their staff at the Project Site. This building shall be adjacent to the Concessionaire's site office at site and are required for the Construction Period only.

- (a) Main Office building, including washrooms, 100 m<sup>2</sup>.
- (b) Sub Office building, including washrooms, 60 m<sup>2</sup>.

14.5.1.2 A car port for at least four (4) cars shall be provided adjacent to the site office to provide shaded accommodation for the sole use of KWSC's staff. Vehicle and pedestrian access to the office shall be maintained and kept free of dirt and other obstructions at all times.

14.5.1.3 The Concessionaire shall supply and maintain the office building, furniture and equipment at least as follow for Main office and Sub Office:

- (a) internal and external entrance door mats and external boot scraper;
- (b) a battery-operated wall clocks;
- (c) four (4) desks with chairs;
- (d) one (1) drawing board, tee square and stool;
- (e) four (4) visitor chairs;
- (f) for the main office a meeting table and chairs;
- (g) two (2) lockable metal filing cabinets with four drawers and all fitments;
- (h) two (2) plan chests with at least 8 drawers each;
- (i) three (3) book cases each 1.2 m long and fitted with 4 shelves 400 mm apart;
- (j) one (1) maximum/minimum thermometer;
- (k) two (2) desktop computers with Intel Pentium 1.7 GHz processors – latest generation processor, minimum 500 Gb hard disks, 4 Gb RAM, Windows Professional, Microsoft Office latest versions, uninterruptible power supply and surge protection device;
- (l) one (1) computer installed with a fully operational Internet, e-mail system with modem;
- (m) 2 x 24-inch monitors for the computers;
- (n) one (1) laptop computer with Intel Pentium 1.7 GHz processors – last generation processor, minimum 500 Gb hard disks, 4 Gb RAM, Windows 8 Professional, Microsoft Office latest versions;
- (o) one (1) printer, HP Laser jet A4 colour;

- (p) one (1) parallel port back-up device;
- (q) all necessary interconnecting cables between the screens, printer and back-up device;
- (r) one (1) dry powder photocopy machine (up to A3 capacity) with printing and scanning option;
- (s) one (1) electronic scientific calculating machine with at least two memories and printer or printing attachment (battery/mains operated);
- (t) one (1) 'tea service' for ten (10) persons;
- (u) one (1) refrigerator of capacity one hundred and fifty (150) litres;
- (v) two (2) kettles;
- (w) four (4) angle poise desk lamps;
- (x) two (2) variable speed floor mounted oscillating fans,
- (y) two (2) gas rings (with gas cylinder and regulator);
- (z) general office and stationery equipment;
- (aa) general purpose cupboards including one with cleaning equipment;
- (bb) lockable cupboard fitted for storage of survey instruments, staffs, tripods and other survey equipment;
- (cc) adjustable blinds on all office windows;
- (dd) four (4) fire extinguishers (CO2);
- (ee) dustbins and wastebaskets.

14.5.1.4 The office and the materials, surface fittings and furniture shall be new.

14.5.1.5 The Concessionaire shall install a telephone system in the office and make all arrangements including payment for connection to the national telephone network. The telephone system shall be suitable for email/internet connection.

14.5.1.6 The offices shall be air conditioned and lit by electricity. The Concessionaire shall maintain light and cold air conditioning in all the rooms and clean daily all rooms, furniture, fittings and WC's. The Concessionaire shall provide full-time attendance on Project Site to carry out these duties.

14.5.1.7 Before placing any orders or delivering any materials or fittings for the offices the Concessionaire shall obtain the approval of the Independent Engineer in writing as to the location and type of the structure and the furniture, fittings, and equipment to be supplied.

#### 14.5.2 TRANSPORT FACILITIES

14.5.2.1 The Concessionaire shall rent and supply vehicles described below for the use exclusively of the representative of KWSC under Section 4.6 of this Agreement.

14.5.2.2 One (1) pickup (4WD) and two (2) 1000 cc vehicles.

14.5.2.3 The Concessionaire will also provide the following fuel allowance in respect of the aforesaid vehicles:

- (a) 300 litres of diesel/petrol for each car per month during the Construction Period; and
- (b) 200 litres of diesel/petrol for each car per month during the Operations Period.

14.5.2.4 The maintenance of the vehicles will be undertaken by the Concessionaire through the authorized distributor of Toyota/Honda vehicles in Sindh.

14.5.2.5 The Concessionaire shall provide automobile liability insurance for the vehicles. This insurance shall cover liability for damage to property of or bodily injury to third parties arising out of the ownership, use and maintenance of motor vehicles owned by the Concessionaire (and used in relation to the Project). The amount insured shall not be less than the amount required under the Laws. The period of insurance will be from the commencement of Construction Period and will be renewed annually till the end of the Operations Period.

#### **14.6 PROJECT IMPLEMENTATION SCHEDULE**

14.6.1 The Concessionaire shall develop a detailed implementation schedule indicating all key design, procurement, manufacture, shipping, customs clearance, unloading, inspection, receipt, construction and commissioning activities as well as all activities associated with the connection of the electrical system and intake and discharge facilities to the power plant facilities.

14.6.2 In addition, the Concessionaire shall provide a proposed project drawdown schedule with monthly milestone levels of project completion.

14.6.3 The detailed project schedule shall delineate clearly the following information and milestones:

14.6.3.1 total duration of the Project implementation;

14.6.3.2 the key dates specified in this Agreement;

14.6.3.3 start date and duration of all key design activities;

14.6.3.4 start date and duration of all construction preparation activities;

14.6.3.5 start date and duration of EPC Contractor mobilization and site preparation;

14.6.3.6 start date and duration of removal of the equipment and piping designated for removal/relocation from the Project Site;

14.6.3.7 start date and duration of construction of the intake and discharge pipelines;

14.6.3.8 start date and duration of procurement and installation of high pressure RO Pumps, Energy Recovery Equipment; High-Pressure Stainless Steel Piping; RO Membrane Elements and any other significant long lead time items, which procurement, installation or start up requires over three (3) Months;

14.6.3.9 start date and duration of construction of intake facilities, intake and discharge interconnecting piping; pre-treatment System; RO system and post-treatment facilities;

14.6.3.10 start date and duration of all inspection and pre-commissioning of all seawater intake, pre-treatment and RO items of plant so that plant is certified complete prior to live commissioning. Start-up, duration of construction, commissioning, and acceptance testing of the potable water delivery system network;

14.6.3.11 anticipated Downtime (if any) for construction during the monsoon season;

14.6.3.12 start date and duration of plant start up and commissioning;

14.6.3.13 start and finish date of the testing in terms of **SCHEDULE E (Testing)**.

14.6.4 The total length of the proposed Project implementation schedule shall include appropriate float to cover key risks and shall not exceed the Scheduled COD.

## **14.7 CIVIL WORKS DESIGN PLAN**

### **14.7.1 GOVERNING CODES AND STANDARDS**

14.7.1.1 All work, materials and equipment shall be designed to comply with, and shall be installed in accordance with the requirements of all legally constituted state and local authorities having jurisdiction, including the building code, state and local ordinances, industrial safety orders, health and safety rules and other applicable standards. Unless otherwise specified in this document the precedent for the use of standards is as follows:

- (a) Good International Industry Practices standards;
- (b) British standard;
- (c) American standard;
- (d) another standard as approved by the Independent Engineer.

### **14.7.2 TOPOGRAPHIC SURVEY FOR CONSTRUCTION**

14.7.2.1 The Concessionaire shall be responsible for the preparation of all topographic information the Concessionaire needs to complete the Project, especially including the seabed for the intake and outfall pipelines. The Concessionaire shall complete detail aerial survey of the plant site during the design and pre-construction phases of the Project, if they deem it necessary.

14.7.2.2 The Concessionaire shall be responsible for developing of the final site layout including the intake and outfall pipelines based on criteria provided herein. Key site development and equipment layout criteria include the following:

### **14.7.3 EXPANDABILITY**

14.7.3.1 The site must be arranged and equipment placed such space and connections are identified for five (5) MGD capacity. In addition, the design shall ensure that future facilities can be installed without significantly disturbing components installed for the first five (5) MGD plant.

14.7.3.2 This means that all infrastructure must allow for the expansions without additional major engineering works.

14.7.3.3 With the exception of assets that have a life less than five (5) years, in general this means that civil works and computer and communication systems must reflect the ultimate plant development while installed mechanical, electrical and electronic works and equipment must be sufficient for the five (5) MGD. Note that incoming power must be able to support the ultimate plant development.

#### 14.7.4 MAINTAINABILITY

- 14.7.4.1 Arrangement of equipment and facilities on the Project Site shall provide adequate access for maintenance. This shall include removal and replacement of individual equipment items. Travelling bridge crane and or forklift access shall be provided to process areas including but not limited to the pre-treatment system; RO system, RO membrane cleaning system; chemical feed areas (in particular chemical storage totes); cartridge filters; and dry chemical storage areas.
- 14.7.4.2 All installed pumps shall be removable for maintenance. Pumps installed indoors (e.g., the RO high pressure feed pumps) shall be accessed by permanently installed facilities (such as a traveling bridge crane).
- 14.7.4.3 Any outdoor pumps shall have properly designed weather protection so that operator and maintenance staff can undertake their works without exposure to the elements.
- 14.7.4.4 Additional space around the RO trains shall be provided to allow membrane removal. Clear space shall be provided to permit withdrawal of pressure vessels from the racks of the RO trains. Clear space of 4.0 to 5.0 meters shall be provided on both ends of each RO train to permit loading of membrane elements.
- 14.7.4.5 Hose bibs shall be provided throughout the Works for general maintenance requirements. Hose bibs, hoses and hose racks shall be spaced to provide complete coverage of the new facilities using standard hose lengths.
- 14.7.4.6 Floor drain gratings in trafficable areas shall be designed so that they take the full load of a Forklift or Mobile Elevated Work Platforms and made from materials that have long life and durability.

#### 14.7.5 ACCESSIBILITY

- 14.7.5.1 Equipment facilities shall be arranged to allow vehicle access (including emergency response vehicles) to all areas of the site so required by local codes, including parking areas and designated chemical delivery routes. This requirement is specifically in addition to any other access required for maintenance.
- 14.7.5.2 Pumps and valves must be safety accessible by maintenance personal without the need for temporary access equipment.

#### 14.7.6 PLAN FOR STAGING/LAYDOWN AREA

- 14.7.6.1 The Concessionaire shall develop a construction staging plan that indicates the location and size of the temporary construction staging (laydown) area, which will be used for storage of equipment, construction, materials, consumables, temporary power supply generators, construction trailers and other facilities which will be required to implement the Project. This plan shall also include parking requirements. The plan must also show any areas of the beach that are proposed to be used as a staging area.
- 14.7.6.2 The Concessionaire shall prepare a layout of the staging area needed for the Project and shall provide it to the Independent Engineer for consideration. The staging area shall be in immediate vicinity of the Project Site at the direction of the Independent Engineer.

#### 14.7.7 GRADING AND DRAINAGE PLAN

- 14.7.7.1 Finished floors of all buildings shall be a minimum 300 mm (0.3 meters) above the maximum existing ground elevation of plant site.

14.7.7.2 Storm drainage from the site of the five (5) MGD plant shall be collected in catch basins and discharged via the outfall, whilst complying with all environmental controls and any E&S Approvals.

#### 14.7.8 SANITARY SEWERAGE MANAGEMENT

Sanitary drainage from the desalination works shall be collected on site and disposed-off safely from the plant site. Drainage waste shall not be released to the seawater.

#### 14.7.9 GEOTECHNICAL SURVEY

The Concessionaire shall be responsible for preparation of detailed geotechnical survey as needed for Desalinated Water Supply System, the intake and outfall pipelines, potable water storage tank and potable water transmission line design and constructions and for any other hydrogeological studies and activities needed for Project implementation.

#### 14.7.10 ROADWAYS

14.7.10.1 Roads shall be designed to provide adequate turn-around for 16-wheel tanker trucks and fire trucks and shall be approved by the jurisdictional fire-fighting agency. Paved areas of the Project Site shall consist of asphalt concrete (AC) paving on aggregate base course over compacted sub-grade and shall be designed such that it can allow the use of 20-ton 16-wheel trucks and the heaviest loaded vehicles required to attend site for construction, operation or maintenance.

14.7.10.2 Thickness shall be as required for wheel load. A liquid asphalt tack coat shall be applied on the base course before laying asphalt concrete paving. A liquid asphalt fog seal shall be applied two (2) Months after completion of paving work. Paving shall extend to all process areas to provide for maintenance access by forklift or other vehicle, as required.

14.7.10.3 Crushed rock conforming to applicable standards shall be provided in and around all equipment areas not abutted by AC paving. A 2-meter wide strip of crushed rock shall be provided around the belowground tanks and 1.5-meter wide strip of crushed rock shall be provided around equipment pads. Portland cement concrete curb and gutter meeting local standards shall be provided on established roadways and parking areas.

14.7.10.4 Maximum road gradients shall not exceed five percent (5%); minimum gradients shall be one percent (1%) in the travelled direction and two percent (2%) cross-fall. Minimum width of roads shall be 6.0 meters. Grading, foundation excavation, and compaction shall be conducted in conformance with prudent engineering practices, all applicable codes and regulations, and shall be inspected by a geotechnical engineer. Testing and inspection shall be conducted in accordance with all applicable regulatory requirements. Excess excavated material and unsuitable material shall be hauled offsite and disposed of at a site approved by local authorities and shall be transported along approved haul routes. All grades shall be sloped away from equipment pads, buildings and structures. All site areas shall be freely draining.

14.7.10.5 Storm water shall be collected on site and utilized for landscaping (if possible). Excess water should be routed to location from which it shall be pumped to the outfall. The design storm duration and intensity shall conform to all applicable Legal Requirements.

#### 14.7.11 EQUIPMENT PADS

14.7.11.1 All equipment items, external supports, control panels, and other similar items shall be mounted on reinforced concrete equipment pads. All chemical storage and feed facilities shall be located in bunded containment areas constructed with reinforced concrete water-stopped, leak-tight curbs, and shall meet all applicable building code requirements. Each containment area shall be sloped to drain to a covered watertight sump.

14.7.11.2 Tanks and equipment shall be located on concrete slabs at least 0.3 meters above the finished floor. Concrete within containment areas shall be lined with an appropriate chemical resistant coating. The Concessionaire shall be responsible for design and construction of all equipment pads, including coordination of all required equipment anchors, electrical raceways, and sub-grade piping.

#### 14.7.12 SEISMIC, FLOODING, MONSOON AND TSUNAMI DESIGN

14.7.12.1 All equipment and facilities shall be suitably designed according to applicable construction code requirements and shall be compliant with requirements associated with extreme conditions such as flooding, monsoon impacts, and seismic and tsunami impacts. It is proposed to raise the site above the surrounding area, and to protect the site by a drainage system. Both actions fall within this Agreement. The site is to be elevated to at least 300mm above the surrounding area. The raised surface level must be suitably contained within a permanent retaining wall. A drainage system suitable for monsoon conditions must surround the site while an internal drainage system must also be installed. Drainage system may discharge their flows on the ocean side of the site in a manner that does not result in erosion. All buildings are to be constructed to the local building code. Buildings must be protected from the ingress of water from surface runoff. All underground conduits and trenches must also be protected from the entry of moisture and surface runoff. All anchor bolts, anchorage components and fasteners shall be constructed of duplex stainless steel of PREn number of forty (40) or higher.

14.7.12.2 The site level, drainage system, buildings and underground conduits and trenches will be checked for these aspects at the design and construction stages.

### 14.8 MECHANICAL WORKS DESIGN PLAN

#### 14.8.1 GOVERNING CODES AND STANDARDS

14.8.1.1 The Concessionaire shall be responsible for the identification, implementation and compliance with all design and construction codes and standards applicable to the Project. The requirements of National and International (where there is not a National) Code and/or Standard (ISO) are to be used. Where not otherwise specified in RFP any variation to this, such as the use of a Code or Standard from a different jurisdiction must be approved by the Independent Engineer. All work, materials and equipment shall be designed to comply with and shall be installed in accordance with the requirements of all Government Authorities having jurisdiction over the Project.

#### 14.8.2 PROCESS PIPING

##### 14.8.2.1 GENERAL

- (a) Within the equipment pads the Concessionaire shall install the piping above grade or in trenches. Above grade piping shall be installed on supports. Any joints, in-line instruments, offtakes or connections must be properly supported. The above grade piping shall be arranged so that unobstructed foot access is provided to the equipment.
- (b) All process piping (excluding vertical train piping) shall be located in the piping trenches. No horizontal piping runs will be allowed to be supported from the pressure vessels or support rack assembly. All trenches shall be covered with plastic or aluminium bar type grating, with banded openings for pipe transitions and valve operating nut access. Grating penetrations for electrical conduit will not be permitted. Piping shall be configured in the trenches to allow required access for maintenance, permit connection to required blind flanges for future equipment, and provide dedicated runs for future piping.
- (c) Concrete Pipe trenches shall be constructed such that they are leak-tight and will not fill with groundwater. If groundwater or surface water (because of area washing, etc.) enters the trench

it shall immediately flow towards a low-point so that all trenches can be de-watered immediately using a sump pump.

- (d) Appropriate number of sump pumps should be provided by the Concessionaire to keep the trenches in a clean and dry condition.
- (e) Concrete pipe trenches that convey chemicals (small bore pipelines, valves, etc.) should be epoxy coated so that concrete in the trenches is not damaged by chemicals. Provision should also be made to quickly remove gratings and install protective barriers and wash-down the pipe trenches on an annual basis and in the event of a spill or flooding, so that the pipe trenches can be accessed for maintenance or inspection as required.

#### 14.8.2.2 PIPING AND VALVES

- (a) All piping and fittings in contact with source (raw) seawater and concentrate (brine) shall be made either of plastic material of type and class suitable for the application, or of super duplex stainless steel of PREn number higher than 40 (i.e., 254SMO, SAF2507, AL-6XN, or Zeron 100). Use of alternate materials is not allowed.
- (b) The Concessionaire shall include a list of materials for all piping and fittings which classifies the piping by the type of water or chemical they convey.
- (c) The Concessionaire shall select pipe materials for all process lines as part of the design. The Concessionaire shall demonstrate that the materials selected are appropriate for the service conditions. This requirement includes, but is not limited to, demonstration by the Concessionaire that:
  - (i) the pipe interior shall not be degraded by the transmitted fluid. The use of pipe lining is permitted. However, the Concessionaire must demonstrate that the lining material will protect the pipe interior from degradation and that the lining material will not be degraded by the transmitted fluid;
  - (ii) the pipe exterior is adequately protected against the exterior environment. This requirement includes but is not limited to the impacts due to: the corrosivity of the soil; UV light; seawater, and the ambient air conditions (i.e., wind abrasion, ambient air temperatures of up to 40°C and air humidity of up to eighty percent (80%)).
- (d) The Concessionaire shall use a fifty (50) year service life for the design of pipes and valves and all pipe materials.
- (e) The following are general criteria, which shall be used in sizing piping systems throughout the Project:
  - (i) maximum velocity in plastic piping systems (including GRP, FRP and HDPE) shall be 2.5 meters per second (m/s), except seawater, which will be limited to maximum velocity of 2.0 m/s; pipes must be fixed to prevent movement due to dynamic loads;
  - (ii) maximum velocity in metallic piping systems shall be 3 m/s (other than seawater systems which shall be limited to 2 m/sec); pipes must be fixed to prevent movement due to dynamic loads;
  - (iii) the minimum diameter of chemical storage system piping shall be 150 mm.
  - (iv) storage tank overflow/drain lines shall be sized to carry the cumulative maximum flow associated with the process inlet line(s).

- (f) Except for control valves, valve sizes shall match the diameter of connected piping. Manual actuators on 5-centimeter (cm) and larger valves shall be gear type. The use gear type actuators for valves that are DN 200 and larger for low pressure applications is acceptable.
- (g) When valves are located above the trench grating, they shall be furnished with geared (manual and motorized) actuators.
- (h) Valves located beneath trench grating shall be furnished with geared actuators. Openings shall be provided in the grating to allow an access to the operating nut with a valve key.
- (i) All outdoor valves and valve operating mechanisms should have proper IP rating and corrosion protection covers supplied.
- (j) Manual valves located more two (2) meters above finished floors or grade levels shall be provided with geared actuators with duplex stainless steel PREn number higher or equal than 40, and with safe permanent access for maintenance. Buried valves shall be enclosed in concrete vaults or in valve boxes with cast iron frames and covers.
- (k) Automatic flow and control valves shall be furnished with electric motors. All automated valve actuators shall be provided with OPEN/CLOSED limit switches, with feedback to the control system for status indication. Modulating actuators shall be provided with position feedback. Local control stations shall be provided incorporating LOCAL/OFF/REMOTE control selector switches and OPEN/STOP/CLOSE pushbuttons for manual valve control in LOCAL mode.
- (l) All pressure piping shall be rated at a minimum of one hundred and fifty percent (150%) of its design maximum operating pressure and shall be fully restrained. The method of restraint shall be in accordance with the pipe manufacturer's recommendation. The use of thrust blocks shall not be allowed. All pressure pipes shall be pressure tested to at least 3.5 bars above the design working pressure.
- (m) The Concessionaire shall provide pipe-coating systems and/or cathodic protection to protect buried metallic pipes from corrosion. Dissimilar metals shall be isolated for protection against electrolysis. The Concessionaire shall demonstrate that adequate corrosion suppression is provided.
- (n) Piping beneath concrete slabs or structures shall be encased in concrete with a minimum of 0.2 m cover. Buried gravity piping shall be sloped uniformly without sags or crests. Minimum cover over buried pipe shall be 1.0 m. All process piping shall be installed with 20 mm vents and drains at pipe high and low points, respectively. Valves and hose connections shall be installed to match the service.
- (o) All vent valve outlets should be piped to site drains or appropriate drains.

#### 14.8.2.3 RO PROCESS PIPING

- (a) All RO membrane train feed piping and fittings shall be made of super duplex stainless steel of PREn number of forty (40) or higher. All welds shall be butt type with one hundred percent (100%) penetration. All stainless-steel assemblies shall be pickled and passivated following welding, and then electro-polished until a homogeneous, polished finish is attained. Connections from the pressure vessel feed/concentrate ports to the pipe manifolds shall be via 90-degree ell weldments with grooved pipe couplings on both ends. The use of fabricated ells will not be permitted. Permeate manifold connections to the pressure vessel permeate ports shall be made using Schedule 80 PVC U-bends, with a union at the connection to the vessel and a grooved pipe coupling at the connection to the manifold. Machine grooves in other PVC piping will not be allowed.

- (b) The RO feed piping pumps and controls shall be designed such that they can withstand pressure surges of at least two (2) times the normal operational pressure of the respective piping. The Concessionaire shall install surge protection equipment such as rupture disks and design the piping such that pressure surges, such as these caused by equipment failure, loss of power, power surges, human error or other water conveyance interruptions do not result in damage of equipment, piping, RO membranes, or other plant components.

#### 14.8.2.4 CHEMICAL PROCESS PIPING

- (a) Chemical transfer and injection piping shall be run on a non-metallic framing system above grade. High points in injection lines, between the metering pumps and injection point are not permitted. All chemical injectors shall be located at the bottom or the side of pipelines. All chemical lines where the chemicals may cause harm to operators or damage to equipment if spilled shall be run in secondary containment piping systems external to containment areas.
- (b) Acid and caustic lines shall not be combined into one secondary containment - but routed separately.
- (c) Transparent enclosures made of Plexiglas or other chemically resistant material shall be installed at injection locations and in containment areas around metering equipment for personnel protection. All connections to chemical storage tanks (excluding vent, overflow, and top entry fill connections) shall be furnished with isolation valves connected directly to the tank flange and adequately supported.
- (d) Necessary permanent fill, drain, flushing and testing connection shall be provided as required to meet the operation service needs for all chemical services.
- (e) The main chemical pump suction outlet line shall be equipped with a motor operated isolation valve which will open when an injection pump starts and close when all injection pumps stop. The Concessionaire is to select the appropriate valve type.
- (f) Piping between the tank connection and valve shall be metallic. All root connections to devices (e.g., calibration columns, pressure gauges, pressure switches, etc.), excluding safety relief valves, shall be installed with isolation valves. Injection line backpressure regulators shall be installed close to the injection point, and shall incorporate block and bypass valves to allow regulator maintenance.

#### 14.8.3 MECHANICAL EQUIPMENT

##### 14.8.3.1 GENERAL

- (a) Plant mechanical equipment shall be provided with lubrication systems that require not more than monthly attention during continuous operation. Lubrication systems shall be provided with convenient grease and oil fittings and drains that are accessible from the operating floor. Oil lubrications systems shall be furnished with constant-level oilers and oil level indicators.
- (b) Rotating parts on equipment shall be enclosed or covered with appropriate coupling guards of stainless-steel construction. Covers shall be designed for ease of installation and removal and shall permit ready access for maintenance. Unless otherwise noted, pumps shall be furnished with mechanical type seals. Seal materials shall be selected for compatibility with the pumped fluid.

### 14.8.3.2 CHEMICAL METERING PUMPS

Pump capacities shall be selected such that the maximum operating requirement is achieved between forty percent (40%) and sixty percent (60%) of the pump average stroke setting. Chemical pumps should have automatic stroke adjustment and should not require manual (operator) adjustments when plant is operated at lower or higher throughput.

### 14.8.3.3 OTHER PUMPS

- (a) All pumps shall be furnished with LOCAL/OFF/REMOTE control stations (in the field or at the control panel). Pumps without a local control station shall have a local mounted LOCK-OUT STOP pushbutton for safety shutdown and emergency stop button. All pumps shall be furnished with a discharge pressure transmitter, pressure gauge and high-pressure switch to provide alarm shutdown.
- (b) In-line pumps shall be furnished with suction gauge and switch as well. Pumps located in a clear well or taking suction from an above grade tank, shall be protected by low-level switches.
- (c) Pumps should have Y-type suction strainers to prevent damage to pumps from any objects that may be left-over from the construction phase. It should be possible to remove the strainer baskets (where appropriate) to reduce pressure drop and improve operational efficiency after initial period of operation.

## 14.9 ELECTRICAL AND INSTRUMENTATION DESIGN CRITERIA

### 14.9.1 GOVERNING CODES AND STANDARDS

14.9.1.1 The Concessionaire is ultimately responsible for the identification, implementation and compliance with all design and construction criteria, codes and standards applicable to the Project. The equipment, materials, installation, and other work shall conform to all applicable regulations, standards, specifications, and codes, which are current as of the date of the final generation of contract documents. As per the latest edition BS 7671 of the IEE wiring regulations.

14.9.1.2 A list of key instrument installation requirements, pertinent to this project, is presented below.

- (a) All Instruments Shall be Installed in Boxes with Transparent Cover at the Front.
- (b) Instrument installations shall conform to all applicable standard and manufacturer specifications and warranty requirements.
- (c) Instrument installation materials, tube, tube fittings and manifolds shall be standardized throughout the project to reduce spare supply inventories and minimize rework time for replacement.
- (d) Instrument hardware manufacturers shall be selected during the preliminary Project design phase and shall be submitted for approval by the Independent Engineer.
- (e) Junction boxes shall be mounted accessible from floor or platforms and junction box doors shall be able to open without interference with personal access or other clearances.
- (f) All instruments shall be mounted at a working level between 1.0 and 1.5 meters above the operating floor. Instruments shall not be mounted on handrails or on a wall which may vibrate or oscillate.
- (g) All process indicators and indicating transmitters shall be mounted in position, which is readable by a Concessionaire without requiring the use of a ladder or the building of platform.

- (h) Temperature and pressure instruments capillary sensors shall be installed and clamped in tube racks on one-inch aluminium channels. Excess capillary tube shall be coiled and clamped to the mounting stand below the instrument.
- (i) Where the process indicator is not visible blind pneumatic field transmitter installation shall be provided with a test connection on the transmitter output for use with a portable test gauge.
- (j) All transmitters shall have IP65 protection rating.
- (k) Instruments located near each other shall be grouped to the maximum extent possible on a common mounting stand, wall bracket or instrument rack.
- (l) Instrument impulse lines shall incorporate a blow down leg or contamination accumulation leg for the removal of dirt and moisture.
- (m) Instrumentation taps to process lines shall be isolated by root valve at the point of connection. Isolation valves for taps to process lines shall be 1/4-turn ball valves of materials compatible with the process fluid. Isolation valves for chemical service shall match isolation valves used in other portions of that chemical piping.
- (n) Critical instrumentation associated with seawater inlet, brine discharge, Potable Water quality or other critical process parameters shall be duplicated and shall not use the same impulse line but have separate process tapping.
- (o) Analysers for primary process lines shall be installed in bypass assemblies external to the main process headers to allow routine maintenance. The assemblies shall include an isolation valve at each process connection tap, pressure regulator; manual sample valve; flow meter with integral flow metering valve, check valve, miscellaneous piping and fittings. Assemblies for analyser sensors, which must remain wetted at all times (e.g., pH or conductivity sensors) shall incorporate a vacuum breaker in the drain piping. Sample drain shall be routed to a hub drain. Drains shall not be routed to a storm water system.
- (p) Each switchboard shall be type tested assembly of switchgear and control gear protection against direct contact, insulation of live parts as defined in BS 5486.
- (q) Final testing and commissioning of entire electrical installation by chartered electrical engineer and submit the certificate as per BS 7671.

#### 14.9.2 INSTALLATION OF CABLES

14.9.2.1 All cables laid below surface level or in trenches are to be installed in PVC conduits and these conduits are to be sealed to prevent the ingress of moisture or water even if submerged.

14.9.2.2 Cables carrying electricity and cables carrying digital communications must be laid in separate conduits to prevent electro-magnetic interference.

#### 14.10 DESIGN STANDARDIZATION

The Concessionaire shall ensure that like equipment items are made by the same (reputed) manufacturers throughout the construction works to minimize spares inventory. Variations from this requirement shall only be allowed by specific approval of the Independent Engineer. The Concessionaire preference shall not be justification for failure to comply with this requirement. Only sound, engineering supported justifications will be considered.

## **14.11 SPARE COMPONENTS AND MAINTENANCE EQUIPMENT**

- 14.11.1 Spare components shall be provided for all critical equipment where delivery of such components to the Project Site would require two weeks or more. In addition, the Concessionaire shall submit a list from each vendor of equipment of suggested spare parts for three years of operation. All components on this list shall be furnished prior to initiating plant start-up activities. For the Desalinated Water Supply System component spares and maintenance equipment furnished by the Concessionaire shall include, but not be limited to, the following:
- 14.11.1.1 for all process pumps, one complete set of bearings, one complete set of wear rings, one (1) complete set of mechanical seals, one mechanical seal maintenance kit, and one complete set of gaskets and O-ring seals;
  - 14.11.1.2 one complete ERD unit and ERD spares recommended by the ERD manufacturer;
  - 14.11.1.3 for all chemical pumps, one set of working diaphragms, one set of check valve assemblies, ten indicating lamp bulbs for the control panel, ten internal fuses, and two relays of each type;
  - 14.11.1.4 one complete chemical pump of each type so that it can be retained as a shop-spare, serviced and kept ready to replace (when required) without a major outage and without need for servicing chemical pumps in-site with the other pumps operating;
  - 14.11.1.5 for each storage tank, provide one complete set of nuts, bolts and gaskets;
  - 14.11.1.6 provide one (1) container of twenty (20) litres capacity each colour and type of paint used;
  - 14.11.1.7 provide one spare of each type and size of drive belt used;
  - 14.11.1.8 spare parts kit for each size and type of backflow preventer;
  - 14.11.1.9 special tools for equipment required for maintenance and dismantling;
  - 14.11.1.10 not less than five lamps, fixture globes, and ballasts of each size and type installed. Preferably LEDs should be used and spare LEDs provided;
  - 14.11.1.11 two (2) spare photocells for exterior lighting, if used.
- 14.11.2 The Concessionaire is responsible for preparing the first-year spare parts list. This list of spare parts shall be submitted with the proposal.

## **14.12 SOCIAL AND ENVIRONMENTAL IMPACTS**

- 14.12.1 The Concessionaire shall comply with all E&S related requirements set out in this Agreement.

## **14.13 COMMISSIONING**

- 14.13.1 The following apply to commissioning:
- 14.13.1.1 the downstream infrastructure cannot be used for commissioning;
  - 14.13.1.2 sufficient infrastructure (such as return pipelines) must be installed to permit full onsite commissioning;
  - 14.13.1.3 metering of return lines is required;
  - 14.13.1.4 onsite valves and meters are to be connected to the site's SCADA system;

- 14.13.1.5 pre-treatment and RO systems will be commissioned at a capacity of five (5) MGD;
- 14.13.1.6 the Concessionaire is to provide full details of protocols and chemicals used to preserve membrane inventory when the plant is operating at reduced capacity;
- 14.13.1.7 the commissioning may comprise individual component (and/or components) commissioning and a whole-of-system commissioning;
- 14.13.1.8 Project components may be commissioned individually or in logical groups as they are completed;
- 14.13.1.9 the downstream transmission pipeline is to be commissioned separately and is not included in the whole-of-system commissioning; and
- 14.13.1.10 the whole-of-system must be commissioned in full operating mode prior to the issuing of the COD Certificate.

#### **14.14 OTHER EPC MATTERS**

##### **14.14.1 INTERFACE TO NETWORK**

- 14.14.1.1 the upstream flange of the product water storage tank will be the interface point;
- 14.14.1.2 product water tank working storage must be at least two (2) MGD;
- 14.14.1.3 level in product water tank will be used as the control point for the supply of Desalinated Water;
- 14.14.1.4 both the treatment plant and network will have access to the SCADA from the product water tank and pump station;
- 14.14.1.5 product water storage tank must have a metered overflow return to the waste stream outfall.

##### **14.14.2 MAXIMIZE OPERATIONAL EFFICIENCY**

- 14.14.2.1 Work with the Independent Engineer/KWSC to develop joint plant and network operational protocols which will maximize the efficient operation of both the Desalinated Water Supply System and the downstream network by operating them as one system.
- 14.14.2.2 Work with the KWSC to develop Desalinated Water Supply System and network interface operational protocols which will minimize the wastage of product water by closely matching the supply to the demand.

##### **14.14.3 PEAK DEMAND**

Water produced by the Desalinated Water Supply System shall meet the Guaranteed Supply Capacity. The product water tank and downstream storages, and possibly groundwater supplies, will be used to damp out the diurnal demand. As the Project progresses further work on modelling this system will be undertaken.

##### **14.14.4 END OF OPERATIONS PERIOD**

14.14.4.1 At the end of the Operations Period the following are required:

- (a) People: Ensure that staff from the KWSC can fully and competently assume the operations and maintenance of the assets;

- (b) Assets: Ensure that the assets are in a condition that would be expected given their respective ages and typical wear and tear;
- (c) Systems: Ensure that all systems, processes and procedures are documented and current and all drawings up to date;
- (d) Spares: Ensure that adequate spares and other inventory are provided.

14.14.4.2 A Transition Plan must be available for implementation three (3) years prior to the end of the Concession Period.

14.14.5 LIST OF CONCESSIONAIRE'S DOCUMENTS REQUIRING APPROVAL

The Concessionaire shall obtain the approval from the Independent Engineer for following documents:

- 14.14.5.1 Asset Management Plan;
- 14.14.5.2 Code of Conduct;
- 14.14.5.3 Commissioning and Acceptance Testing Plan;
- 14.14.5.4 Communications Plan;
- 14.14.5.5 Compliance Register;
- 14.14.5.6 Construction Staging Plan;
- 14.14.5.7 Construction Works Plan;
- 14.14.5.8 Corrosion Protection Plan;
- 14.14.5.9 Data and Information Management System;
- 14.14.5.10 Durability Plan;
- 14.14.5.11 Emergency Management Plan;
- 14.14.5.12 Incident Management Plan;
- 14.14.5.13 Information Management System;
- 14.14.5.14 Maintenance Management System;
- 14.14.5.15 Membrane Preservation Plan;
- 14.14.5.16 Monitoring and Reporting Plan;
- 14.14.5.17 KWSC Staff Capacity Building Plan;
- 14.14.5.18 Operate Service Plan;
- 14.14.5.19 Project Management Plan;
- 14.14.5.20 Quality Management Plan;

14.14.5.21 Risk Management Plan;

14.14.5.22 Safety Management Plan;

14.14.5.23 Security Management Plan;

14.14.5.24 Site Plan;

14.14.5.25 Staff Roster;

14.14.5.26 Standard Operating Procedures;

14.14.5.27 Potable Water Quality Monitoring and Reporting Manual.

## **15. OPERATION MANAGEMENT REQUIREMENTS**

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### **15.1 GENERAL OPERATION MANAGEMENT REQUIREMENTS**

- 15.1.1 The Concessionaire shall be responsible for the O&M Activities for the Operations Period. The O&M Activities shall be performed in a professional, efficient, and economical manner, in accordance with the terms and provisions set forth in this Agreement, and in compliance with all Legal Requirements and Approvals.
- 15.1.2 At all times, the Concessionaire shall keep the Desalinated Water Supply System in good condition and working order, performing services twenty-four (24) hours per Day, seven (7) Days per week.
- 15.1.3 The scope of services during the Operations Period encompasses the operations, management and maintenance of all equipment, instrumentation, processes, facilities, systems, structures, utilities and plant that are acquired or created under this Agreement.
- 15.1.4 Overall operations and maintenance shall be based on the following key objectives:
- 15.1.4.1 meeting of works process and drinking water production goals and performance guarantees;
- 15.1.4.2 protection of the health and safety of the operating staff and any subcontractors or service providers during the Operations Period;
- 15.1.4.3 protection of the environment in compliance with E&S Laws and E&S Standards;
- 15.1.4.4 protection and preservation of the equipment and structures of the Desalinated Water Supply System in good working order such that all equipment and assets achieve their design lives; and
- 15.1.4.5 maximization of operational efficiency.
- 15.1.5 The Concessionaire is responsible for all items that pertain to undertake the O&M Activities in a manner consistent with this Agreement, Good International Industry Practices, E&S Requirements, and in accordance with any relevant Approvals, applicable Legal Requirements, Accounting Principles and the Operating and Maintenance, including:
- 15.1.5.1 management and oversight of Day-to-Day operations;
- 15.1.5.2 works performance analysis and direction of Concessionaire staff to optimize operations and meet the applicable standards in this Agreement;
- 15.1.5.3 process control and testing;
- 15.1.5.4 management and oversight of sampling and monitoring associated with compliance with all applicable standards;
- 15.1.5.5 analysis of faults and performance issues, determining their root cause and taking actions to prevent reoccurrences;
- 15.1.5.6 safety and process training;
- 15.1.5.7 employee training and certification;
- 15.1.5.8 selection of type, quantity and quality of all chemicals needed for O&M Activities and purchase of such chemicals;

- 15.1.5.9 purchase of materials, supplies and services associated with the O&M Activities;
- 15.1.5.10 preventative maintenance, replacement and repair of all equipment, instrumentation, systems, pipelines, and structures of the O&M Activities;
- 15.1.5.11 maintaining of all equipment, process, membrane and other warranties and guarantees by provided by equipment suppliers;
- 15.1.5.12 management and oversight of O&M Activities waste handling and disposal;
- 15.1.5.13 the Concessionaire to provide all required spare parts on COD and the quantity and type of these provided;
- 15.1.5.14 spare parts shall be maintained throughout the Operations Period;
- 15.1.5.15 preparation of reports and data for regulatory reporting and monitoring;
- 15.1.5.16 the Concessionaire shall formally meet with the Independent Engineer, the GoS and the KWSC on a predetermined basis to review performance of services, maintenance issues, and equipment conditions, environmental and permit compliance, and any other relevant issues.

## **15.2 STAFFING**

- 15.2.1 The Concessionaire shall be responsible for staffing during the Operations Period.
- 15.2.2 The Concessionaire will be fully responsible for the daily work and safety the KWSC staff and their competency development. The KWSC will continue to meet the employment costs of its seconded staff. Where disciplinary action is required, the Concessionaire is to refer this to the KWSC which will not ignore such a request where it is impacting on the operation of the infrastructure or the safety of the site.

## **15.3 OVERALL WORKS PROCESS AND EQUIPMENT CONTROL STRATEGY**

- 15.3.1 Source seawater parameters that shall be measured and monitored during the Operations Period shall include but not be limited to:
  - 15.3.1.1 Silt Density Index (SDI2.5);
  - 15.3.1.2 Turbidity;
  - 15.3.1.3 Total Organic Carbon (TOC);
  - 15.3.1.4 Total Suspended Solids (TSS);
  - 15.3.1.5 Algal Content expressed as Algae Concentration of Chlorophyll;
  - 15.3.1.6 parameters defined in Output Water Quality Specifications;
  - 15.3.1.7 Total Hydrocarbons.

## **15.4 PRE-TREATMENT SYSTEM**

The operation of the pre-treatment filtration system shall be based on the overall source seawater conditions and measurement of various physical parameters of the feed water and the filtered seawater including: total hydrocarbons, pH, turbidity, total suspended solids (TSS), total organic carbon (TOC), conductivity, flow, and silt density index (SDI). The pre-treatment system shall be operated in

compliance with all maintenance recommendations of the original equipment manufacturer (OEM) and shall remain compliant with warranty conditions for the duration of the Operations Period. The Concessionaire shall operate the pre-treatment system such that energy and chemicals for its operation are minimized to reasonable levels, which allow maintaining equipment and membrane warranties.

#### **15.5 RO SYSTEM**

The RO system shall be operated to produce consistent permeate water quality which meets all applicable Output Water Quality Specifications to minimize energy use; and to maintain the integrity and performance of the system components, equipment and RO membranes. The RO system shall be operated in compliance with all maintenance recommendations of the OEM contractor and shall remain compliant with warranty conditions for the duration of the Operations Period. The Concessionaire shall operate the RO system such that energy and chemicals for its operation are minimized to reasonable levels, which allow maintaining equipment and membrane warranties and at the same time meet works fresh water daily dispatch requests.

#### **15.6 POST-TREATMENT SYSTEM**

The permeate produced by the RO system shall be conditioned to achieve potable water stability adequate to prevent corrosion of the potable water pipeline and drinking water distribution system, to disinfect the potable water in accordance with the Output Water Quality Specifications.

#### **15.7 MEMBRANE CLEANING AND FLUSHING SYSTEMS**

15.7.1 A permanently piped clean-in-place (CIP) system will be provided for cleaning of the membranes in each RO train in-situ. The membrane flushing system includes a permanently piped membrane flushing system to automatically flush vessels of the RO trains on shutdown to remove residual concentrated feed water. The flushing will be accomplished using system potable water, prior to post-treatment chemical addition.

15.7.2 Additional information to be provided by the Concessionaire includes:

15.7.2.1 typical operational procedures of all key RO membrane cleaning/flushing system components;

15.7.2.2 performance parameters, which will be monitored and controlled to secure adequate RO membrane cleaning;

15.7.2.3 changes of RO membrane cleaning system operations during red tide events (i.e., change in frequency of membrane cleaning, length of cleaning cycle, type of membrane cleaning chemicals, etc.);

15.7.2.4 type, dosage, frequency and duration of application of cleaning chemicals. Specify the anticipated chemical dosages during typical source water conditions; rain events and red tide occurrences.

#### **15.8 WASTE STREAM MANAGEMENT**

15.8.1 The works will generate several liquid and solid waste including:

15.8.1.1 commissioning water;

15.8.1.2 spent filter backwash generated by the pre-treatment system;

15.8.1.3 concentrate generated by the RO System;

15.8.1.4 Waste Membrane Cleaning Solutions generated by the RO system;

- 15.8.1.5 Waste Membrane Cleaning Solutions generated by the pre-treatment system if membrane pre-treatment is used;
  - 15.8.1.6 liquid or solid sludge (sludge cake) from the solids handling system;
  - 15.8.1.7 spent pre-treatment and RO membranes;
  - 15.8.1.8 solids waste (garbage);
  - 15.8.1.9 sanitary wastewater;
  - 15.8.1.10 flush water from RO membrane flushing during temporary RO system shutdowns;
  - 15.8.1.11 off-spec water produced by the pre-treatment system, the RO system or the permeate conditioning system.
- 15.8.2 The Concessionaire shall be responsible for management and oversight of the collection, containment, treatment and disposal of all waste streams generated at the works and listed above and for the operation of all waste stream equipment, facilities and plant outfall.

## **15.9 REPORTING**

15.9.1 Within thirty (30) Days prior to the anticipated COD, the Concessionaire shall develop and submit for the Independent Engineer's approval reporting procedures. As a minimum, the Concessionaire shall provide the following reports:

- 15.9.1.1 incident report;
- 15.9.1.2 monthly operating report;
- 15.9.1.3 quarterly performance report;
- 15.9.1.4 annual operating report.

### **15.9.2 MONTHLY OPERATING REPORT REQUIREMENTS**

15.9.2.1 The Concessionaire shall prepare a monthly operating report (the **Monthly Operating Report**) regarding the Operation and Maintenance performance. This report shall be submitted to the Independent Engineer no later than fifteen (15) Days after the end of the Month.

15.9.2.2 The Monthly Operating Report shall include data pertaining to performance compliance with Approval requirements, Output Water Quality Specifications, potable water and source water flows, and any other information stipulated in this Agreement. The Monthly Operating Report shall also include a description of maintenance activities and emergency services performed during the previous month.

- (a) monthly average Desalinated Water quantity delivered to the Output Water Delivery Point;
- (b) monthly average source water quantity (MLD);
- (c) compilations of the daily flow records with respect to quantities of source water treated and Desalinated Water delivered to the distribution system;
- (d) a summary of all test reports prepared during the Month with respect to source water quality characteristics and parameters specified in this **VOLUME II (Technical Specifications)**;

- (e) a summary of all test reports prepared during the Month with respect to Output Water Quality Specifications characteristics and parameters;
- (f) a projection of the Desalinated Water capacity for both process water and for source seawater for the current Month;
- (g) a description of recommended works or unit shutdowns for maintenance and repairs during the current Month and anticipated during the following Month;
- (h) description of unscheduled repairs;
- (i) a list of significant preventive maintenance activities performed on major pieces of equipment and works during this Month and similar activities anticipated for the following Month;
- (j) any anticipated adverse conditions that may affect the ability of the Desalinated Water Supply System to receive and treat source water and deliver Desalinated Water to the points of connection to the water distribution system;
- (k) the results of any inspections conducted by the Independent Engineer during the current Month, including recommended follow-up actions by the Concessionaire;
- (l) the quantities (units) of electricity used during such Month;
- (m) information on any utility (power, water or other) outages that have occurred during the current Month that have an impact on the ability of the Concessionaire to perform its obligations under this Agreement;
- (n) a description of all incidents wherein the Output Water Quality Specifications and/or quantity standards were not met, including the follow-up actions recommended by the Concessionaire to taken to eliminate or reduce the likelihood of re-occurrence;
- (o) a description of any incidents (hazardous materials emergencies, security breaches, etc.) that adversely impacted operations and the Concessionaire's ability to fulfil its obligations under this Agreement;
- (p) summary of the Concessionaire worker claims filed, third party claims filed, and updates on the status of existing claims;
- (q) semi-annually, an update of the spare parts inventory;
- (r) any other data or information as mutually agreed by the Technical Parties (in consultation with the Independent Engineer).

### 15.9.3 ANNUAL OPERATION REPORT REQUIREMENTS

15.9.3.1 The Independent Engineer jointly with the Concessionaire may conduct a walk through the Project Site to verify that Operations and Maintenance is being properly performed in line with this Agreement. Once per year this review will coincide with a more thorough annual review and preparation of an Annual Operation Report.

15.9.3.2 Approximately two (2) weeks prior to the annual walk-through site review, and not later than thirty (30) Days after the completed Operating Contract Year's operation, the Concessionaire shall submit to the Independent Engineer three (3) copies of the Concessionaire's Annual Operation Report.

15.9.3.3 This report shall include, at a minimum:

- (a) total Desalinated Water quantity (Gallons/year) and annual average Desalinated Water flows of process water and Desalinated Water delivered to the Output Water Delivery Point;
- (b) total annual source water quantity (Gallons/year) and annual average source water flows (MGD);
- (c) all annual potable water quality characteristics for parameters specified;
- (d) a summary of the information provided in the Monthly Operation Reports;
- (e) a summary of environmental and safety regulatory compliance;
- (f) updated Annual Operation and Maintenance Plan;
- (g) an assessment of outstanding issues, including any recommendations for changes to works operation or works equipment.

15.9.3.4 The results from the annual survey will be compiled for use as an annual addendum to the Concessionaire's Annual Operation Report. Approximately two (2) weeks following the distribution of the addendum, the Independent Engineer and the Concessionaire will hold a one (1) Day annual review meeting during which the results of the survey and the Concessionaire's comments and responses will be discussed and all other matters of common interest and concern will be discussed and resolved. The Annual Operation Report will be finalized by the Concessionaire and issued within two (2) weeks of the annual review meeting.

#### **15.10 CONCESSIONAIRE STAFF TRAINING AND DEVELOPMENT**

15.10.1 The Concessionaire shall be responsible for training and development of the staff such that this staff shall can operate the Desalinated Water Supply System in compliance with all requirements and provisions of this Agreement. The purpose of this training is to educate personnel about the proper procedures associated with the Operation and Maintenance. All training shall be documented and the records maintained at the Project Site.

15.10.2 The Concessionaire shall provide a KWSC Capacity Building Plan encompassing three (3) categories: Site Specific Training, Health & Safety Training, and Additional Technical/General Training.

#### **15.10.3 SITE-SPECIFIC TRAINING**

15.10.3.1 All Operation Service personnel will undergo on-the-job training (OJT) exercises with various equipment manufacturers. This OJT program requires the signature of the employee and their trainer to verify that the employee has received and understands the operation, maintenance, and safety aspects of the equipment/material. This section of the plan will outline specific training on the proper operation of new and/or modified equipment at the Desalinated Water Supply System. This training includes, but not limited to, the following parts of the plant:

- (a) intake screens and other facilities;
- (b) pre-treatment system;
- (c) chemical feed system;
- (d) membrane clean-in-place system;
- (e) RO system and equipment;

- (f) instrumentation and control;
- (g) electrical facilities on the RO plant.

#### 15.10.4 HEALTH AND SAFETY TRAINING

The Health and Safety of employees and the environment is essential for the proper Operation and Maintenance. All personnel shall attend Health & Safety training sessions. This training includes but is not limited to:

- 15.10.4.1 acid and base handling;
- 15.10.4.2 electrical safety training;
- 15.10.4.3 sodium bisulphite handling;
- 15.10.4.4 disaster preparedness and awareness;
- 15.10.4.5 sodium hypochlorite handling;
- 15.10.4.6 handling of CIP chemicals for MF and RO systems;
- 15.10.4.7 lock-out/tag-out training (refers to specific practices and procedures to safeguard all workers from the unexpected startup of machinery and equipment or the release of hazardous energy during service or maintenance);
- 15.10.4.8 anti scalant handling;
- 15.10.4.9 emergency response planning.

#### 15.10.5 ADDITIONAL GENERAL TRAINING

In addition to Health and Safety training, employees must be trained on the following site-specific topics:

- 15.10.5.1 Water Quality Assurance/Compliance.
- 15.10.5.2 Laboratory Safety.
- 15.10.5.3 Spill Containment/Slug Control Plan.
- 15.10.5.4 Security Training.
- 15.10.5.5 Evacuation Plan.
- 15.10.5.6 Accident Reporting Procedures.
- 15.10.5.7 Slips, Trips, and Falls.
- 15.10.5.8 Hearing Conservation.
- 15.10.5.9 Using Hand and Power Tools.
- 15.10.5.10 Hazard Communication (designed to ensure chemical safety in the workplace).
- 15.10.5.11 Fire Prevention/Suppression.

## 15.11 OPERATION SERVICE PLAN

### 15.11.1 GENERAL REQUIREMENTS

15.11.1.1 The Concessionaire will manage and oversee the Operation and Maintenance in accordance with an operations and maintenance plan (the **Operation Service Plan**) prepared by the Concessionaire and reviewed and approved by the Independent Engineer. The Operation Service Plan will describe principal aspects of routine and emergency operating procedures, repair and replacement, predictive and preventive maintenance, corrosion protection, staffing and training.

15.11.1.2 The Operation Service Plan will contain as a minimum an overview description of the following:

- (a) Plan for Day-to-Day Operations of the Works (Operations Plan);
- (b) Works Management and Staffing Plan;
- (c) Maintenance, Repair and Replacement Plan;
- (d) Liquid and Solid Waste Stream Handling and Disposal Plan;
- (e) Works Safety and Security Plan;
- (f) Process Safety Management Program;
- (g) Emergency Response Plan;
- (h) Transition Plan.

15.11.1.3 The Concessionaire will provide to the Independent Engineer:

- (a) a preliminary Operation Service Plan forty-five (45) Days prior to the COD;
- (b) a draft final Operation Service Plan thirty (30) Days prior to the anticipated COD, and
- (c) a final Operation Service Plan fifteen (15) Days prior to the COD. The Independent Engineer shall provide a copy of the final draft Operation Service Plan to the KWSC for its review and take into account any comments of the KWSC prior to approving such plan.

15.11.1.4 The Concessionaire will discuss in a good faith with the Independent Engineer any aspect of the preliminary, draft final and final Operation Service Plan. The content of the Operation Service Plan will be consistent with the Concessionaire's ability to perform its obligations in accordance with terms and provisions of this Agreement. The Independent Engineer may also each Operational Year request reasonable updates to the Operation Service Plan.

15.11.1.5 The Concessionaire will update and submit to the Independent Engineer any material changes to the Operation Service Plan at least sixty (60) Days prior to the commencement of each Operating Contract Year for the duration of the Operations Period. Specific requirements related to the individual plans, which are integral parts of the Operation Service Plan are presented in the following sections.

### 15.11.2 OPERATIONS PLAN

The Operations Plan shall describe principal procedures for normal, emergency and standby Desalinated Water Supply System operations to meet the Concessionaire's obligations under this Agreement, including overall Desalinated Water Supply System start-up and shutdown during unusual source water quality events (oil spills, severe algal blooms, lagoon siltation, jellyfish outbreaks, etc.) or

other conditions which require such shutdown. The Operations Plan shall contain copies of all permits, licenses, certifications, and other regulatory documents associated with the Concessionaire's service. This plan shall specify all tests to be conducted for the performance of this Agreement, including all sampling and analyses procedures and related QA/QC reports.

#### 15.11.3 WORKS MANAGEMENT AND STAFFING PLAN

The Works Management and Staffing Plan shall include a thorough description of the staffing organization planned to be used by the Concessionaire with description of the roles and responsibilities of each staff position. This plan will include the following:

15.11.3.1 organizational chart;

15.11.3.2 employee resumes/licensing information;

15.11.3.3 employee training schedules;

15.11.3.4 identified critical roles and role coverage and succession.

#### 15.11.4 GENERAL STAFFING REQUIREMENTS

The Concessionaire shall be responsible for staffing of the Desalinated Water Supply System and for payment of all labour costs associated with Desalinated Water Supply System Operations and Maintenance. The Concessionaire will organize the operations work force in shifts and will maintain Concessionaire staffing levels in accordance with this Agreement. The Concessionaire shall ensure that its operations work force is familiar with and complies with all applicable requirements of this Agreement.

#### 15.11.5 LICENSING REQUIREMENTS

The Concessionaire and all staff of the Concessionaire shall comply with the certification requirements for their respective classification level and scope of responsibilities as per the Law.

#### 15.11.6 OBLIGATIONS AND DUTIES OF THE CONCESSIONAIRE

The Concessionaire shall be responsible for performing their obligations stipulated in this Contract in a responsible and professional manner consistent with standard operating practices and all Law. The Concessionaire shall undertake the works under this contract in an open, honest and collaborative way and promptly respond to reasonable requests for information which, where appropriate, will be provided in its raw form.

#### 15.11.7 MAINTENANCE AND REPLACEMENT PLAN

15.11.7.1 The Maintenance Plan shall describe how The Concessionaire will manage and direct staff to:

- (a) preserve the principal process equipment warranties;
- (b) perform predictive and preventive maintenance on all equipment and buildings in accordance with the recommendations of the manufacturer, Good International Industry Practices and this Agreement;
- (c) perform corrective maintenance in such a manner that the equipment operation is not impacted and the performance standards are not threatened;
- (d) perform all maintenance, repair and replacement activities in accordance with Good International Industry Practices and this Agreement;

- (e) prepare reports on maintenance, repairs, and replacements of any major equipment components;
- (f) the Maintenance Plan must contain a comprehensive proposed maintenance schedule including sections matched to plant and equipment warranty requirements. This schedule will be used for monitoring and reporting requirements.

15.11.7.2 The Maintenance Plan shall contain a section describing the plan approach to major maintenance, repair and replacement program. This program shall contain a detailed description of major maintenance, and replacement activities, which are recommended to be performed by the staff over the Operations Period to maintain operability, durability, and reliability.

15.11.7.3 The Concessionaire shall describe the computerized maintenance system they propose to use for the predictive, preventive and corrective maintenance of the Desalinated Water Supply System and indicate their experience with this system in other Desalinated Water Supply System with similar size and complexity, which they currently operate.

#### 15.11.8 GENERAL WORKS MAINTENANCE REQUIREMENTS

15.11.8.1 The Concessionaire shall maintain Desalinated Water Supply System in good working order and repair and in a neat and orderly condition. The Concessionaire shall maintain the aesthetic quality of the Desalinated Water Supply System as originally constructed and subsequently modified, with due allowance for reasonable wear and tear.

15.11.8.2 The Concessionaire shall manage, direct and oversee Desalinated Water Supply System staff to ascertain that they perform all predictive, preventive and corrective maintenance procedures in accordance with Laws, regulations and permits; OEM (original equipment manufacturer) guidelines, conditions of the Approvals, and Good International Industry Practices. Predictive, preventative, and corrective maintenance procedures must be performed as often and as comprehensively as recommended or specified to comply with manufacturer's warranties. The Concessionaire shall maintain all manufacturer warranties on purchased equipment and membranes.

#### 15.11.9 CHEMICALS

The Concessionaire shall procure all chemicals needed for Desalinated Water Supply System operation and shall manage and oversee the delivery, handling and application of the water treatment chemicals used at the Desalinated Water Supply System with all applicable Legal Requirements and Good International Industry Practices. Each chemical load shall be tested for product quality in accordance with the Desalinated Water Supply System standard operating procedures and records of the test results shall be maintained and available for the Independent Engineer review.

#### 15.11.10 EQUIPMENT

The Concessionaire shall manage and oversee Operations and Maintenance such that all equipment is kept in a good operating condition and adequate equipment inventory is maintained to facilitate the repair and replacement of equipment. The Concessionaire shall direct and oversee the Operation and Maintenance of all equipment, and perform or cause the staff to perform all tests as may be required or recommended pursuant to applicable warranties.

#### 15.11.11 BUILDING AND GROUNDS SERVICES

Good housekeeping is an integral part of operations. The Concessionaire shall manage and oversee operations in such manner that all Desalinated Water Supply System buildings, equipment and structures are kept clean and orderly. Equipment oil and grease should be wiped clean after any repair

work is completed. Buildings will be kept clean and neat in accordance with the Good International Industry Practices.

#### 15.11.12 COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS) REQUIREMENTS

- 15.11.12.1 The Concessionaire will develop and implement a comprehensive computer-based maintenance management program that will collect historical data, including an inventory of spare parts, and a description of the repair work performed. As a part of the Transition Program, the Concessionaire shall make available this system to the KWSC and shall train KWSC staff to use the system.
- 15.11.12.2 The Concessionaire shall provide description of its CMMS and include a proposed program for training of KWSC staff to secure smooth transition of plant operations from the Concessionaire at end of the Concession Period.

#### 15.11.13 RO MEMBRANE CLEANING REQUIREMENTS

- 15.11.13.1 The RO membranes shall be periodically cleaned to restore performance in accordance with the manufacturer's recommendations. The frequency of cleaning is dependent upon the degree of fouling experienced by the membrane system. Cleaning criteria shall be based on the normalized flux decline of the membrane treatment system.
- 15.11.13.2 A normalization program shall be provided by the Concessionaire on the main control console in the control room. The normalization calculation algorithm shall be in accordance with the latest version of ASTM D4516-85 (Standard Practice for Standardizing Reverse Osmosis Performance Data) and must also be approved by the membrane manufacturer. Most data required for input to the normalization program shall be collected automatically through the programmable local controller (PLC). The Concessionaire shall collect all other additional data (if any) and input the values in the PLC software interface program daily.
- 15.11.13.3 The Concessionaire shall consult with the membrane manufacturer to obtain the membrane manufacturer's membrane performance guidelines prior to initiating a cleaning. These guidelines shall include the following information for each array:
  - (a) normalized permeate flow, percent decrease;
  - (b) pressure drop over a stage or the system; percent increase;
  - (c) normalized salt passage (or permeate TDS increase); percent increase.
- 15.11.13.4 The Concessionaire shall monitor the key performance parameters listed above daily to determine if the RO system requires cleaning. Additionally, the following conditions will be graphed daily as a troubleshooting tool and to ascertain the performance of the membrane system:
  - (a) Normalized Salt Passage vs. Time;
  - (b) Normalized Permeate Flow vs. Time;
  - (c) Salt Transport Coefficient vs. Time;
  - (d) Water Transport Coefficient vs. Time; and
  - (e) Normalized Differential Pressure (Delta P) vs. Time.
- 15.11.13.5 Cleaning solution make-up water shall be membrane system permeate unless an alternative source is approved in writing by the manufacturer. The Concessionaire shall obtain written

acknowledgement from the manufacturer that the cleaning solution solvent (water) is acceptable quality, the cleaning chemical is approved for use at the indicated strength, and that the proposed membrane cleaning procedure is approved.

- 15.11.13.6 At a minimum, the membranes shall be cleaned in accordance with the manufacturer's recommendations. The manufacturer's advice must be sought on any proposed variation to the recommended cleaning regime (including on the use of chemicals and concentrations).

#### 15.11.14 LIQUID AND SOLIDS WASTE HANDLING AND DISPOSAL PLAN

The Concessionaire shall prepare a detailed Liquid and Solids Waste Handling and Disposal Plan describing the handling, storage and disposal methods and related permitting and transportation requirements of all liquid and solids waste generated at the Desalinated Water Supply System. The plan shall indicate the location of the final disposal site/s and will contain a copy of the most recent permits related to the liquid and solids waste handling and disposal. The Concessionaire shall be responsible for the storage of liquid and solids waste generated by the Desalinated Water Supply System. All relevant staff are to be fully made aware of the contents of this plan.

#### 15.11.15 PROCESS SAFETY MANAGEMENT PROGRAM

A Process Safety Management Program (PSM), as per applicable Legal Requirements, shall be developed by the Concessionaire and included as an integral part of the Operation Service Plan. This program shall be developed in accordance with all applicable requirements and is to include any feedback from operational staff.

#### 15.11.16 EMERGENCY MANAGEMENT PLAN

- 15.11.16.1 The Concessionaire shall prepare an Emergency Management Plan (EMP). The objective of the EMP is to eliminate or minimize personal injuries or property damage that could potentially be the consequence of an emergency. The EMP must properly handle the situation until the emergency authorities (Response Team, Fire Department, Ambulance, Police Department, etc.) can arrive to take over an emergency action. After the arrival of such authorities, the EAP shall advise them and assist them as requested or directed.

- 15.11.16.2 As a minimum, the EMP contents shall address the following issues:

- (a) chemical spill reporting procedures and chemical storage, PPE inspection forms, and spill kit and personal protective equipment (PPE) locations;
- (b) personnel emergencies;
- (c) fire and explosions and fire extinguisher location maps;
- (d) pipe, valve, or pump failure;
- (e) equipment and process failure;
- (f) power failure;
- (g) force Majeure: hurricanes, wind storms, floods, and earthquakes;
- (h) emergency telephone numbers;
- (i) emergency equipment vendors;
- (j) records preservations;

- (k) chemical storage inventory and monitoring system;
- (l) coordinating instructions with public safety agencies and other external emergency organization agreements;
- (m) troubleshooting guides;
- (n) Evacuation Plan including evacuation meeting location and first aid trained personnel;
- (o) weather-related emergency procedures; and
- (p) material safety data sheets.

15.11.16.3 The EAP is to be tested annually by conducting a mock event, a debrief held and lessons learned used to update the EAP.

#### 15.11.17 INCIDENT MANAGEMENT PLAN

The Concessionaire shall prepare an Incident Response Plan that addresses any incident that may arise during the operations and maintenance of the plant and site. Staff are required to be rostered to ensure a trained Incident Manager is available at all times.

### 15.12 OPERATION SERVICE MANUAL

The Concessionaire shall be responsible for preparing and updating of Operation Service Manual which shall integrate key components of an Operations Service Plan into one single document for Day-to-Day use and reference by the personnel. The Operation Service Manual shall be prepared in accordance with Good International Industry Practices.

#### 15.12.1 OPERATION SERVICE CONTENT

The Operation Service Manual shall contain up to date as-built Desalinated Water Supply System information in the following categories:

- 15.12.1.1 System Overview - Introduction and a complete description, to include a schematic of the Desalinated Water Supply System;
- 15.12.1.2 Process Description - including all written Standard Operating Procedures (SOPs);
- 15.12.1.3 controls and logic, including graphic “screen shots” of the computerized works;
- 15.12.1.4 monitoring and control system;
- 15.12.1.5 Operating Procedures;
- 15.12.1.6 Safety Procedures;
- 15.12.1.7 Maintenance Requirements;
- 15.12.1.8 Maintenance Manuals, including all manufacturers’ manuals as may be updated or replaced from time to time;
- 15.12.1.9 Troubleshooting Guidelines - all rotating equipment, membranes, analytical devices and displays, and valves;

15.12.1.10 complete calibration curves of all gauges and meters based on manufacturer recommendations.

15.12.2 STANDARD OPERATING PROCEDURES (SOPs)

15.12.2.1 SOPs shall be incorporated in the Operation Service Manual in writing for all unit processes, including, but not limited to:

- (a) Normal Works Start-up and Shutdown Sequence of Operation;
- (b) Alarm/Emergency Works Shutdown Sequence of Operation;
- (c) Source Seawater Micro strainers;
- (d) Pre-treatment Filtration System;
- (e) Membrane RO System, including High Pressure Pumps and Energy Recovery System;
- (f) Water Stability and Monitoring - Normalization, Silt Density Index, Stiff and Davis Stability Index (S&DSI), and other monitored parameters in accordance with the Operation Service Agreement Documents;
- (g) Potable water Transfer Pump Station;
- (h) Concentrate/Discharge Pump Station and Blending with Power Works seawater;
- (i) Membrane Cleaning;
- (j) Chemical Handling, Storage and Delivery Systems, including chlorination, de-chlorination, coagulant, filter aid, acid, lime;
- (k) Liquid and Solids Waste Handling;
- (l) Power Distribution from the Electrical Substation;
- (m) Auxiliary Systems - Seal water, HVAC, etc.

15.12.2.2 Schematics shall also be incorporated into the Operation Service Manual. Schematics shall include the RO works and the potable water transfer station and pipeline.

**15.13 POTABLE WATER FLOW METERING, MONITORING AND SAMPLING**

The Concessionaire shall be responsible at the Concessionaire's sole cost for the regular calibration and testing of all flow meters associated with the works for which the Concessionaire has operations responsibility.

15.13.1 FLOW METER ACCURACY AND CALIBRATION FREQUENCY

The accuracy of all flow meters shall be in line with the Metering Tolerance and the flow meters shall be calibrated once every six (6) Months but not less often than the frequencies specified by the respective flow meter manufacturers. The calibration shall be completed by a competent entity, which is approved by the membrane flow meter supplier to complete flow meter calibration.

15.13.2 GENERAL MONITORING AND SAMPLING REQUIREMENTS

15.13.2.1 The Concessionaire shall perform sampling, testing, and other analytical procedures set forth in this Schedule. Monitoring and testing shall include, but shall not be limited to:

- (a) source water quality and flow to the Desalinated Water Supply System;
- (b) Output Water Quality Specifications at the Output Water Delivery Point;
- (c) concentrate and other side streams generated at the Desalinated Water Supply System, which are required to be monitored in accordance with the Desalinated Water Supply System waste discharge permit and any other pertinent permits regulating disposal or liquid and solid waste from the Desalinated Water Supply System;
- (d) monitoring in accordance with the ESMP.

15.13.2.2 The applicable monitoring and testing will be completed at Concessionaire’s expense and Concessionaire shall be responsible and liable for conducting the analyses recommended by the Independent Engineer. The analyses shall be conducted at an on-site laboratory or at certified outside service laboratory.

15.13.2.3 The Concessionaire shall implement and maintain a laboratory QC/QA program. The QC/QA program shall be conducted and documented per Good International Industry Practices.

15.13.2.4 The Concessionaire shall collect, compile, and review data generated by or received from all testing laboratories for all applicable regulatory permits and operating reports, and shall forward the results from the laboratory to the Independent Engineer.

15.13.2.5 For each Month during the Operations Period, the Independent Engineer shall measure, monitor, and report as a minimum the following parameters:

- (a) source water temperature measured at the point of feed to the process and potable water the RO systems (degrees Celsius);
- (b) source water total dissolved solids concentration measured at the feed pumps to the RO system (mg/L);
- (c) source water conductivity measured at the feed pumps to the RO system (micro mhos/cm);
- (d) daily and total Desalinated Water flows for the current Month measured at the Output Water Delivery Point (Gallons/Month);
- (e) total works power consumption for the current Month measured using a power quantity measurement (PQM) device. The power information indicated above shall be included in the Monthly Operations Report.

15.13.3 WATER QUALITY MONITORING REQUIREMENTS - RAW WATER

This is a guideline only and shall be finalized by the Independent Engineer.

**TABLE 23 - WATER QUALITY MONITORING REQUIREMENTS - RAW WATER**

PARAMETER	HOURLY/DAILY	WEEKLY	MONTHLY
Total Dissolved Solids, mg/L / Conductivity, mS/cm			
Temperature, °C			
Turbidity, NTU			
Total Suspended Solids (TSS), mg/L			
SDI <sub>5</sub>			
Oxidation Reduction Potential, mV			

PARAMETER	HOURLY/DAILY	WEEKLY	MONTHLY
Chlorophyll a, µg/L			
Total Organic Carbon (TOC), mg/L			
pH, Units			
Total Hydrocarbons, mg/L			
NO3/ Phosphates, mg/L			
Volatile Organic Compounds			
Total Coliforms, cfu/100 ml			
E. Coli, cfu/100 ml			

15.13.4 WATER QUALITY MONITORING REQUIREMENTS - DESALINATED WATER

This is a guideline only and shall be finalized by the Independent Engineer.

**TABLE 24 - WATER QUALITY MONITORING REQUIREMENTS - POTABLE WATER**

PARAMETER	HOURLY/DAILY	WEEKLY	MONTHLY
<b>1. PHYSICAL REQUIREMENTS</b>			
Colour			
Odour			
Taste			
Turbidity (NTU)			
pH			
<b>2. CHEMICAL REQUIREMENTS</b>			
Chloride (as Cl) (mg/l)			
Free Residual Chlorine (as Cl) (mg/l)			
Alkalinity (Total as CaCO <sub>3</sub> ) (mg/l) Free			
Ammonia (mg/l)			
Albuminoid Ammonia (mg/l)			
Nitrate (as NO <sub>3</sub> ) (mg/l) Nitrite (as			
NO <sub>2</sub> -) (mg/l) Fluoride (as F-) (mg/l)			
Total Phosphate (as PO <sub>4</sub> ) (mg/l) Total			
Dissolved Solids (mg/l) Total Hardness			
(as CaCO <sub>3</sub> ) (mg/l) Total Iron (as Fe) (mg/l)			
Sulphate (as SO <sub>4</sub> ) (mg/l) Oil and			
Grease (mg/l) Calcium (as Ca) (mg/l) Magnesium			
(as Mg) (mg/l)			
Sodium (as Na) (mg/l)			
Manganese (as Mn) (mg/l)			
Boron (mg/l)			
<b>3. OTHER PARAMETERS</b>			
E Coli and Cryptosporidium Lange liar			
Saturation Index (LSI) Total			
Recoverable Hydrocarbons			
Heavy metals(Cd, Cr, Pb, Hg, Cu, As etc)			

15.13.5 WATER QUALITY MONITORING REQUIREMENTS - CONCENTRATE / WASTE DISCHARGE WATER

This is a guideline only and shall be finalized by the Independent Engineer.

Parameters	Daily	Monthly	Yearly
Total suspended solids			
Total dissolved solids			
pH at ambient temperature			

Biochemical oxygen demand (BOD <sub>5</sub> in five Days 20°C)			
Temperature at the measure point			
Oil and grease			
Chemical oxygen demand (COD)			
Dissolved Phosphates			
Ammonia nitrogen (as N)			
Total residual chlorine (as OCL)			
Fluoride (as F)			
Cadmium (as Cd)			
Chromium, total (as Cr)			
Copper (as Cu)			
Lead (as Pb)			
Mercury (as Hg)			
Nickel (as Ni)			
Faecal Coiform level			

#### 15.13.6 WORKS SOURCE WATER MONITORING

15.13.6.1 Within thirty (30) Days prior to the anticipated COD, the Concessionaire shall develop and submit for the Independent Engineer's approval a Works Source Water Monitoring Protocol, which shall define the exact location, frequency and type of samples recommended to be collected by the Concessionaire for source water monitoring. In addition to the intake seawater monitoring requirements, this protocol shall incorporate as a minimum the requirements listed below.

15.13.6.2 For each Month during the Operations Period, the Concessionaire shall cause to be measured, monitor and report to Independent Engineer at a minimum the following intake source water quality parameter:

- (a) Monthly Average Source water temperature measured at the source water intake pump station of the RO SWRO Desalination Plant (degrees Celsius);
- (b) Monthly Average Source water TDS concentration measured at the source water intake pump station of the SWRO Desalination Plant (mg/L);
- (c) Monthly Average Source water conductivity measured at the source water intake pump station of SWRO Desalination Plant (micromhos/cm);
- (d) Monthly Average Source water total suspended solids (TSS) concentration measured at the source water intake pump station of the desalination plant (mg/L);
- (e) Monthly Average Source water turbidity concentration measured at the source water intake pump station of the RO Works (NTU);
- (f) Monthly Average Source water alkalinity measured at the source water intake pump station of the Desalinated Water Supply System (mg/L as CaCO<sub>3</sub>);
- (g) Monthly Average Source water pH measured at the source water intake pump station of the Desalinated Water Supply System (standard units);
- (h) Monthly Average Source water flow measured at the potable water meter of the Desalinated Water Supply System (Gallons/Month);

- (i) Source water boron and bromide concentrations. Sampling location, sample type and frequency of sample collection shall be determined sixty (60) Days prior to the anticipated COD;
- (j) Source water chloride concentration. Sampling location, sample type and frequency of sample collection shall be determined sixty (60) Days prior to the anticipated COD.

#### 15.13.7 POTABLE WATER QUALITY MONITORING

Within ninety (90) Days prior to the anticipated COD, the Concessionaire shall develop and submit for the Independent Engineer's approval a Potable Water Monitoring and Sampling Protocol, which shall define the exact location, frequency and type of samples recommended to be collected for Output Water Quality Specifications monitoring by the Independent Engineer. This protocol shall incorporate as a minimum-requirements listed below.

#### 15.13.8 MINIMUM MONITORING, SAMPLING AND REPORTING REQUIREMENTS

- 15.13.8.1 The minimum required frequency of measurement and type of samples of the Desalinated Water parameters needed to determine compliance with the Output Water Quality Specifications shall be subject to the approval of the Independent Engineer.
- 15.13.8.2 All sampling and testing shall be completed according to all applicable regulatory requirements and approved testing methods. Testing procedures described by the American Public Health Association shall be used. All costs associated with sampling; monitoring shall be borne by the Concessionaire.

#### 15.13.9 PERMIT COMPLIANCE MONITORING

The Concessionaire shall oversee the compliance with all Approvals and shall report on compliance with these Approvals.

### 15.14 OPERATION SERVICE AND OPERATOR REQUIREMENTS

#### 15.14.1 MANAGEMENT COMMITMENTS AND LEADERSHIP

The Concessionaire must:

- 15.14.1.1 establish policies that are appropriate to the successful performance of the Operation and Maintenance;
- 15.14.1.2 delegate to relevant members of the Concessionaire's management team the responsibility to establish and implement the Operator's Management Plans;
- 15.14.1.3 nominate a suitably skilled and competent person to manage the Operator's Management Plans for effective and successful implementation and delivery of the Operation and Maintenance;
- 15.14.1.4 establish a management review mechanism within the Concessionaire's management team to regularly review and improve the effectiveness of the Operator's Management Plans; and
- 15.14.1.5 create all necessary systems to set-up and operate the Desalinated Water Supply System generally in accordance with ISO Quality and E&S Standards.

#### 15.14.2 WATER SUPPLY PRODUCTION

The Concessionaire must ensure that the Desalinated Water Supply System provides Desalinated Water to the Output Water Delivery Point that meets the Guaranteed Supply Capacity.

#### 15.14.3 AVAILABILITY AND LEVEL OF SERVICE

The level of service reflects the required reliability of the Desalinated Water Supply System to deliver Desalinated Water to the Output Water Delivery Point. The Concessionaire must ensure the Desalinated Water Supply System meets the following minimum availability and level of service requirements:

15.14.3.1 Desalinated Water Supply System should be designed and operated such that the Planned Downtime for the complete Desalinated Water Supply System is minimized and all shutdown activities for individual (or groups of trains) is completed within a maximum of ten (10) non-sequential Days per year (up to 0.8 Days per Month of Planned Downtime to accommodate planned maintenance activities);

15.14.3.2 advance notice of any Planned Downtime in terms of the Main Body; and

15.14.3.3 Unplanned Downtime period for operational reasons not exceeding five (5) Days cumulative in any rolling twelve (12) Months.

#### 15.14.4 SPECIFIC ENERGY CONSUMPTION

The energy consumption requirements in relation to the Project shall be as per the terms of the RFP and this Agreement.

#### 15.14.5 INTAKE SYSTEM

At all times in the performance of the Operation and Maintenance, the Concessionaire must ensure that it complies with the following minimum requirements:

15.14.5.1 intake screens are kept clear of debris and cleaned to a level that does not impair the supply of seawater to the Desalinated Water Supply System;

15.14.5.2 the velocity of seawater initially drawn into the Desalinated Water Supply System, measured at the face of the intake grilles (located at the intake structure) does not exceed 0.15 m/s; and

15.14.5.3 the entrapment of marine biota does not affect the operation of the intake or plant.

#### 15.14.6 PROCESS PLANT

At all times in the performance of the Operation and Maintenance, the Concessionaire must ensure that it complies with the minimum requirements set out in this Agreement.

#### 15.14.7 OUTFALL SYSTEM

The Concessionaire must ensure that at all times in the performance of the Operation and Maintenance it complies with the following minimum requirements.

15.14.7.1 where diffuser(s) form part of the outfall system, they must provide a dilution factor for the full range of operating and tidal conditions;

15.14.7.2 quality of outfall discharge must comply with E&S Approvals;

15.14.7.3 the Concessionaire must undertake outfall monitoring (including water and environmental monitoring) in accordance with the E&S Approvals and as set out in the ESMP.

#### 15.14.8 DESIGN LIFE

The Concessionaire must perform the Operation and Maintenance to ensure the Desalinated Water Supply System (and each individual component) satisfies the minimum design life requirements set out during the proposed Operations Period of twenty-five (25) years.

#### 15.14.9 OTHER REQUIREMENTS

15.14.9.1 The Concessionaire must, at its own cost, provide the Independent Engineer with:

- (a) office space and facilities at the Desalinated Water Supply System (in the administration / control building overlooking the RO system gallery) to the reasonable satisfaction of the Independent Engineer. As a minimum requirement, this must include air-conditioned office space equipped with phone connections, desks, chairs and storage or filing cabinets;
- (b) two (2) computer workstations equivalent to those used by the Concessionaire, each with Desalinated Water Supply System Control System/SCADA access, internet access to a level equal to that used by the Concessionaire. Desalinated Water Supply System Control System/SCADA access must be password protected and must provide visual level access to all areas of the Desalinated Water Supply System i.e. no ability to control or change process set points.

#### 15.14.10 WATER QUALITY TESTS

Tests to determine the quality of the Desalinated Water shall be carried out in terms of **SCHEDULE E (Testing)**.

#### 15.14.11 CALIBRATION AND VERIFICATION OF PERFORMANCE OF DRINKING WATER FLOW METERS

- 15.14.11.1 All flow meter(s) must be subject to at least an annual volumetric test to verify the electronic accuracy.
- 15.14.11.2 Flow testing must not disrupt the normal operation of the Desalinated Water Supply System.
- 15.14.11.3 All volumetric testing should comply with Good International Industry Practices.
- 15.14.11.4 The Concessionaire must provide the Independent Engineer with details of the methodology, including primary equipment required to achieve the desired accuracy.
- 15.14.11.5 The Independent Engineer reserves the right to seek the Concessionaire to provide independent verification of the flow meter testing.
- 15.14.11.6 The flow meters used must be electromagnetic flow meters (not insertion type) and must be calibrated in accordance with the manufacture's specifications.

#### 15.14.12 MANAGEMENT PLANS

- 15.14.12.1 The following plans must be reviewed and updated by the Concessionaire annually and any changes must be submitted to the Independent Engineer for its review and comment:
  - (a) Asset Management Plan;
  - (b) Code of Conduct;
  - (c) Commissioning and Acceptance Testing Plan;
  - (d) Communications Plan;

- (e) Compliance Register;
- (f) Construction Staging Plan vii. Construction Works Plan;
- (g) Corrosion Protection Plan;
- (h) Data and Information Management System;
- (i) Durability Plan;
- (j) Emergency Management Plan;
- (k) Incident Management Plan;
- (l) Information Management System;
- (m) Maintenance Management System;
- (n) Membrane Preservation Plan;
- (o) Monitoring and Reporting Program;
- (p) KWSC Staff Capacity Building Plan;
- (q) Operate Service Plan;
- (r) Project Management Plan;
- (s) Quality Management Plan;
- (t) Risk Management Plan;
- (u) Safety Management Plan;
- (v) Security Management Plan;
- (w) Site Plan;
- (x) Staff Roster;
- (y) Standard Operating Procedures;
- (z) Transition Plan;
- (aa) Water Quality Manual.

15.14.12.2 The Concessionaire's Management Plans must satisfy the requirements of this Agreement.

15.14.12.3 The Concessionaire's Management Plans must:

- (a) consider and address any external requirements including the E&S Approvals, operating licence or local fishing community and other stakeholder needs;
- (b) consider the overall management system, including structure and responsibilities that will be developed and implemented by the Concessionaire to ensure that the Operation and Maintenance comply with the requirements of this Agreement;

- (c) include the any subsidiary plans describing the system requirements, processes and activities relating to specific management functions that the Concessionaire must comply with in performing the Operation and Maintenance and the operation of the Desalinated Water Supply System including safety, environment, communications, risk, critical infrastructure protection, change and incidents.

#### 15.14.13 COMPLIANCE WITH MANAGEMENT PLANS

15.14.13.1 The members of the Concessionaire's management team responsible for specific management functions must be responsible for the Concessionaire's compliance with the relevant Management Plan.

15.14.13.2 The member of the Concessionaire's management team responsible for interface management must be responsible for the Concessionaire's compliance with the Stakeholder Interface Management Plan.

#### 15.14.14 CONCESSIONAIRE'S SELF AUDITS

15.14.14.1 The Concessionaire must plan, conduct and report on self-audits of the implementation and effectiveness of its Operation Management Plan and subsidiary management plans.

15.14.14.2 The Concessionaire must undertake the following activities in planning, conducting, reporting and action findings from self-audits:

- (a) plan and undertake self-audits to demonstrate to the Independent Engineer's satisfaction that the implementation of the Concessionaire's Management Plan and subsidiary management plans complies with the requirements of this Agreement;
- (b) the planning of self-audits must involve the Independent Engineer. The Concessionaire must schedule at least one internal audit each quarter, commencing no later than three (3) Months from the commencement of Operation and Maintenance;
- (c) self-audits are to be conducted by appropriate trained auditors.

15.14.14.3 Self-audits are to review and assess:

- (a) the adequacy of the documented management processes to meet the requirements of this Agreement, as well as requirements of Laws, statutory and other requirements;
- (b) areas where the documented management processes may be improved;
- (c) satisfactory implementation of the documented management processes;
- (d) the maintenance of adequate compliance records by the Concessionaire.

#### 15.14.15 COMPLIANCE OF CONCESSIONAIRE WITH REQUIREMENTS

15.14.15.1 The Concessionaire must include in its Compliance Register the process and activities for ensuring the compliance of its subcontractors with the requirements of this Agreement as well as requirements of Law.

15.14.15.2 The Concessionaire must undertake whatever supervision, surveillance, auditing and other actions required to ensure the compliance of the subcontractor's work.

#### 15.14.16 AUDIT CONDUCTED BY INDEPENDENT ENGINEER

- 15.14.16.1 The Independent Engineer may arrange internal audits of the Concessionaire's procedures, documentation and reporting from time to time.
- 15.14.16.2 The Concessionaire must provide whatever assistance and access is required by Independent Engineer to conduct audits on the Concessionaire and or any of its subcontractors.
- 15.14.16.3 In addition to any planned audits, the Independent Engineer may elect to conduct short notice audits and immediate audits, such as may be necessary following incidents. The Concessionaire must act on the audit findings in the same manner and timeframe as those identified by internal audits.
- 15.14.16.4 Concessionaire's corrective action processes:
- (a) the Concessionaire must establish a corrective action process;
  - (b) the process for the close out of audit findings must involve a management review conducted by the Concessionaire within ten (10) Business Days of the audit report to identify actions to address the corrective actions.

#### 15.14.17 COMPLIANCE RECORDS

- 15.14.17.1 The Concessionaire is to keep all data and records obtained as a result of its Operation and Maintenance under this Agreement and freely make these available to the Independent Engineer upon request. Data and records may be modified or destroyed only with the approval of the Independent Engineer. Compliance records must include:
- (a) registers of supporting information;
  - (b) records referred to in the registers;
  - (c) records relating to internal and external audits;
  - (d) records of close out of non-conformances and audit findings;
  - (e) the Independent Engineer may also request that specific compliance records be submitted for review. The Concessionaire must make such submission within five (5) Business Days of request from the Independent Engineer;
  - (f) in the case of failure to meet Output Water Quality Specifications or quantity, the response time for submission of records to the Independent Engineer should be within twenty-four (24) hours of request from the Independent Engineer.
- 15.14.17.2 All data and records are to be kept secure, are to be backed up and archived regularly and made available to the Independent Engineer.

#### 15.14.18 SITE SECURITY

- 15.14.18.1 All security measures for the Project Site must comply with this Agreement;
- 15.14.18.2 the Concessionaire must operate and maintain an integrated and Project Site-wide security system to prevent unauthorized entry to the Project Site;
- 15.14.18.3 Project Site security must, as a minimum, include and comply with the following:

- (a) Access Control System - working at all times and if damaged must be repaired within one shift;
- (b) Closed Circuit TV - surveillance system working at all times; with one (1) Month additional recording facilities;
- (c) perimeter and inner fences - kept in good state of maintenance;
- (d) electronic gates - kept in good working order at all times;
- (e) intercoms - available at all times;
- (f) security lighting – no more than ten percent (10%) of the area lighting unavailable at any time;
- (g) building perimeter access doors - kept in working order at all times;
- (h) security personnel must attend the location of an attempted or actual security breach or suspicious behaviour within thirty (30) minutes of detection.

#### 15.14.19 ENVIRONMENTAL REQUIREMENTS

- 15.14.19.1 The Concessionaire must integrate and achieve the documented environmental assessment outcomes, commitments and approval obligations for the Project in terms of this Agreement.
- 15.14.19.2 The Concessionaire must always exercise necessary and reasonable precautions appropriate to the nature of the work and the conditions under which the Project is to be performed to protect the environment.
- 15.14.19.3 The Concessionaire must comply with the above requirements and must provide evidence of such compliance upon request by the Independent Engineer.

#### 15.14.20 NON-CONFORMING WORK PRACTICES

- 15.14.20.1 The Concessionaire must establish and maintain documented procedures to address nonconforming work practices and product for all phases of the Project commensurate with relevant clauses of ISO 9001:2000 and ISO 14001:2004.
- 15.14.20.2 The Concessionaire must establish a system of non-conformance reports to record all non-conformances detected and corrective actions.
- 15.14.20.3 Should the Concessionaire detect a non-conformance which presents potential or actual significant or material environmental harm, the Concessionaire must immediately notify the Independent Engineer, cease the nonconforming practice, rectify the nonconforming practice and implement corrective action to prevent reoccurrence.
- 15.14.20.4 Corrective action must include at a minimum full investigation and review of any relevant manuals, procedures and plans.

#### 15.14.21 REPORTING AND PERFORMANCE EVALUATION

The Concessionaire must assess the environmental performance of the Operation and Maintenance and the environmental performance of its subcontractors and report these in its monthly, quarterly and annual reports.

#### 15.14.22 COMMUNICATIONS AND COMMUNITY RELATIONS REQUIREMENTS

15.14.22.1 The Independent Engineer is the managing and approving authority for all communications, and communication related activities and community relations activities for the Project.

15.14.22.2 The Independent Engineer will notify the Concessionaire of any consultation activities, meetings forums and sessions that it requires the Concessionaire to manage, and/or attend throughout the Concession Period.

15.14.22.3 During the Concession Period where the potential impact on affected stakeholders is likely to be significant, the Concessionaire must work with the Independent Engineer and comply with the Independent Engineer's directions regarding engagement with the relevant stakeholders, ensuring that:

- (a) the local community is informed of significant milestones, changed conditions, construction operations and other matters which may be of interest or concern to the community;
- (b) Government Authorities and other affected parties are informed of any relevant activities;
- (c) the Independent Engineer is kept informed of community issues and consulted on decisions affecting the community;
- (d) the specific minimum community requirements are met.

#### 15.14.23 SAFETY MANAGEMENT REQUIREMENTS

15.14.23.1 The Concessionaire must prepare a Safety Management Plan.

15.14.23.2 The Safety Management Plan must describe the functional requirements, processes and activities for safety management relating to the performance of the Operation and Maintenance and the use and occupation of the Project Site.

15.14.23.3 The primary objective of the Safety Management Plan is to ensure that risks to personnel, assets, the work environment and the public arising from this Agreement and the use and occupation of the Project Site are reduced to the lowest level reasonably practicable.

15.14.23.4 The Safety Management Plan must describe the Concessionaire's intentions for achieving the above.

#### 15.14.24 HAZARD IDENTIFICATION AND RISK ASSESSMENT MEETING

15.14.24.1 The Concessionaire must participate in a Hazard Identification and Risk Assessment (HIDRA) prior to commencement of the Operation and Maintenance.

15.14.24.2 A minimum of two (2) full Day meetings will be required (with additional requirements to be negotiated between the Technical Parties).

15.14.24.3 The HIDRA meeting(s) will be arranged and chaired by the Concessionaire, with the Independent Engineer and other Project stakeholders in attendance. The purpose of these meetings is to ensure

that the safety and health risk associated with the performance of the Operation and Maintenance and the use and occupation of the Project Site have been identified, the risks properly assessed, and proposed controls identified.

15.14.24.4 A Hazard Register and hazard control documents must be finalized at this meeting.

15.14.25 SAFETY MANAGEMENT PLAN

The Concessionaire is required to develop and implement safety plans in terms of **SCHEDULE L** (*Environment, Health and Safety Requirements*).

## 16. TRANSITION PLAN

### 16.1 INTRODUCTION

- 16.1.1 A Transition Plan shall be developed and available three (3) years prior to the end of the Concession Period. The purpose of the Transition Plan is to guide the transfer of the Desalinated Water Supply System to the KWSC in terms of this Agreement. The Transition Plan shall comprise four (4) sections; namely: people, assets, systems and spares.
- 16.1.2 It is noted that some of the responsibilities for the successful implementation of the Transition Plan rest with the Concessionaire.
- 16.1.3 Finally, after the handover in terms of Section 21.10 there shall be an ongoing mentoring role for an external party. The purpose of this document is to foreshadow the composition and structure of the Transition Plan and to inform the Concessionaire of its requirements.

### 16.2 CAPACITY BUILDING PROGRAM

It is noted that this Agreement calls for the Concessionaire to provide a general capacity building program for staff. This Capacity Building Program is expected to extend for the Construction Period and the Operations Period and is separate from this Transition Plan.

### 16.3 TRANSITION PLAN - PEOPLE

At the end of the Operations Period, the KWSC shall have a competent operations team capable of operating the Desalinated Water Supply System without oversight. The definition of 'competent' here means a combination of knowledge, experience and attitude. In addition, the KWSC shall have successors to the key roles within the operations team.

#### 16.3.1 TRANSITION PLAN - PEOPLE - POSITIONS

The roles at the treatment plant are divided into two (2) groups which are key positions and support positions. Key positions are those where the incumbent would be required to have full competency at the handover in terms of Section 21.10 whereas support positions are those where the incumbent would be expected to have such competency at the handover as determined by the Independent Engineer. Table 25 summaries these positions.

**TABLE 25 - TREATMENT PLANT POSITIONS**

MANAGEMENT	PROCESS TEAM	MECHANIC AND ELECTRICAL	PLANT OPERATORS	MAINTENANCE TEAM
Key positions				
<ul style="list-style-type: none"> <li>Plant Manager</li> </ul>	<ul style="list-style-type: none"> <li>Process Lead Team</li> </ul>	<ul style="list-style-type: none"> <li>Mechanical Lead Team</li> <li>Electrical Lead Team</li> </ul>		<ul style="list-style-type: none"> <li>Maintenance Lead Team</li> </ul>
Support Positions				
<ul style="list-style-type: none"> <li>Senior Administrator</li> <li>Finance and Procurement Officer</li> <li>Administration Officer</li> <li>IT Officer</li> </ul>	<ul style="list-style-type: none"> <li>Process Engineer</li> <li>SCADA Officer</li> </ul>	<ul style="list-style-type: none"> <li>Mechanical Technician</li> <li>Electrical Technician</li> </ul>	<ul style="list-style-type: none"> <li>Senior Operator</li> <li>Operator</li> <li>Operator</li> <li>Operator</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance Technician</li> <li>Maintenance Technician</li> </ul>

<ul style="list-style-type: none"> <li>• Driver</li> <li>• Groundsman</li> </ul>				
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16.3.2 TRANSITION PLAN - PEOPLE - SELECTION

16.3.2.1 Both the Technical Parties shall be engaged in the selection of the key personnel and shall have an equal say in selecting the recommended candidates. The people shall be selected based upon both the people’s existing knowledge, experiences and attitudes and the potential of those people to grow further into their roles and become future technical leaders.

16.3.2.2 The KWSC shall select all the personnel for the support positions.

16.3.3 TRANSITION PLAN - PEOPLE - KNOWLEDGE

The selected people for the key positions shall be assumed to have a knowledge of their specialty in engineering as reflected by the mandated qualifications. However, there is further knowledge to be gained by undertaking specialized desalination courses and by visiting operational desalination plants.

16.3.4 TRANSITION PLAN - PEOPLE - EXPERIENCE

16.3.4.1 Those selected for key roles would also benefit by working in an operating desalination plant, and provision must be made for this to occur in the region within the last twelve (12) Months of the Operation Period.

16.3.4.2 To broaden this experience, it would also be beneficial to also work in other desalination plants on, for example, one to two (2) Month placements.

16.3.5 TRANSITION PLAN - PEOPLE - ATTITUDE

16.3.5.1 One important characteristic of the operation of a desalination plant is the teamwork of those charged with this responsibility. Very different skill sets are brought together and must work in harmony for the plant to operate at peak efficiency and reliability.

16.3.5.2 It follows that the selection process must include both ‘hard’ (qualification and experience) and ‘soft’ (behavior) selection criteria. Attributes like teamwork and openness, and values like respect and integrity must be explored through interview questions and referee comment with the outcome influencing the selection.

16.3.6 TRANSITION PLAN - PEOPLE - SUCCESSION

The Concessionaire shall prepare a succession plan of each of the key staff. The succession plan shall provide an understudy to each of the key staff (which may or may not be one of the support staff). The key staff successors are expected to participate in all the technical training, and may undertake sabbatical roles at the plant from time to time. However, these staff (unless they are support staff) shall not normally be located at the plant and shall be undertaking other technical duties elsewhere.

**16.4 TRANSITION PLAN - ASSETS**

16.4.1 TRANSITION PLAN - ASSETS - INTRODUCTION

Assets are all those items created as part of the Construction Period. Table 26 provides an overview of these assets.

TABLE 26 - OVERVIEW OF ASSETS

Works Included in Transition Plan			Works Excluded from Transition Plan	
Intake and Outfall Works	Treatment Plant Works	Site Buildings, Services and Amenities Works	Product Water Storage and Transfer Works	Site Access Works
Intake Structure	Pre-Treatment System	Site and Building Access and Security	Storage Tank	New Access Road
Intake Pipeline	Reverse Osmosis System	Electricity Supply and HV Room	Pump Station	Existing Access Road
Intake Screens	Post-Treatment System	Water Supply	Transmission Pipeline	Waterway Crossings Lagoon
Intake Pump Station	Disinfection System	Sewage and Waste Disposal	Connection to Existing Transmission Main	Waterway Crossings Culverts
Intake Dosing System	Neutralisation Pit	Telecommunications		
Outfall Pipeline	Retention Tank	Roads, Parking and Pathways		
Outfall Diffuser	Chemical Storage Area	Landscaping		
	Chemical Unloading Area	Buildings <ul style="list-style-type: none"> <li>• Administration</li> <li>• Store</li> <li>• Store (Membrane)</li> <li>• Laboratory</li> <li>• Workshop</li> <li>• Computer Room</li> <li>• Accommodation</li> </ul>		
Instrumentation and Control Systems (ICS) and SCADA			ICS and SCADA by Others	

16.4.2 TRANSITION PLAN - ASSETS - PROCESS

Handover of the Desalinated Water System shall be undertaken in terms of the process set out in Section 21.10 of this Agreement.

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**VOLUME III - CONCESSION AGREEMENT**

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# **CONCESSION AGREEMENT**

**BETWEEN**

**GOVERNOR OF SINDH**  
**(THROUGH SECRETARY, LOCAL GOVERNMENT DEPARTMENT,**  
**GOVERNMENT OF SINDH)**  
**(AS THE GOS)**

**AND**

**KARACHI WATER AND SEWERAGE CORPORATION**  
**(AS KWSC)**

**AND**

**[•]**  
**(AS THE CONCESSIONAIRE)**

**IN RESPECT OF**

**THE CONCESSION TO DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND**  
**TRANSFER**

**5 MGD SEAWATER DESALINATION PLANT**

**DATED [•]**

**AT KARACHI, PAKISTAN**

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## CONCESSION AGREEMENT

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**THIS CONCESSION AGREEMENT** (this **Agreement**) is made on [●] at Karachi, Pakistan by and between:

1. **THE GOVERNOR OF SINDH** (through Secretary, Local Government Department, Government of Sindh) having its office located at [●], for and on behalf of the Government of Sindh (the **GoS**, which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors and assigns);

AND

2. **KARACHI WATER AND SEWERAGE CORPORATION**, a statutory body constituted pursuant to section 3 of the Karachi Water and Sewerage Corporation Act, 2023, with its office located at [●] (**KWSC** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns);

AND

3. [●], a company incorporated under the Laws of Pakistan, with its registered office at [●] (the **Concessionaire** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns).

(the GoS, KWSC and the Concessionaire are hereinafter collectively referred to as the **Parties** and each individually as a **Party**).

## RECITALS

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### WHEREAS:

- A. KWSC invited proposals from interested parties to undertake the Project pursuant to a request for proposals issued on January 20, 2025 (as amended, varied or supplemented, the **RFP**);
- B. the Project has, pursuant to the process described in the RFP, been awarded to the Successful Bidder as set out in the Notification of Award issued by KWSC on [●]<sup>1</sup>;
- C. in accordance with the RFP, the Successful Bidder has incorporated the Concessionaire as a special purpose company to implement the Project and perform the obligations and exercise the rights of the Concessionaire, including the obligation to enter into this Agreement;
- D. the GoS is entering into this Agreement to *inter alia* make payment of and secure, in each case, the Water Tariff Payment, the Termination Payments and any other amounts payable to the Concessionaire under or pursuant to this Agreement;
- E. the Project will consist of Conditions Precedent Activities during the Conditions Precedent Period, the Construction Activities during the Construction Period and the O&M Activities during the Operations Period, in each case, as more particularly described in **SCHEDULE A (Technical Specifications)**;
- F. the Concessionaire acknowledges and confirms that it has, based on the RFP, undertaken a thorough due diligence (including the technical and financial viability and legal due diligence) of the Project and its requirements, and on the basis of its independent satisfaction, is entering into this Agreement for the purpose of accepting the Concession for the implementation of the Project on a DFBOBT basis, in accordance with the terms and conditions of this Agreement;
- G. this Agreement sets out the terms and conditions on which the Concessionaire shall undertake the Project.

**NOW THEREFORE**, in consideration of the mutual covenants contained herein, the Parties agree as follows:

---

<sup>1</sup> Insert the date of the Notification of Award.

## 1. DEFINITIONS AND INTERPRETATION

---

### 1.1 DEFINITIONS

Except when the context requires otherwise, the capitalized terms used in this Agreement (including the Recitals and the Schedules) shall have the following meanings:

**Abandonment** means:

- (a) in relation to the period from the Effective Date until the COD, other than due to a Permitted Event:
  - (i) failure by the Concessionaire to demonstrate to the GoS Parties its ability to perform its obligations under this Agreement (taking into account its ability to accelerate the Construction Activities under the EPC Contracts) such as to demonstrate that the COD will be achieved on or before the Long Stop Date; or
  - (ii) one or more EPC Contracts have been terminated and the Concessionaire has either:
    - (A) failed within forty-five (45) Days after the date of that termination to conclude new EPC Contract(s) approved in accordance with Section 16.3 (*Contractor's Appointment, Project Agreements, Financing Documents and Refinancing*) of this Agreement; or
    - (B) concluded new EPC Contract(s) approved by the Independent Engineer and the GoS within such forty-five (45) Day period, but a new EPC Contractor failed to commence work at the Project Site within thirty (30) Days of concluding that EPC Contractor's new EPC Contract;
- (b) in relation to any period during the Concession Period, other than due to a Permitted Event:
  - (i) a failure of the Concessionaire to perform its obligations under this Agreement for a continuous period of thirty (30) Days such as to suggest an intention to repudiate this Agreement; or
  - (ii) a failure by the Concessionaire to resume and continue the performance of all or substantially all of its obligations under this Agreement within thirty (30) Days following the cessation of a Permitted Event, in each case, which prevented, hindered or delayed such performance,

and **Abandons** shall be construed accordingly;

**Acceptable Bank** means (a) together the Foreign Bank and the Acceptable Pakistani Bank, which is counter-guaranteeing the obligations of the Foreign Bank; or (b) an Acceptable Pakistani Bank (as applicable);

**Acceptable Pakistani Bank** means a scheduled bank, or a financial institution incorporated or organized in Pakistan having a long-term credit rating of at least AA or higher by PACRA, or AA or higher by VIS, or A3 or higher by Moody's or equivalent rating by Fitch or Standard and Poor, approved by the GoS, such approval not to be unreasonably withheld, conditioned or delayed;

**Accounting Principles** means the International Financial Reporting Standards, as may be amended from time to time, applicable in Pakistan;

**Accounting Year** means, in respect of the Concessionaire, the financial year commencing from July 1 of any calendar year and ending on June 30 of the next calendar year;

**Actual Loss of Water Output** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Additional Capacity System** means the Additional Capacity System (Bid) and/or the Additional Capacity System (Future) (as applicable);

**Additional Capacity System (Bid)** means any system representing a capacity enhancement to the Desalinated Water Supply System, as proposed in the Bid;

**Additional Capacity System (Future)** means any system representing a capacity enhancement to the Desalinated Water Supply System not proposed in the Bid but developed in terms of Section 12.3;

**Additional Capacity System (Future) Approval** has the meaning given to it in Section 12.3.3.1;

**Additional Capacity System (Future) Proposal** has the meaning given to it in Section 12.3.3.1

**Adjoining Property** means any land and/or property adjoining or adjacent to any part of the Project Site, including all conduits, roads, footpaths, walls, fences, buildings, pipelines, cables, wires and other erections, structures and other apparatus on, under or within such land and/or property;

**Adverse Person** means:

- (a) any person whose primary residence is in or who is incorporated or organized under the laws of a country:
  - (i) which is subject to sanctions levied by the United Nations (or the Security Council thereof) pursuant to authority derived from Article 41 of Chapter 7 of the United Nations Charter (a **Sanctioned Country**); or
  - (ii) with which the Government of Pakistan does not have commercial or trade relations or otherwise does not maintain official diplomatic relations (an **Unfriendly Country**);
- (b) any national government, or any political subdivision, of any Sanctioned Country or Unfriendly Country;
- (c) any ministry, department, authority, or statutory corporation of, or any corporation or other entity (including a trust), owned or controlled directly or indirectly by the national government, or any political subdivision, of any Sanctioned Country or Unfriendly Country;
- (d) any person who has been blacklisted by any federal or provincial government, governmental body or non-governmental department/agency whether in Pakistan or the government or governmental body of any foreign countries and/or international organizations; or
- (e) a person involved in a dispute with a Government Authority as a defendant, counterparty or otherwise adverse to the Government Authority and a decision, judgement, award or

order has been handed down by a court and that person has not complied with or is in breach of such decision, judgement, award or order;

**Affected Community** means the Settlements that will be directly impacted by changes induced by the Project Activities;

**Affected Party** has the meaning given to it in Section 19.5.1;

**Affiliate** means, in relation to a person, another person that directly or indirectly Controls, is Controlled by, or is under common Control with that person;

**Agreement** means this concession agreement (including the Recitals and Schedules hereto), as amended and supplemented from time to time;

**Anti-Corruption Guidelines** means the anti-corruption guidelines not having the force of law but being applicable to the Successful Bidder and the Concessionaire as part of participation in the Tender Procedure including the Asian Development Bank's Anticorruption Policy, 1998;

**Anti-Corruption Laws** means any and all anti-corruption laws of Pakistan including:

- (a) Prevention of Corruption Act, 1947;
- (b) West Pakistan Anti-Corruption Establishment Ordinance, 1961;
- (c) Federal Investigation Agency Act, 1974;
- (d) National Accountability Ordinance, 1999;
- (e) Pakistan Penal Code, 1860;
- (f) Extradition Act, 1972;
- (g) Benami Transactions Act, 2017;
- (h) Measures Against Money Laundering Laws,

in each case, as amended or substituted from time to time;

**Approvals** means all such permits, licences, consents, authorizations, approvals, registrations, grants, acknowledgements or agreements required under the Laws to be obtained from any Government Authority for the Project Activities (including the E&S Approvals) and **Approval and other grammatical variations of Approvals** shall be construed accordingly;

**Arbitration** has the meaning given to it in Section 27.4.1.1;

**Arbitrators** has the meaning given to it in Section 27.4.1.1;

**Archaeological Delay Event** means the discovery of any Archaeological Items found or located on or under the Project Site that results in a delay to the Construction Activities;

**Archaeological Items** means articles of archaeological value, interest or antiquity, historical structures, human remains or other substances, objects or things of archaeological or historic interest;

**Assumed Refinancing** means a Refinancing to the extent it is specifically taken into account in the Base Case Financial Model and is consistent with the relevant Refinancing Assumptions (including as to timing, tenor, margins, hedging and the gearing and amount of financial accommodation being no greater than that which is consistent with the amortisation model in the Base Case Financial Model);

**Assumed Technological Improvement** means a Technological Improvement that, if incorporated in the Desalinated Water Supply System, would result in a net cost benefit for the Concessionaire assessed on a whole of life basis and which also relates to any of the following:

- (a) energy recovery;
- (b) solid Waste treatment;
- (c) beneficial use of Waste;
- (d) membrane efficiency; and
- (e) rotating equipment efficiency;

**Availability** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Availability Benchmark** means the average Availability, during the immediately preceding four (4) Billing Periods, or if less than four (4) Billing Periods have occurred, such number of Billing Periods as there have been; provided, that if there are none, then it shall be based on the Guaranteed Supply Capacity (subject to Deduction for Downtime) and provided further that any hour in which the Availability was reduced during any such Billing Period as a result of the occurrence of a Permitted Event shall be disregarded;

**Award** has the meaning given to it in Section 27.4.4;

**Back-up Metering Systems** means all back-up meters and metering devices to be procured, installed and tested by the Concessionaire, and thereafter owned and maintained by the Concessionaire and used to measure the volume of Desalinated Water at the Metering Points, as more particularly described in **SCHEDULE A (Technical Specifications)**;

**Base Case Financial Model** means the financial model in Microsoft Excel electronic format developed by the Concessionaire based on the Bid Sheet as a Condition Precedent and approved by the Independent Experts;

**Base Funding Amount** means the Sponsor Funding Amount;

**Bid** means the proposal dated [●]<sup>2</sup> delivered by the Successful Bidder to KWSC on the Bid Submission Deadline in response to the RFP and any agreed amendments, variations or supplements thereto;

**Bid Sheet** has the meaning given to it in the RFP;

**Bid Submission Deadline** means the date on which the Bid is submitted in accordance with the terms of the RFP;

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<sup>2</sup> Insert date of the Bid.

**Billing Period** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Board Resolution** means a resolution passed by the board of directors of the Concessionaire;

**Bottled Water** means the Excess Water packaged by the Concessionaire in water bottles for sale to the Consumers;

**Bottled Water Committed Volume** means the total volume of Bottled Water in Gallons (a) committed by the Successful Bidder in the Bid Sheet; or (b) set out in the Additional Capacity System (Future) Proposal (and approved through the Additional Capacity System (Future) Approval);

**Bottled Water Revenue (Actual)** means the actual revenue of the Concessionaire from the sale of Bottled Water to the Consumers and any other revenue income streams of the Concessionaire in relation to the Bottled Water Revenue as determined under the Accounting Principles and set out in the audited accounts of the Concessionaire;

**Bottled Water Revenue (Concessionaire Share)** means the Bottled Water Revenue (Actual) minus the Bottled Water Revenue (GoS Share);

**Bottled Water Revenue (GoS Share)** means the higher of: (a) the product of the Bottled Water Committed Volume and the Bottled Water Revenue (GoS Share Factor) (the **Bottled Water (Guaranteed GoS Share Payment)**); and (b) fifteen percent (15%) of the Bottled Water Revenue (Actual) (the **Bottled Water (Percentage Based GoS Share Payment)**), in each case, for each of the relevant Operating Contract Years;

**Bottled Water Revenue (GoS Share Factor)** means the factor for each Operating Contract Year that shall be used to calculate the Bottled Water Revenue (GoS Share), which shall, in relation to any Operating Contract Year, not be less than the amount in PKR stated in the Bid Sheet for such Operating Contract Year under the “*BWR (GoS Share Factor)*” tab;

**Bottled Water Revenue (Guaranteed GoS Share Payment)** has the meaning given to it in the definition of Bottled Water Revenue (GoS Share);

**Bottled Water Revenue (PBGSP-GGSP)** means the difference between the Bottled Water (Percentage Based GoS Share Payment) and the Bottled Water Revenue (Guaranteed GoS Share Payment), to the extent it is a positive amount;

**Bottled Water Revenue (Percentage Based GoS Share Payment)** has the meaning given to it in the definition of Bottled Water Revenue (GoS Share);

**Bottled Water Revenue Account** means the account to be established and maintained by the Concessionaire, in which the Bottled Water Revenue shall be deposited;

**Bottled Water Revenue Account Bank** means a scheduled bank in Pakistan with a minimum long-term credit rating of at least AA- as rated by VIS or an equivalent rating by PACRA;

**Bottled Water Revenue Account Standing Instructions** means the standing instructions issued to the Bottled Water Revenue Account Bank, in the form attached in part 2 (*Bottled Water Revenue Account Standing Instructions*) of **SCHEDULE I (Accounts Standing Instructions)**;

**Bottled Water Revenue Charge** means the charge to be collected by the Concessionaire from the Consumers from the sale of Bottled Water;

**Bottled Water Revenue Share Payment Certificate** has the meaning given to it in Section 13.3.3;

**Bottled Water Revenue Share Payment Date** has the meaning given to it in Section 13.4.3;

**Business Day** means any Day that is not declared a public holiday in Karachi, Pakistan, during which banks are generally open for business in Karachi, Pakistan;

**Capacity Payment** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Capital Cost Recovery Charge** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Casualty Proceeds** has the meaning given to it in Section 19.10.1;

**Change in Law** means the occurrence of any of the following events on or after the Final Disclosure Date:

- (a) the introduction, adoption, enactment or promulgation of any new Law by a Government Authority;
- (b) the change or repeal by a Government Authority of any Law;
- (c) a change by a Government Authority and having the force of Law (i) in the manner in which a Law is applied; or (ii) in the interpretation of any Law;
- (d) the introduction, adoption, change or repeal by any Government Authority of any material condition in connection with the issue, renewal or modification of any Approval;
- (e) a change in the World Health Organisation standards for potable water to the extent that the Concessionaire is obliged to comply with them in accordance with this Agreement;
- (f) any change in the rate of a Tax or introduction of a new Tax;

provided, that:

- (i) coming into effect, on or after the Final Disclosure Date, of any provision of a statute which is already gazetted in accordance with the Law prior to the Final Disclosure Date and the date of effectiveness whereof has already been notified;
- (ii) any new Law or any change in the existing Law which is already gazetted in accordance with the Law prior to the Final Disclosure Date and the date of effectiveness whereof has already been notified; or
- (iii) any change in any withholding tax, or other similar taxes, on income or dividends or other distributions distributed by the Concessionaire, the EPC Contractor or the O&M Contractor,

shall not constitute a '*Change in Law*';

**Change in Scope** means any alteration in the technical requirements, the scope of the Project, or the designs and drawings applicable to the Project, as instructed by the GoS Parties or proposed by the Concessionaire, in accordance with Section 6.3;

**Change in Scope Order** means an order issued by the GoS Parties certifying approval of a proposed Change in Scope and recording the terms and conditions on which the proposed Change in Scope is required to be implemented;

**Claim** means any suits, actions, legal or administrative proceedings, claims, demands, losses, damages, liabilities, fines, costs and expenses of whatsoever kind or nature (including reasonable attorney's fees and expenses and pre- and post- judgment interest and penalties), whether arising before or after the Final Expiry Date, but excluding any indirect or consequential damages;

**COD** has the meaning given to it in Section 8.3.1;

**COD Certificate** means the certificate duly signed and issued by the Independent Engineer to the Parties, certifying that the COD Tests have been successfully completed in terms of this Agreement;

**COD Tests** has the meaning given to it in paragraph 9.5.1 of **SCHEDULE E (Testing)**;

**Commencement Certificate** means the certificate duly signed and issued by the Independent Experts to the Parties, certifying that each of the Conditions Precedent have been satisfied, deferred or waived in terms of this Agreement;

**Commencement Date** has the meaning given to it in Section 3.2.1;

**Commencement Date Delay Notice** has the meaning given to it in Section 3.4.3;

**Commercial Parties** means the GoS and the Concessionaire, in their respective capacities as a Party to this Agreement and **Commercial Party** means either of them;

**Component Authority** means any governmental body, agency, department, or regulatory authority empowered under the Laws to grant approvals, permits, licenses, or authorizations required for the Project Activities;

**Component BW** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Concession** has the meaning given to it in Section 2.1.1;

**Concession Direct Agreement**<sup>3</sup> means the direct agreement that may be entered into between the Concessionaire, the GoS, KWSC, the Financing Parties and IZP (if applicable), if required by the Financing Parties and IZP (if applicable);

**Concession Period** means the period commencing at 00:00 hours on the Commencement Date and ending at 23:59 hours on the Final Expiry Date;

**Concessionaire** has the meaning given to it in the preamble;

**Concessionaire Cure Period** has the meaning given to it in Section 21.7.2;

**Concessionaire Event of Default** has the meaning given to it in Section 21.5;

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<sup>3</sup> The Concession Direct Agreement will be developed in light of standard project finance/banking industry practices and direct agreements for precedent PPP transactions. Without limitation, the process for declaration of default and termination of the Concession Agreement and the mechanism for calculation of the Financing Due, in each case, as set out in this Agreement, will be subject to the terms of the Concession Direct Agreement.

**Concessionaire Indemnified Parties** has the meaning given to it in Section 23.2;

**Concessionaire IPR** means all Intellectual Property Rights owned by the Concessionaire (or its relevant licensor) as at the Effective Date including all information provided as part of the Successful Bidder's Proposal;

**Concessionaire Notice of Intent to Terminate** has the meaning given to it in Section 21.7.1;

**Conditional FC Letter** has the meaning given to it in paragraph 1.24.2 of **SCHEDULE D (Conditions Precedent)**;

**Conditions Precedent** means the conditions precedent to achievement of the Commencement Date as set out in **SCHEDULE D (Conditions Precedent)**;

**Conditions Precedent Activities** means all works, services and obligations to be performed by the Concessionaire during the Conditions Precedent Period as set out in **SCHEDULE A (Technical Specifications)**;

**Conditions Precedent Period** means the period commencing at 00:00 hours on the Effective Date and ending at 23:59 hours on the Day immediately preceding the Commencement Date;

**Confidential Information** has the meaning given to it in Section 29.5;

**Construction Activities** means all works, services and obligations to be performed by the Concessionaire during the Construction Period, including, design, construction, procurement, installation, testing and commissioning of the Desalinated Water Supply System as more fully described in **SCHEDULE A (Technical Specifications)**;

**Construction Contract Year** means the twelve (12) Month period commencing at 00:00 hours on the Commencement Date and ending at 23:59 hours on the Day immediately preceding the anniversary of the Commencement Date and each subsequent twelve (12) Month period during the Construction Period ending at 23:59 hours on the Day immediately preceding each subsequent anniversary of the Commencement Date; provided, that the last Construction Contract Year shall end at 23:59 hours on the Day immediately preceding the COD;

**Construction Documents** means each of the Detailed Engineering Design and the Construction Drawings approved in accordance with Section 6.1;

**Construction Drawings** means the drawings and designs prepared by the Concessionaire pursuant to the standards and design requirements that pertain to the Project, set out in **SCHEDULE A (Technical Specifications)**;

**Construction Performance Security** means the irrevocable, unconditional, without recourse and on-demand bank guarantee (and any replacement thereof), in favour of GoS, in an amount equal to two percent (2%) of the Total Project Cost, issued by an Acceptable Bank in the form set out in part 1 (*Construction Performance Security*) of **SCHEDULE F (Performance Securities)**;

**Construction Performance Security Expiry Date** has the meaning given to it in Section 4.1.1;

**Construction Period** means the period commencing at 00:00 hours on the Commencement Date and ending at 23:59 hours on the Day immediately preceding the COD;

**Consumers** means the consumers of the Bottled Water;

**Contract Year** means a Construction Contract Year or an Operating Contract Year (as applicable);

**Contracted Specific Net Electricity Consumption** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Contractors** means the EPC Contractor and the O&M Contractor;

**Control** means:

- (a) ownership or control (whether directly or otherwise) of more than fifty percent (50%) of the equity share capital, voting capital, or the like, of the controlled person;
- (b) ownership of equity share capital, voting capital, or the like, by contract or otherwise, conferring control of or power to (i) control the composition of, or power to appoint more than fifty percent (50%) of the members of the board of directors, board of management, or other equivalent or analogous body of the controlled person; or (ii) appoint the key managers of such person; or
- (c) power to influence (whether directly or indirectly) any decision of the board of the controlled person through contract, agency or otherwise;

and **Controls, Controlling** and **Controlled** shall be construed accordingly;

**Cost Overruns** mean, at any time, the amount (if any) of the Project Costs (excluding any Relief Costs) that will be payable to achieve the COD that exceeds or is projected to exceed the Project Cost in the Base Case Financial Model;

**Cure Period** means the Concessionaire Cure Period or the GoS Cure Period (as applicable);

**Day** means the period beginning at 00:00 hours and ending at 23:59 hours;

**Debt Interest Recovery Charge** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Debt Principal Recovery Charge** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Decommissioned Project Area** has the meaning given to it in Section 22.1.1;

**Deduction** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Deemed Commissioning Event** has the meaning given to it in Section 8.4.1;

**Defaulting Party** means the GoS in the case of a GoS Event of Default or the Concessionaire in the case of a Concessionaire Event of Default;

**Defective Metering Event** means, in relation to any of the Metering Systems or Monitoring Systems, that:

- (a) such Metering System or Monitoring System is not in service;
- (b) any seal on a metering or monitoring device constituting part of that Metering System or Monitoring System is found to be broken; or

- (c) a metering device constituting part of that Metering System fails to register or, upon testing, in the case of a Metering System, is found to vary by more than the Metering Tolerance;

**Desalinated Water** means desalinated water produced by the Desalinated Water Supply System and supplied by the Concessionaire to KWSC at the Output Water Delivery Point, which the Concessionaire shall ensure meets the Output Water Quality Specifications;

**Desalinated Water Supply System** means the intake structure, the pre-treatment facility, the reverse osmosis seawater desalination plant, the product water tank, the pumping station, the outlet structure and all associated facilities and infrastructure to be designed, constructed, procured, installed, tested, commissioned, operated and maintained by the Concessionaire at the Project Site as part of the Project Activities (but excluding the Additional Capacity System);

**Detailed Engineering Design** means the detailed engineering design for the Project prepared by the Concessionaire in accordance with **SCHEDULE A (Technical Specifications)**;

**DFBOMT** means the design, finance, build, operate, maintain and transfer mode, being the public-private partnership mode pursuant to which the Project is undertaken in terms of the Sindh PPP Act;

**Dispute** means a dispute, controversy, difference or claim between the Parties arising out of or in relation to this Agreement or the Parties' performance or non-performance of this Agreement;

**Disputed Obligation** means any Dispute, by a GoS Party, in respect of the requirement to comply with an obligation expressed to be assumed by such GoS Party in any GoS Project Document on the basis that such obligation is illegal, invalid, void, voidable or unenforceable under the applicable Legal Requirements;

**Distributions** means:

- (a) whether in cash or in kind, any remittance to the Shareholders or any of their Affiliates of:
- (i) dividends or other distributions in respect of any revenue account balance or the share capital of the Concessionaire;
  - (ii) dividends or other distributions in respect of release of debt service reserve account or liability reserve account funding;
  - (iii) capitalisation of profits, bonus issue, reduction of capital, redemption or purchase of shares or any other reorganisation or amendment to the share capital of the Concessionaire;
  - (iv) payment, loan, contractual arrangement or transfer of assets or rights to the extent (in each case) it was put in place at or after Financial Close and was neither in the ordinary course of business nor on reasonable commercial terms; or
  - (v) the receipt of any other benefit that is not received in the ordinary course of business and on reasonable commercial terms; or
- (b) the early release of any contingent funding liabilities;

**Downtime** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Due and Payable Charges** has the meaning given to it in Section 12.3.2.3;

**E&S Approvals** means any permits, certificates and other Approvals required under the E&S Laws;

**E&S Documents** means:

- (a) the E&S Impact Assessment;
- (b) each no objection certificate issued by the Sindh Environmental Protection Agency, Government of Sindh with respect to the Project;
- (c) any other document, plan or programme to be prepared under the E&S Management System and the E&S Impact Assessment; and
- (d) any documents required at any time to be prepared under the E&S Requirements as a result of any unanticipated impacts found during the execution of the Project Activities;

**E&S Impact Assessment** or **ESIA** means the environmental impact assessment titled “*E&S Impact Assessment*” in relation to the Project including all other supplements, modifications and amendments thereto, to be prepared by the Concessionaire in accordance with the requirements set out in part 1 (*E&S Impact Assessment*) of **SCHEDULE L (Environment, Health and Safety Requirements)**;

**E&S Laws** means all applicable Laws relating to Environmental Matters, Hazardous Substances, Social Matters, involuntary resettlement, human health or safety, or laws relating to social issues, including minimum labour standards and laws prohibiting forced labour or harmful child labour, and including the conventions of the International Labour Organisation signed and ratified by Pakistan;

**E&S Management System** or **ESMS** means the part of the overall management system of the Concessionaire developed in compliance with the E&S Standards, that shall include relevant policies, organisational structure, planning activities, responsibilities, practices, procedures and resources for developing, implementing, achieving, reviewing and maintaining compliance with the E&S Requirements and which shall be dedicated to the structural improvement of the E&S performance of the Concessionaire, established and maintained in accordance with the requirements of part 2 (*E&S Management System*) of **SCHEDULE L (Environment, Health and Safety Requirements)**;

**E&S Requirements** means:

- (a) the E&S Laws;
- (b) the E&S Approvals issued by any Government Authority or otherwise under any E&S Law;
- (c) the E&S Standards; and
- (d) the E&S Documents;

**E&S Standards** means the Good International Industry Practice standards identified as relevant and specifically referenced within the E&S Documents;

**Effective Date** means the date of execution of this Agreement;

**Electricity** means the electrical energy to be delivered by the Electricity Supplier to the Desalinated Water Supply System at the Electricity Connection Point;

**Electricity Connection Point** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Electricity Price** or **EP** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Electricity Supplier** means, as of the Effective Date, K-Electric Limited, or such other supplier of electric power to the Desalinated Water Supply System as approved by the GoS Parties;

**Electricity Unavailability** means Electricity not being available at all or in the necessary quantity or within the standards of voltage, frequency, load and quantity required for the safe and reliable operation of the Desalination Water Supply System, but only if and to the extent the same:

- (a) materially adversely affects the ability of the Concessionaire to start up, test, commission or operate the Desalinated Water Supply System in accordance with Good International Industry Practice;
- (b) is not the direct or indirect result of a breach by the Concessionaire (or its Contractors) of its obligations under this Agreement; and
- (c) is not the direct or indirect result of the Concessionaire failing to make any payment due to the Electricity Supplier;

**Emergency** means a condition or situation that is likely to endanger the security of individuals on or about the Project Site including (without limitation) users thereof or which poses an immediate threat of material damage to all or part of the Desalinated Water Supply System or the Project Site;

**Emergency Decommissioning** has the meaning given to it in Section 22.1.1;

**Encumbrance** means any encumbrance on an asset, including (without limitation) mortgage, charge, pledge, lien, hypothecation or any security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations and shall include (without limitation) any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Desalinated Water Supply System, the Project Site or any part or portion thereof and physical encumbrances and encroachments thereon;

**Environmental Matters** means any of the following:

- (a) any emission, release, entry or introduction into the air of any Hazardous Substance including the air within buildings and other natural or man-made structures above or below ground;
- (b) any discharge, release, entry or introduction into water of any Hazardous Substance including into any river, watercourse, lake or pond (whether natural or artificial, above or below ground) or reservoir, or the surface of the riverbed or of other land supporting such waters, ground waters, sewer or the sea;
- (c) any deposit, release, keeping or disposal in land or on land, whether or not covered by water, of any Hazardous Substance;
- (d) any deposit, disposal, keeping, treatment, importation, production or carrying of any waste, including any substance which constitutes a scrap material or an effluent or other unwanted surplus substance arising from the application of any process or activity (including making it re-usable or reclaiming substances from it) and any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoiled; and

- (e) nuisance, noise, defective premises, health and safety at work, preservation or protection of the natural environment or of man or any living organisms supported by the environment;

**EPC Contract** means the contract to be entered into between the Concessionaire and the EPC Contractor for (as applicable) the design, engineering, procurement, manufacture, factory testing, transportation, construction, erection, installation, completion, testing, commissioning and warranty of the Desalinated Water Supply System;

**EPC Contractor** means the contractor hired by the Concessionaire as identified in the Bid (unless otherwise approved by KWSC (in consultation with the Independent Engineer) pursuant to Article 16);

**EPC Contractor Criteria** means the criteria for the evaluation of the Proposed EPC Contractor set out in Part 1 (*Technical Evaluation Criteria*) of Annexure B (*Evaluation Criteria*) of Part 4 (*Annexures*) of **VOLUME I (TENDER PROCEDURE)** of the RFP;

**Estimated Remedial Costs** has the meaning given to it in Section 21.10.2.2;

**Event of Default** means a Concessionaire Event of Default or a GoS Event of Default (as applicable);

**Event of Loss** means an event that causes all or a portion of the Desalinated Water Supply System to be damaged, destroyed or rendered unfit for normal operation in accordance with this Agreement;

**Excess Water** means the volume of Desalinated Water produced by the Desalinated Water Supply System in excess of the Guaranteed Supply Capacity;

**Excessive Insurance Premium** has the meaning given to it in the definition of Uninsurable;

**Final Disclosure Date** means thirty (30) Days prior to the Bid Submission Deadline;

**Final Expiry Date** means the earlier of: (a) the Term Expiry Date; and (b) the Termination Date;

**Financial Close** means that: (a) Financing Documents covering hundred percent (100%) of the total capital cost of the Project (other than the amounts to be funded by the Sponsors) shall have been signed and are in full force and effect; (b) all funds under the Financing Documents are fully committed; and (c) all conditions to the first drawdown of funds under the Financing Documents have been satisfied, deferred and/or waived by the Financing Parties;

**Financial Model** means the Base Case Financial Model, as adjusted to the extent expressly permitted or required under this Agreement;

**Financing Documents** means (other than any documents relating to Sponsor Loans, indebtedness constituting Sponsor Equity or any other indebtedness to Shareholders), any and all loan agreements, notes, bonds, indentures, security agreements, direct agreements, assignments and acknowledgements, registration or disclosure statements, subordination agreements, mortgages, deeds of trust, credit agreements, intercreditor agreements, note or bond purchase agreements, hedging agreements, participation agreements, Islamic financing documents and any other documents entered into by the Concessionaire relating to the financing of the Project, including any modifications, supplements, extensions, renewals and replacements of any such financing or Refinancing, in each case, executed in accordance with Section 16.3;

**Financing Due** has the meaning given to it in **SCHEDULE M (Termination Payment)**;

**Financing Party** means any person providing hedge, debt, Islamic finance, bond or capital market financing, export credit loan or Refinancing (approved in the accordance with Section 16.3), under the Financing Documents, and their permitted successors and assigns, but excluding a Shareholder or its Affiliate(s) with respect to any indebtedness constituting Sponsor Equity or indebtedness to Shareholders;

**Financing Termination Date** means the earlier of (a) [REDACTED]<sup>4</sup> as may be extended due to any delay in achievement of the Commencement Date in terms of Section 3.4.1 or permitted in accordance with Section 3.4.3; and (b) the date on which no part of the Financing is outstanding and all amounts due and payable by the Concessionaire to the Financing Parties are paid in accordance with the Financing Documents, as confirmed in writing by the Independent Auditor;

**First IA List** has the meaning given to it in Section 17.7.1;

**First IE List** has the meaning given to it in Section 17.1.1;

**Fixed O&M Cost Recovery Payment** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Force Majeure Event** has the meaning given to it in Section 19.1;

**Foreign Bank** means a scheduled bank or financial institution incorporated or organized outside Pakistan having a long-term credit rating of at least AA or higher by PACRA, or AA or higher by VIS, or A3 or higher by Moody's or equivalent rating by Fitch or Standard and Poor;

**Gallons** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Good International Industry Practice** or **GIIP** means those practices, skills, diligence, prudence, foresight, methods, equipment, specifications and standards of safety and performance (as may change from time to time) employed by experienced professional international contractors or operators in activities or undertakings of the same or similar circumstances and conditions as the Project Activities, which in the exercise of reasonable judgement in light of the facts known at the time the judgement was made, are considered good, safe and prudent practices commensurate with standards of safety, performance, dependability, efficiency and economy;

**GoS** has the meaning given to it in the preamble;

**GoS Account One** means the GoS account titled "*Government of Sindh Non-Food Account No.1*" maintained with SBP;

**GoS Account One Debit Demand** has the meaning given to it in Section 12.2.8;

**GoS Appointed IA** has the meaning given to it in Section 17.11.1;

**GoS Appointed IE** has the meaning given to it in Section 17.5.1;

**GoS Cure Period** has the meaning given to it in Section 21.7.1;

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<sup>4</sup> Insert the last repayment date of principal debt set out in the financing term sheet at the time of Financial Close (which shall be based on Bidding Form F2-B (*Financing Term Sheet*) of the RFP), which shall be no later than ten (10) years from the Scheduled COD.

**GoS Designated Account** means the account(s) to be established and maintained by the GoS, in which any amount payable by the Concessionaire to the GoS in terms of this Agreement is paid, which account(s) shall be notified by the GoS to the Concessionaire from time to time;

**GoS Event of Default** has the meaning given to it in Section 21.6;

**GoS Indemnified Parties** has the meaning given to it in Section 23.1;

**GoS Notice of Intent to Terminate** has the meaning given to it in Section 21.7.2;

**GoS Parties** means the GoS and KWSC, in their respective capacities as a Party to this Agreement and **GoS Party** means either of them;

**GoS Project Document(s)** means:

- (a) this Agreement;
- (b) the Concession Direct Agreement; and
- (c) the License Agreement;

**GoS Protected Assets** has the meaning given to it in Section 25.4.1.2;

**Government Authority** means the Government of Pakistan, the GoS, or any ministry, department or political subdivision thereof, any municipality, any court or tribunal or any other governmental entity, instrumentality, agency, authority, committee or commission, under the direct or indirect control of the Government of Pakistan or the GoS, or any department or political subdivision thereof, or any independent regulatory authority relating thereto, having jurisdiction under the Law over the Concessionaire, KWSC, the EPC Contractor and/or the O&M Contractor, in each case, within Pakistan; provided, that for the purposes of this Agreement, neither the GoS nor KWSC in their respective capacities as a party to any of the Project Agreements shall be considered a Government Authority;

**Government of Pakistan** means the government of the Islamic Republic of Pakistan;

**Grievance Redressal Mechanism** has the meaning given to it in Section 25.5.1.2;

**Guaranteed Supply Capacity** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Handover Certificate** means the certificate to be issued by the Independent Experts certifying the satisfaction of the Handover Conditions in terms of Section 21.10;

**Handover Conditions** means that, as at the Final Expiry Date:

- (a) where the COD is not achieved, the Desalinated Water Supply System will be in a condition that is consistent with the standards required in this Agreement (including as set out in **SCHEDULE A (Technical Specifications)**);
- (b) where the COD has been achieved: (i) the actual condition of assets to be transferred to KWSC meets the expected condition based on the design life of such assets; (ii) the Desalinated Water Supply System meets the Contracted Specific Net Electricity Consumption and the Output Water Quality Specifications; and (iii) the requirements for handover in **SCHEDULE E (Testing)** have been met;

- (c) the Concessionaire has completed training of the KWSC employees (or KWSC nominees) to ensure smooth taking over operations of the Desalinated Water Supply System to a standard satisfactory to the Independent Engineer and KWSC;
- (d) the Independent Engineer has confirmed that the Concessionaire is in compliance with the requirements of the Operating and Maintenance Procedures; and
- (e) the Project Site shall be:
  - (i) free and clear from obstructions, impediments placed by the Concessionaire, used consumables and waste, and Hazardous Substances;
  - (ii) neat and tidy; and
  - (iii) made safe and secure in accordance with Good International Industry Practice;

**Hazardous Substances** means any solid, liquid or gaseous material, substance, constituent, chemical, mixture, raw material, intermediate product or by-product which is defined as hazardous waste, hazardous material, toxic substance or toxic pollutant under, or is otherwise regulated by the E&S Requirements;

**HR Policy and Procedure** has the meaning given to it in Section 4.7.1;

**Implementation Schedule** means the implementation schedule set out in **SCHEDULE B (Implementation Schedule)**, as may be revised from time to time, pursuant to this Agreement;

**Independent Auditor** means the auditor appointed for the Project in accordance with Section 17.7 and in terms of the Independent Auditor Contract meeting the Independent Auditor Criteria and includes any replacement Independent Auditor appointed in terms of this Agreement;

**Independent Auditor Authorized Representative(s)** has the meaning given to it in Section 17.9.1;

**Independent Auditor Contract** means the contract to be entered into between the Parties, the Sponsors and the Independent Auditor in accordance with Article 17 and includes any contract subsequently executed with any replacement Independent Auditor in terms of this Agreement;

**Independent Auditor Criteria** means the minimum criteria for selection of firms of auditors for the appointment of Independent Auditor, set out in part 1 (*Indicative Independent Auditor Terms of Reference*) of **SCHEDULE J (Independent Experts Terms of Reference)**;

**Independent Auditor Initial Term** has the meaning given to it in Section 17.8.1;

**Independent Auditor Payment Account** means the account established and maintained by the Concessionaire pursuant to Section 17.12;

**Independent Auditor Payment Account Bank** means the financial institution in Pakistan selected by the Concessionaire, the Sponsors and the GoS where the Independent Auditor Payment Account is held;

**Independent Auditor Payment Account Standing Instructions** has the meaning given to it in Section 17.12.2;

**Independent Auditor Payments** has the meaning given to it in Section 17.11.1;

**Indicative Independent Auditor Terms of Reference** means the indicative duties, functions and the scope of work to be performed by the Independent Auditor, as set out in part 1 (*Indicative Independent Auditor Terms of Reference*) of **SCHEDULE J (*Independent Experts Terms of Reference*)**;

**Independent Engineer** means the engineer appointed for the Project in accordance with Section 17.1 and in terms of the Independent Engineer Contract meeting the Independent Engineer Criteria and includes any replacement Independent Engineer appointed in terms of this Agreement;

**Independent Engineer Authorized Representative(s)** has the meaning given to it in Section 17.3.1;

**Independent Engineer Contract** means the contract to be entered into between the Parties, the Sponsors and the Independent Engineer in accordance with Article 17 and includes any contract subsequently executed with any replacement Independent Engineer in terms of this Agreement;

**Independent Engineer Criteria** means the minimum criteria for selection of firms of engineers for the appointment of Independent Engineer, set out in part 2 (*Indicative Independent Engineer Terms of Reference*) of **SCHEDULE J (*Independent Experts Terms of Reference*)**;

**Independent Engineer Initial Term** has the meaning given to it in Section 17.2.1;

**Independent Engineer Payment Account** means the account established and maintained by the Concessionaire pursuant to Section 17.6;

**Independent Engineer Payment Account Bank** means the financial institution in Pakistan selected by the Concessionaire, the Sponsors and the GoS where the Independent Engineer Payment Account is held;

**Independent Engineer Payment Account Standing Instructions** has the meaning given to it in Section 17.6.2;

**Independent Engineer Payments** has the meaning given to it in Section 17.5.1;

**Independent Experts** means the Independent Auditor and the Independent Engineer;

**Indicative Independent Engineer Terms of Reference** means the indicative duties, functions and the scope of work to be performed by the Independent Engineer, as set out in part 2 (*Indicative Independent Engineer Terms of Reference*) of **SCHEDULE J (*Independent Experts Terms of Reference*)**;

**Initial Sponsor(s)** means the single entity or Consortium Members (as applicable) forming part of the Bid of the Successful Bidder;

**Input Water Delivery Point** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Insurance Policies** has the meaning given to it in Section 18.1.1;

**Intellectual Property Rights** means all patents, rights to inventions, utility models, copyright and related rights, trademarks, service marks, trade, business and domain names, rights in trade dress or get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, moral rights, rights in confidential information (including know-how and trade secrets) and any other intellectual property rights, in

each case whether registered or unregistered and including all applications for and renewals or extensions of such rights, and all similar or equivalent rights or forms of protection in any part of the world;

**International Financial Reporting Standards** means any International Financial Reporting Standards promulgated by the International Accounting Standards Board (which includes standards and interpretations approved by the International Accounting Standards Board issued under previous constitutions), together with its pronouncements thereon from time to time;

**International Accounting Standards Board** means the independent accounting standard-setting body of the International Financial Reporting Standards Foundation (IFRS Foundation);

**Intervening Event** means the following events or circumstances:

- (a) an act of impediment or prevention by a GoS Party or a material breach by a GoS Party of any of its obligations under this Agreement or any other GoS Project Document;
- (b) the occurrence of an Emergency Decommissioning;
- (c) the occurrence of a KWSC Overriding Power Event;
- (d) after the COD, an Electricity Unavailability;
- (e) an Uninsurable Force Majeure Event;
- (f) prior to the COD, an Archaeological Delay Event, but only if and to the extent that the Concessionaire has made all reasonable efforts to reduce to a minimum and mitigate the effect of such event;

but only if and to the extent that in any such case: (i) in the opinion of the Independent Experts, it materially and adversely impairs the ability of the Concessionaire, the Sponsors, or any Contractor to perform their respective obligations under the Project Agreements; (ii) the Concessionaire is not in breach of its obligation to meet the Guaranteed Supply Capacity; and (iii) such event or circumstance is not the direct or indirect result of a breach by the Concessionaire (or its Contractors) or the Sponsors of any of their obligations under this Agreement or any other Project Agreement, or any negligent act or omission by the Concessionaire, the Contractors or the Sponsors;

**Intervening Event Period** means the duration of an Intervening Event (or its effects); provided, that if more than one Intervening Event is ongoing at the same time, for the purposes of determining the Intervening Event Period, such Intervening Events shall be considered as running concurrently;

**Invoicing Party** has the meaning given to it in Section 13.6.1.1;

**IZP** means Infrazamin Pakistan Limited, a non-banking finance company incorporated and licensed under the Laws of Pakistan, with its registered office at 4A, 4<sup>th</sup> Floor, Executive Tower, Dolmen Mall, Clifton, Karachi, Pakistan;

**IZP Guarantee Demand** has the meaning given to it in Section 12.2.1;

**IZP Guarantee Instrument** means the guarantee instrument, by whatsoever nomenclature referred to, entered into between IZP and the Financing Parties, and if required by the Financing Parties and/or IZP, the Concessionaire, whereby IZP guarantees payment of an amount up to the

Termination Payment Amount (Coverage) to the Financing Parties on the Termination Payment Date;

**KIBOR** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**KWSC** has the meaning given to it in the preamble;

**KWSC Overriding Power Event** has the meaning given to it in Section 22.2;

**Late Payment Rate** means the six (6) Month KIBOR plus two percent (2%), compounded semi-annually, calculated for the actual number of Days for which the relevant amount remains unpaid on the basis of three hundred sixty-five (365) Days year;

**Law** means all federal, provincial and local laws of Pakistan, and all orders, rules, regulations, executive orders, statutory regulatory orders, decrees, judicial decisions, notifications, or other similar directives issued by any a Government Authority pursuant thereto, including the E&S Requirements, as any of them may be amended, substituted, replaced or re-promulgated from time to time;

**Lead Developer** means ●<sup>5</sup>;

**Legal Requirements** means all Laws and Approvals;

**License Agreement** means the agreement between KWSC and the Concessionaire, substantially in the form set out in **SCHEDULE K (License Agreement)**;

**Long Stop Date** means the date that is one hundred and twenty (120) Days after the Scheduled COD;

**Main Body** means the main body of this Agreement;

**Maintenance Schedule** has the meaning given to it in Section 10.4.1;

**Maximum Liability Amount** has the meaning given to it in the Sponsor(s) Undertaking;

**Measures Against Money Laundering Laws** means any and all money laundering laws of Pakistan including:

- (a) Anti-Terrorism Act, 1997;
- (b) National Counter Terrorism Authority Act, 2013;
- (c) Anti-Money Laundering Act, 2010;
- (d) Anti-Money Laundering Regulations, 2015;
- (e) Federal Board of Revenue Anti Money Laundering and Countering Financing of Terrorism Regulations for DNFBPs, 2020;
- (f) AML/CFT Sanctions Rules, 2020;
- (g) Counter-Measures for High-Risk Jurisdiction Rules, 2020;

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<sup>5</sup> To be update based on details of the Successful Bidder.

- (h) Anti-Money Laundering Combating the Financing of Terrorism & Countering Proliferation Financing Regulations for SBP's Regulated Entities;
- (i) Securities and Exchange Commissions of Pakistan (Anti Money Laundering and Countering Financing of Terrorism) Regulations, 2020,

in each case, as amended or substituted from time to time;

**Metering Points** has the meaning given to it in **SCHEDULE A (*Technical Specifications*)**;

**Metering System** means all meters and metering devices to be procured, installed and tested by the Concessionaire, and thereafter owned and maintained by the Concessionaire and used to measure the volume of Desalinated Water at the Metering Points, as more particularly described in **SCHEDULE A (*Technical Specifications*)**;

**Metering Tolerance** means in relation to any component of the Metering System or the Monitoring System, plus or minus three percent (3%) from the measurement made by the standard meter used in a test of such component;

**MGD** means one (1) million Gallons per Day;

**Monitoring Points** has the meaning given to it in **SCHEDULE A (*Technical Specifications*)**;

**Monitoring Systems** means all meters and metering devices to be procured, installed and tested by the Concessionaire, and thereafter owned and maintained by the Concessionaire and used to measure the quality of Desalinated Water at the Monitoring Points, as more particularly described in **SCHEDULE A (*Technical Specifications*)**;

**Month** means a calendar month beginning at 00:00 on the first Day of the month and ending at 23:59 on the last Day of the month;

**National Economic Council** means the council established under Article 156 of the Constitution of Pakistan, 1973;

**Net Desalinated Water Input** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Net Desalinated Water Output** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**New Sponsor** means any transferee to whom any Ordinary Shares have been transferred in accordance with Section 16.4.5;

**Notification of Award** means the notification of award issued by KWSC to the Successful Bidder in accordance with the RFP;

**NPFME** has the meaning given to it in Section 19.2;

**NPFME Period** means the duration of a NPFME as determined by the Independent Engineer; provided, that if more than one NPFME is ongoing at the same time, for the purposes of determining the NPFME Period, such NPFMEs shall be considered as running concurrently;

**O&M Activities** means all works, services and obligations to be performed by the Concessionaire during the Operations Period, including operations and maintenance of the Desalinated Water Supply System, as more fully described in **SCHEDULE A (*Technical Specifications*)**;

**O&M Contract** means the agreement between the Concessionaire and the O&M Contractor for the management, operation, maintenance and repair of the Desalinated Water Supply System;

**O&M Contractor** means the contractor(s) (or consortium of contractors) hired by the Concessionaire that meets the O&M Contractor Criteria and includes any substitute approved by Independent Engineer (in consultation with KWSC) pursuant to Article 16;

**O&M Contractor Criteria** means the criteria set out in attachment A (*O&M Contractor Criteria*) of **SCHEDULE D (*Conditions Precedent*)**;

**O&M Performance Security** means the irrevocable, unconditional, without recourse and on-demand bank guarantee (and any replacement thereof), in favour of GoS, in an amount equal to five percent (5%) of the aggregate of the forecast (a) Fixed O&M Cost Recovery Payment; and (b) Output Payment (as certified by the Independent Experts), for the relevant Operating Contract Year to which it relates, issued by an Acceptable Bank in the form set out in part 2 (*O&M Performance Security*) of **SCHEDULE F (*Performance Securities*)**;

**O&M Performance Security Expiry Date** means O&M Performance Security Expiry Date (Annual) and/or O&M Performance Security Expiry Date (Final) (as applicable);

**O&M Performance Security Expiry Date (Annual)** has the meaning given to it in Section 4.1.2;

**O&M Performance Security Expiry Date (Final)** has the meaning given to it in Section 4.1.2;

**Off-Spec Output Water** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Operating and Maintenance Procedures** has the meaning given to it in Section 10.3.1;

**Operating Contract Year** or **OCY** means the twelve (12) Month period commencing at 00:00 hours on the COD and ending at 23:59 hours on the Day immediately preceding the following anniversary of the COD and each subsequent twelve (12) Month period during the Operations Period ending at 23:59 hours on the Day falling immediately prior to each subsequent anniversary of the COD, provided that the last Operating Contract Year shall end at 23:59 hours on the last Day of the Concession Period;

**Operations Period** means the period commencing at 00:00 hours on the COD and ending at 23:59 hours on the Final Expiry Date;

**Ordinary Shares** means the ordinary share capital issued to the shareholders of the Concessionaire from time to time in accordance with this Agreement;

**Other Payment Date** has the meaning given to it in Section 13.4.4;

**Output Payment** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Output Water Delivery Point** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Output Water Quality Specifications** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Outstanding Principal Amount** has the meaning given to it in **SCHEDULE M (Termination Payment)**;

**PACRA** means the Pakistan Credit Rating Agency Limited;

**Pakistan** means the Islamic Republic of Pakistan;

**Pakistani Rupees** or **PKR** means Pakistani Rupees, the lawful currency of Pakistan;

**Parties** means the GoS, KWSC and the Concessionaire and **Party** means any of them;

**Performance Securities** means the Construction Performance Security and the O&M Performance Security and **Performance Security** means either of them;

**Permitted Event** means an Intervening Event and/or a Force Majeure Event;

**PFME** has the meaning given to it in Section 19.3;

**PFME Period** means the duration of a PFME as determined by the Independent Engineer; provided, that if more than one PFME is ongoing at the same time, for the purposes of determining the PFME Period, such PFMEs shall be considered as running concurrently;

**Planned Downtime** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Project** means:

- (a) the Project Activities;
- (b) the use by the Concessionaire, in accordance with the License Agreement, of the Project Site;
- (c) maintaining the Guaranteed Supply Capacity by the Concessionaire;
- (d) selling the Net Desalinated Water Output at the Output Water Delivery Point in accordance with this Agreement;
- (e) the handover of the Desalinated Water Supply System to the KWSC in terms of this Agreement; and
- (f) all activities incidental to any of the foregoing, in accordance with this Agreement;

**Project Activities** means the Conditions Precedent Activities, the Construction Activities and the O&M Activities;

**Project Agreements** means:

- (a) this Agreement;
- (b) the License Agreement;
- (c) the EPC Contract; and

(d) the O&M Contract;

**Project Costs** means (without double-counting), any costs or expenses relating to the Project as set out in the Financial Model stated in Pakistani Rupees, which costs and expenses may include one or more of the following:

- (a) capital costs;
- (b) costs and expenses in respect of the design, engineering, procurement, manufacture, construction, rehabilitation, commissioning, testing and completion of the Desalinated Water Supply System;
- (c) financing costs;
- (d) costs of Taxes imposed on or payable by the Concessionaire;
- (e) fixed operating costs during the Construction Period; and
- (f) all other costs and expenses incurred in connection with the Project during the Construction Period in accordance with the Financial Model;

**Project IPR** means all Intellectual Property Rights developed by or for the Concessionaire in connection with and for the Project after the Effective Date and prior to the Final Expiry Date, but excluding any Concessionaire IPR;

**Project Implementation Unit** means the project implementation unit established by the GoS for the purpose of overseeing the day-to-day implementation of the Project in accordance with the Legal Requirements and for carrying out the functions assigned to it under Section 25.5;

**Project Site** means the location of the Desalinated Water Supply System, as more fully described in **SCHEDULE A (*Technical Specifications*)**, which is licensed to the Concessionaire pursuant to the License Agreement for undertaking the Project Activities;

**Project Site Information** has the meaning given to it in Section 5.6.1;

**Projected Loss of Net Desalinated Water Output** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Proposed Construction Documents** has the meaning given to it in Section 6.1.3;

**Public Private Partnership Policy Board** means the Public Private Partnership Policy Board constituted pursuant to the Sindh PPP Act;

**Receiving Party** has the meaning given to it in Section 13.6.1;

**Recipient** has the meaning given to it in Section 29.2.1;

**Reduced Contracted Availability** has the meaning given to it in **SCHEDULE H (*Water Tariff Payment Calculation*)**;

**Refinancing** means:

- (a) any amendment, variation, novation, supplement or replacement of any Financing Document;
- (b) the exercise of any right, or the grant of any waiver or consent under any Financing Document;
- (c) any restructuring of capital;
- (d) the disposition of any rights or interests in, or the creation of any rights or interests in respect of, the Financing Documents or the creation or granting of any other form of benefit or interest in the Financing Documents or any revenues, contracts or assets of the Concessionaire, whether by way of security or otherwise; or
- (e) any other arrangement put in place by the Concessionaire or another person which has a similar effect to paragraphs (a) to (d) above or which has the effect of limiting the Concessionaire's ability to carry out any of (a) to (d) above,

where such action affects the economic position of the Concessionaire, or the Shareholders including (without limitation) by changing or in any way affecting:

- (i) amounts and/or payment schedules for margins, fees or other financing costs;
- (ii) the maturity or size of the debt or repayment profile or schedule;
- (iii) the timing or amount of any Distributions or any release of any contingent equity commitments;
- (iv) any reserving requirements; and
- (v) any requirement to provide or maintain any guarantee or security;

**Refinancing Assumptions** means each of the terms, conditions and assumptions concerning a Refinancing set out in the Base Case Financial Model;

**Refinancing Gain** means, in respect of a Refinancing, the net positive impact on Distributions as a result of the Refinancing determined in accordance with the following:

- (a) the net positive difference (if any) between the sum of any Distributions made in connection with the Refinancing or forecast to be made after the effective date of the Refinancing in accordance with the Base Case Financial Model updated in accordance with this Agreement to take account of the Refinancing and the sum of the Distributions forecast to be made from that date in accordance with the Base Case Financial Model in the absence of the Refinancing;
- (b) the positive difference will be determined ignoring the impact of the non-Refinancing impacts on Distributions such as revenues, costs, Taxes, reserves, or levels of retained cash (other than revenue received, cost incurred or Taxes, reserves or levels of retained cash changed pursuant to a Refinancing) being different than forecast by the Base Case Financial Model;
- (c) such positive difference will be expressed as an aggregate amount as at the date of the Refinancing;
- (d) in calculating the positive difference timing differences will be taken into account by expressing relevant amounts in their net present value as of the date of the Refinancing

using the annual forecast pre-investor tax equity internal rate of return as set out in the Base Case Financial Model as the nominal discount rate,

taking due account of the fact that the gains from the Assumed Refinancings have already been reflected in the Water Tariff Payment and that the GoS should receive no additional payment in respect of such gains;

**Relief Costs** means any increased costs or expenses relating to the Project that are incurred or suffered (or are to be incurred or suffered) by the Concessionaire resulting from any circumstance described in Section 20.1, and not otherwise covered by the receipt of insurance proceeds, which costs and expenses may include one or more of:

- (a) capital costs;
- (b) costs and expenses in respect of the design, engineering, procurement, manufacture, construction, rehabilitation, commissioning, testing and completion of the Desalinated Water Supply System;
- (c) financing costs;
- (d) costs of operation and maintenance;
- (e) costs of Taxes imposed on or payable by the Concessionaire; and
- (f) reduction in the revenue received by the Concessionaire;

**Remedial Plan** has the meaning given to it in Section 21.10.2.2;

**Remedial Report** has the meaning given to it in Section 21.10.2.2;

**Remedial Works** has the meaning given to it in Section 21.10.2.2;

**Restoration Account** has the meaning given to it in Section 19.10.2;

**RFP** has the meaning given to it in Recital A;

**Sanctioned Country** has the meaning given to it in the definition of Adverse Person;

**Savings** means any increase in revenues received by the Concessionaire and/or any savings or reduction of costs or expenses relating to the Project resulting from, or otherwise attributable to, any circumstance described in Section 20.1 that is realised by the Concessionaire, which cost or expenses may include one or more of:

- (a) capital costs;
- (b) financing costs;
- (c) costs of operation and maintenance; and
- (d) costs of Taxes imposed on or payable by the Concessionaire;

**SBP** means the State Bank of Pakistan;

**SBP Debit Authority** has the meaning given to it in Section 12.2.8;

**Scheduled COD** means the date specified in the Implementation Schedule for the achievement of the COD (which is [●]<sup>6</sup> as at the Effective Date) as such date may from time to time be amended in accordance with this Agreement;

**Scheduled Commencement Date** means the date specified in the Implementation Schedule for the achievement of the Commencement Date (which is [●]<sup>7</sup> as at the Effective Date) as such date may from time to time be amended in accordance with this Agreement;

**Settlements** means communities situated along the Desalinated Water Supply System as identified in the E&S Impact Assessment;

**Shareholder** means a person who is from time to time registered in the Concessionaire's share register as a holder of the Ordinary Shares;

**Sindh PPP Act** means the Sindh Public Private Partnership Act, 2010;

**Social Matter** means any:

- (a) matter relating to public consultation and disclosure with respect to the Project Activities;
- (b) impacts on a person, of any resettlement or land acquisition activities, undertaken in connection with the Project;
- (c) impacts to livelihood as a result of the changes induced by the Project Activities;
- (d) impacts to community health and safety, infrastructure, or socioeconomics; or
- (e) impacts of the Project Activities on vulnerable groups, including those living below the poverty line, female-headed households, individuals with disabilities, and informal settlers;

**Sponsor Equity** means: (a) Sponsor Loans; and (b) any paid-up capital issued by the Concessionaire to a Sponsor, in each case, in cash, to Fund the Sponsor Funding Amount in accordance with this Agreement;

**Sponsor Funding Amount** means an amount equal to PKR [●]<sup>8</sup>/-;

**Sponsor Loans** means Sponsor Equity advanced by any Sponsor in the form of loans to the Concessionaire, in each case:

- (a) compliant with the Subordination Terms and Legal Requirements; and
- (b) where the Sponsor Loan is funded in United States Dollars, the United States Dollar amounts contributed as Sponsor Loan shall be as set out in the registration of Sponsor Loan issued by the authorized dealer or the State Bank of Pakistan;

**Sponsor(s) Undertaking** has the meaning given to it in Section 16.4.1.2;

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<sup>6</sup> Insert date falling thirty (30) Months from the Effective Date.

<sup>7</sup> Insert date falling six (6) Months from the Effective Date.

<sup>8</sup> This amount will be the total equity commitment of the Sponsors (excluding Cost Overruns) set out in the Bid of the Successful Bidder.

**Sponsors** means one or more Initial Sponsor(s) or any New Sponsor;

**Stakeholder Engagement Plan** has the meaning given to it in Section 4.8.3;

**Stakeholders** means any person or group who are directly or indirectly affected by the Project (including the Affected Communities), as well as those who may have interests in the Project and/or the ability to influence its outcome, either positively or negatively, and may include their formal and informal representatives, national or local government authorities, politicians, religious leaders, non-governmental organizations, civil society organizations and groups with special interests, the academic community, or other businesses;

**Subordination Terms** means such subordination terms and conditions for Sponsor Loans as may be specified by the GoS and the Independent Auditor;

**Substitute Insurance** means insurance which addresses substantially the same risk to an insurance required to be effected under Article 18 and the effecting of which the GoS Parties agree to accept as compliance by the Concessionaire with the requirements under Article 18 to effect that insurance;

**Successful Bidder** means ●<sup>9</sup>;

**Taxes** means any tax, charge, impost, tariff, duty or fee of any kind charged, imposed or levied, directly or indirectly, by a Government Authority including any zakat, value added tax, sales tax, notarisation fees, stamp duty, import duty, withholding tax (whether on income, dividends, commission payments, fees, equipment, rentals or otherwise), tax on foreign currency loans or foreign exchange transactions, excise tax, property tax, registration fee or licence, water tax or environmental, energy or fuel tax, including any commission, penalties or additions thereon;

**Technical Parties** means KWSC and the Concessionaire, and **Technical Party** means either of them;

**Technological Improvement(s)** means advancements in technology (including Desalinated Water Supply System with performance, efficiency or durability characteristics materially better to those required under the GoS Project Documents, or technological improvements which may result in a decreased risk to health or safety) other than those advancements that the Concessionaire is required to implement to meet its obligations under Sections 10.1.2 and 26.1;

**Term Expiry Date** means the twenty fifth (25<sup>th</sup>) anniversary of the COD, as may be extended from time to time in accordance with this Agreement;

**Termination Date** means the date specified for termination in the relevant Termination Notice, which shall not be later than sixty (60) from the date of issuance of the Termination Notice;

**Termination Notice** means a notice of termination issued by the Concessionaire or GoS (as applicable), pursuant to Sections 21.3, 21.4, 21.7 or 21.8.4;

**Termination Payment** means, as the context requires, the Termination Compensation (Pre-Commencement Date), the Termination Payment Sum (Concessionaire Default), the Termination Payment Sum (GoS Default), the Termination Payment Sum (NPFME) and/or the Termination Payment Sum (PFME);

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<sup>9</sup> Insert from the Notification of Award.

**Termination Payment Account** means the bank account established and maintained by the Concessionaire and Notified to the Agency for receiving the Termination Payment in accordance with the terms of this Agreement;

**Termination Payment Amount (Coverage)** means, at any given time, an amount equal to fifty percent (50%) of the Outstanding Principal Amount, as certified by the Independent Auditor;

**Termination Payment Amount (Secured)** has the meaning given to it in Section 12.2.1;

**Termination Payment Amount (Unpaid Amounts) Certificate** has the meaning given to it in Section 12.2.11;

**Termination Payment Amount (Unpaid Financing Due)** has the meaning given to it in Section 12.2.11.2;

**Termination Payment Amount (Unpaid Other Amount)** has the meaning given to it in Section 12.2.11.5;

**Termination Payment Amount (Unpaid Total)** has the meaning given to it in Section 12.2.11;

**Termination Payment Amount Certificate** means the certificate to be jointly issued by the Independent Experts pursuant to Section 21.9.2, not later than ten (10) Days from the Termination Date, setting out the relevant Termination Payment;

**Termination Payment Amount (Residual 1 Financing Due)** has the meaning given to it in Section 12.2.11.3;

**Termination Payment Amount (Residual 2 Financing Due)** has the meaning given to it in Section 12.2.11.4;

**Termination Payment Amount (Residual Other Amount)** has the meaning given to it in Section 12.2.11.8;

**Termination Payment Date** means the date on which the GoS has made payment of the relevant Termination Payment to the Concessionaire, such date being within the period that is sixty (60) Days following the Termination Date, as may be extended pursuant to Sections 21.10.4 and 21.10.5;

**Termination Payment Sum (Concessionaire Default)** has the meaning given to it in SCHEDULE M (*Termination Payment*);

**Termination Payment Sum (GoS Default)** has the meaning given to it in SCHEDULE M (*Termination Payment*);

**Termination Payment Sum (NPFME)** has the meaning given to it in SCHEDULE M (*Termination Payment*);

**Termination Payment Sum (PFME)** has the meaning given to it in SCHEDULE M (*Termination Payment*);

**Termination Payment Sum (Pre-Commencement Date)** has the meaning given to it in SCHEDULE M (*Termination Payment*);

**Test Procedures** has the meaning given to it in Section 8.1.1;

**Traffic and Pedestrian Safety Plan** has the meaning given to it in Section 5.5.4;

**Transfer Criteria** means:

- (a) the transferee:
  - (i) is not an Adverse Person;
  - (ii) is not a defaulter of any bank or financial institution; and
  - (iii) in the sole opinion of the GoS, complies with the relevant qualification and evaluation criteria for such outgoing Sponsor as set out at the bidding stage of the Project; and
- (b) the transfer of shareholding is in compliance with the applicable Legal Requirements;

**Transferring Sponsor** has the meaning given to it in Section 16.4.2.1(b);

**Unavailability** or **Unavailable** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Unavailability Notice** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Unenforceability Event** means circumstances where:

- (a) there is a Disputed Obligation; and
- (b) there is a final and binding determination of an arbitral tribunal or of a Pakistan court that the Disputed Obligation is illegal, invalid, void, voidable or unenforceable under the applicable Legal Requirements; and
- (c) such illegality, invalidity, voidability or unenforceability under the applicable Legal Requirements materially impairs:
  - (i) the rights of the Financing Parties under the Financing Documents; or
  - (ii) the ability of the Concessionaire to perform its obligations under the Project Agreements or the Financing Documents,

provided that the Concessionaire must have used its best efforts to mitigate such consequences (or the event itself). For the purposes of this definition, “*materially*” means a material impairment in the Concessionaire’s rights to receive Water Tariff Payment in terms of this Agreement; and

- (d) the Concessionaire is not otherwise adequately compensated for the material impairment described in paragraph (c) above by way of remedy or relief pursuant to this Agreement or otherwise;

**Uninsurable** means, in relation to a risk:

- (a) insurance required under Article 18 is not available:
  - (i) in recognized international insurance markets in respect of that risk generally; or
  - (ii) to the Concessionaire due to the capacity of insurers being filled in respect of that risk,

on the terms required by this Agreement (including where exclusions materially adversely impact on the insurability of that risk) from insurers having the required rating in terms of Section 18.1.2.2; or

- (b) the insurance premium (the **Excessive Insurance Premium**) payable for insuring that risk with such an insurer is three (3) times of the premium rate of the most recent Insurance Policy, on the PKR or USD amount of the relevant risk (as applicable) or the terms and conditions are such that the risk is not generally being insured against by private sector providers of facilities similar to the Desalinated Water Supply System in the worldwide insurance market,

provided, that to the extent the unavailability of insurance is caused or contributed to by:

- (a) a breach of this Agreement or any Law by the Concessionaire, the Sponsors and/or the Contractors;
- (b) an act or omission of the Concessionaire, the Sponsors and/or the Contractors under the relevant Insurance Policy;
- (c) a negligent act or omission or wilful default of the Concessionaire, the Sponsors and/or the Contractors, whether in relation to the Project or generally,

the risk will not be Uninsurable for purposes of this definition;

**Uninsurable Force Majeure Event** means the Uninsurable NPFME and/or Uninsurable PFME (as applicable);

**Uninsurable NPFME** means an NPFME to the extent that insurance against that risk of its occurrence or consequences is Uninsurable;

**Uninsurable PFME** means a PFME to the extent that insurance against that risk of its occurrence or consequences is Uninsurable;

**United States Dollars** or **USD** means United States Dollars, the lawful currency of United States of America;

**Unplanned Downtime** has the meaning given to it in **SCHEDULE H (Water Tariff Payment Calculation)**;

**Unplanned Downtime Maintenance Program** has the meaning given to it in Section 10.5.2.2;

**VIS** means the VIS Credit Rating Company Limited (formerly JCR-VIS Credit Rating Company Limited);

**Waste** includes any substance (whether solid, liquid or gaseous) that is:

- (a) a discarded, rejected, unwanted, surplus or abandoned substance which includes sludge produced by the Desalinated Water Supply System;
- (b) as otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance; or
- (c) described as waste in the E&S Laws, including prescribed industrial wastes;

**Water Tariff Payment** means following the COD:

- (a) the Capacity Payment; and
- (b) the Output Payment,

in each case, payable in accordance with **SCHEDULE H (Water Tariff Payment Calculation)** and the terms of this Agreement;

**Water Tariff Payment (Debt Principal Recovery Charge Installment)** means an amount equal to the first (1<sup>st</sup>) Debt Principal Recovery Charge;

**Water Tariff Payment Account (Concessionaire)** means the account to be established and maintained by the Concessionaire, in which Water Tariff Payment payable by the GoS in terms of this Agreement is paid;

**Water Tariff Payment Account (GoS)** means the account established, funded and maintained by the GoS in accordance with Section 12.1;

**Water Tariff Payment Account (GoS) Bank** means a scheduled bank in Pakistan with a minimum long-term credit rating of AA- as rated by VIS or an equivalent rating by PACRA;

**Water Tariff Payment Certificate** has the meaning given to it in Section 13.5.1;

**Water Tariff Payment Certificate Issuance Date** has the meaning given to it in Section 13.3.1;

**Water Tariff Payment Account (GoS) Letter of Lien** has the meaning given to it in Section 12.1.9;

**Water Tariff Payment Account (GoS) Funding Amount** means, in relation to:

- (a) the first (1<sup>st</sup>) Water Tariff Payment Date, an amount equal to the Water Tariff Payment due in the first (1<sup>st</sup>) Billing Period and the Water Tariff Payment (Debt Principal Recovery Charge Installment);
- (b) the second (2<sup>nd</sup>) Water Tariff Payment Date, an amount equal to the Water Tariff Payment due in the second (2<sup>nd</sup>) Billing Period;
- (c) in respect of any other Water Tariff Payment Date, X,

Where:

X: the Water Tariff Payment Account (GoS) Funding Amount, being A-(B-C);

A: the Water Tariff Payment relating to such Water Tariff Payment Date;

B: the funds standing to the credit of the Water Tariff Payment Account (GoS) (other than the Water Tariff Payment (Debt Principal Recovery Charge Installment, except in case of the Water Tariff Payment through which payment of the final Debt Interest Recovery Charge and Debt Principal Recovery Charge is made, for which purposes such amount shall be considered in this formula) on the Water Tariff Payment Evaluation Date relating to the Water Tariff Payment Date falling immediately prior to such Water Tariff Payment Date;

- C: the Water Tariff Payment (subject to Deduction for Downtime determined by the Independent Experts in the Water Tariff Payment Certificate) relating to the Water Tariff Payment Date falling immediately prior to such Water Tariff Payment Date;

**Water Tariff Payment Account (GoS) Standing Instructions** means the standing instructions issued to the Water Tariff Payment Account (GoS) Bank, in the form attached in part 1 (*Water Tariff Payment Account (GoS) Standing Instructions*) of **SCHEDULE I (Accounts Standing Instructions)**;

**Water Tariff Payment Certificate** means the certificate issued by the Independent Experts in accordance with Section 13.3.1;

**Water Tariff Payment Date** means each such date on which the Water Tariff Payments shall be paid by the GoS to the Concessionaire, being the dates set out in the Water Tariff Payment Schedule;

**Water Tariff Payment Evaluation Date** means:

- (a) in respect of the first (1<sup>st</sup>) Water Tariff Payment Date, the Water Tariff Payment Date; and
- (b) in respect of each other Water Tariff Payment Date, thirty (30) Days immediately prior to such Water Tariff Payment Date;

**Water Tariff Payment Evaluation Period** means:

- (a) in respect of the first (1<sup>st</sup>) Water Tariff Payment Date, a period equal to zero (0) Days;
- (b) in respect of the second (2<sup>nd</sup>) Water Tariff Payment Date, a period equal to zero (0) Days; and
- (c) in respect of each other Water Tariff Payment Date, the period between the two (2) Water Tariff Payment Evaluation Dates falling immediately prior to such Water Tariff Payment Date;

**Water Tariff Payment Funding Date** means:

- (a) in respect of the first (1<sup>st</sup>) Water Tariff Payment Date, the date falling three (3) Months prior to the projected COD (as certified by the Independent Engineer); and
- (b) in respect of each other Water Tariff Payment Date, the date falling ten (10) days following issuance of a Water Tariff Payment Certificate relating to the Water Tariff Payment Date falling immediately prior to such Water Tariff Payment Date;

**Water Tariff Payment Invoice** means the certificate issued by the Independent Experts in accordance with Section 13.4.2.1; and

**Water Tariff Payment Schedule** means the schedule setting out, *inter alia*, the Water Tariff Payment Dates and the Water Tariff Payments, as set out in part 4 (*Water Tariff Payment Schedule*) of **SCHEDULE H (Water Tariff Payment Calculation)** and as updated on or prior to the Commencement Date.

## 1.2 INTERPRETATION

The following rules of construction and interpretation apply to this Agreement:

- 1.2.1 periods of time refer to the Gregorian calendar and reference to a time of Day shall be construed as a reference to the time of Day in Pakistan;
- 1.2.2 a “*person*” includes any individual, company, corporation, firm, partnership, joint venture, association (whether a body corporate or an unincorporated association of persons) or any government institution, department or establishment, and a person shall be construed as including a reference to its successors, permitted assigns and permitted transferees in accordance with their respective interests;
- 1.2.3 words importing the singular number include the plural and vice versa, and words importing a gender include the other gender;
- 1.2.4 the descriptive headings in this Agreement, including the cover page and table of contents, are for convenience of reference only and not for purposes of construction or interpretation of its provisions;
- 1.2.5 unless specifically provided otherwise, the words “*herein*” and “*hereunder*”, and words of similar import, refer to the entirety of this Agreement and not only to the Section in which such use occurs;
- 1.2.6 a reference to a “*Section*”, “*Schedule*” or “*attachment*” is a reference to a Section of this Agreement, a Schedule to this Agreement, or an attachment to a Schedule;
- 1.2.7 this Agreement is to be read and construed as a whole; anything mentioned in any of the documents comprising this Agreement shall be of like effect as if stated or mentioned in all of them. In the event of a conflict between the Sections and the Schedules, the Independent Experts shall endeavour, in the first instance, to resolve the conflict by reading this Agreement as a whole and the provision that is more specific to the subject matter shall govern. If, notwithstanding the Independent Experts’ good faith efforts to resolve the conflict as provided in the preceding sentence, the conflict continues to persist, the provision in the Sections shall govern;
- 1.2.8 where an obligation of a Party to make payment under this Agreement, as a result of the calculation of time, falls on a Day other than a Business Day, such time for performance shall be extended to the next Business Day;
- 1.2.9 “*including*” or “*includes*” shall be deemed to be qualified by a reference to “*without limitation*”;
- 1.2.10 reference to “*this Agreement*” or any other agreement or document shall be construed as a reference to such agreement or document as amended, modified or supplemented and in effect from time to time and shall include a reference to any document which amends, modifies or supplements it, or is entered into, made or given pursuant to or in accordance with its terms;
- 1.2.11 the “*face amount*” of a letter of credit or guarantee, shall be construed as a reference to the remaining amount available for drawing under that letter of credit or guarantee;
- 1.2.12 neither the giving of any approval or consent, the review, knowledge or acknowledgement of the terms of any document by or on behalf of the GoS Parties or the Independent Experts, nor the failure to do so, shall, unless expressly stated in this Agreement, relieve the Concessionaire of any of its obligations under this Agreement or of any duty which it may have under this Agreement to

ensure the correctness, accuracy or suitability of the matter or thing which is the subject of the approval, consent, review, knowledge or acknowledgement;

1.2.13 the rule of construction, if any, that an agreement should be interpreted against the Party responsible for the drafting and preparation thereof shall not apply to this Agreement; and

1.2.14 the Parties acknowledge that liquidated damages for specific defaults prescribed under this Agreement are representative of the actual losses, liabilities, damages, costs, charges, or expenses that shall be suffered by the non-defaulting Party due to failure of the defaulting Party to perform its obligations in accordance with this Agreement and are not in the nature of a penalty.

## **2. CONCESSION TERM**

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### **2.1 GRANT OF CONCESSION**

2.1.1 In consideration of the Concessionaire's obligations contained in this Agreement and relying on the Concessionaire's representations, warranties and covenants contained herein, KWSC, subject to the terms of this Agreement, grants to the Concessionaire the right and authorizes it to:

2.1.1.1 carry out the Conditions Precedent Activities during the Conditions Precedent Period, the Construction Activities during the Construction Period, and the O&M Activities during the Operations Period, on a DFBOMT basis;

2.1.1.2 exercise and enjoy the rights, powers, benefits, privileges, authorizations, and entitlements as set forth in this Agreement,

(collectively referred to as the **Concession**).

2.1.2 The Concessionaire agrees and undertakes to implement the Project in accordance with the terms of this Agreement.

### **2.2 CONCESSION**

Unless otherwise stated, this Agreement shall become effective on the Effective Date. The Concession is granted to the Concessionaire and shall be effective in accordance with the terms of this Agreement.

### **2.3 EXTENSION OF CONCESSION PERIOD**

The Concession Period may be extended for an additional period, if:

2.3.1 not less than eighteen (18) Months prior to the Term Expiry Date, the GoS Parties (acting jointly) provide a notice to the Concessionaire, or the Concessionaire provides a notice to the GoS Parties, requesting that the Parties enter into good faith negotiations to extend the Concession Period;

2.3.2 subject to the Parties having agreed to enter into good faith negotiations pursuant to Section 2.3.1, not later than twelve (12) Months prior to the Term Expiry Date, the Parties agree to the terms of such extension;

2.3.3 not later than six (6) Months prior to the Term Expiry Date, the Parties enter into a binding agreement in writing, confirming the agreed terms of the extension (including any adjustments to the Water Tariff Payment); and

2.3.4 any requisite approval for the extension of the Concession Period (including any adjustments to the Water Tariff Payment) is obtained from the Competent Authorities in accordance with the Legal Requirements.

### **3. COMMENCEMENT**

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#### **3.1 NOT USED**

#### **3.2 COMMENCEMENT DATE**

3.2.1 The rights and obligations of the Parties to undertake the Construction Activities shall be conditional upon the issuance of the Commencement Certificate by the Independent Experts certifying in writing the satisfaction, deferral or waiver by the relevant Party as provided in **SCHEDULE D (Conditions Precedent)** of all the Conditions Precedent (the date of such certification being the **Commencement Date**). The Concessionaire shall procure that the Commencement Certificate is issued by the Independent Experts within five (5) Business Days of the occurrence of such satisfaction, deferral or waiver.

3.2.2 Each Party shall use its best endeavours to cause the Commencement Date to occur on or before the Scheduled Commencement Date.

#### **3.3 REPORTS PRIOR TO THE COMMENCEMENT DATE**

On a regular (at least weekly) basis from the appointment of the Independent Experts to the Commencement Date, the Concessionaire shall advise the Independent Experts as to the status of the satisfaction of the Conditions Precedent for which the Concessionaire is responsible; provided, that:

3.3.1 no review or approval by the Independent Experts of any Conditions Precedent shall relieve the Concessionaire from any liability that it would otherwise have had in respect of such Conditions Precedent or failure to comply with the applicable Legal Requirements or this Agreement with respect thereto; and

3.3.2 neither the GoS Parties, the Independent Experts nor any of their representatives or any of their advisors shall be liable to the Concessionaire or any other person by reason of their review or approval of any Conditions Precedent.

#### **3.4 DELAY IN ACHIEVING THE COMMENCEMENT DATE**

3.4.1 If, the achievement of the Commencement Date has been delayed due to:

3.4.1.1 any delay or failure on the part of a GoS Party in the performance of its obligations under this Agreement, which is not otherwise attributable to the Sponsors, the Concessionaire or any of its Contractors; or

3.4.1.2 the occurrence of a Force Majeure Event,

the Independent Experts shall confer with the Parties with a view to equitably adjusting the Scheduled Commencement Date and the Implementation Schedule, taking into account:

3.4.1.3 the effect which the Concessionaire demonstrates is solely attributable to the GoS Parties' delay or failure and which would not have occurred but for such delay or failure;

3.4.1.4 the effect which the Concessionaire demonstrates is solely attributable to the occurrence of a Force Majeure Event and which would not have occurred but for such delay or failure; and

- 3.4.1.5 the ability of the Parties to reschedule their obligations to avoid or minimise the overall resulting delays and ensure that any such adjustment to the Scheduled Commencement Date and the Implementation Schedule is limited to that necessary and is a consequence of the delay or failure.
- 3.4.2 The remedies set out in this Section 3.4 shall be the Concessionaire's sole and exclusive remedies with respect to any delay in achieving the Commencement Date by the Scheduled Commencement Date due to any matter referred to in Section 3.4.1; provided, that if the Concessionaire fails to achieve the Commencement Date by the Scheduled Commencement Date (as adjusted under Section 3.4.1), then, unless the Scheduled Commencement Date is extended in accordance with Section 3.4.3, either Commercial Party may exercise its right to terminate this Agreement pursuant to Section 21.3.
- 3.4.3 If, for reasons other than those specified under Section 3.4.1, the Concessionaire is unable to achieve the Commencement Date by the Scheduled Commencement Date then, subject to Section 3.4.4, the Scheduled Commencement Date shall be extended for a period not exceeding sixty (60) Days. No later than twenty (20) Days prior to the Scheduled Commencement Date, the Concessionaire shall provide written notice to the Independent Experts of its expected inability to achieve the Commencement Date by the Scheduled Commencement Date (the **Commencement Date Delay Notice**).
- 3.4.4 The extension of the Scheduled Commencement Date pursuant to Section 3.4.3 shall be subject to the Concessionaire providing the Commencement Date Delay Notice.
- 3.4.5 The Concessionaire acknowledges that any adjustment to the Scheduled Commencement Date pursuant to Section 3.4.3 shall not entitle the Concessionaire to any adjustment to the Implementation Schedule or any Water Tariff Payment.

## 4. PROJECT IMPLEMENTATION

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### 4.1 CONCESSIONAIRE'S OBLIGATIONS

- 4.1.1 The Concessionaire shall deliver the Construction Performance Security to the GoS on or before the Effective Date and shall maintain the same in full force and effect until the expiry of a period of six (6) Months from the COD (the **Construction Performance Security Expiry Date**). The Concessionaire shall notify GoS of the impending expiry of the Construction Performance Security not more than three (3) Months and not less than two (2) Months prior to the date when it is due to expire. If the Construction Performance Security is not extended at least one (1) Month prior to the Construction Performance Security Expiry Date, the Parties acknowledge and agree that the GoS may encash the full amount of the Construction Performance Security; provided, that on submission of extended Construction Performance Security by the Concessionaire, as confirmed by the Independent Auditor to the GoS, in compliance with this Section 4.1.1, and subject to receipt of relevant approvals, applicable Legal Requirements and permitted deductions, the GoS shall return the relevant encashed amount of the Construction Performance Security to the Concessionaire. The Construction Performance Security shall be returned to the Concessionaire on the Construction Performance Security Expiry Date; provided, that no claim for payment is outstanding on such date, in which case it will be returned on satisfaction of such claim. The Parties have agreed that the amount of the Construction Performance Security is reasonable and in accordance with the Legal Requirements.
- 4.1.2 The Concessionaire shall deliver the first (1<sup>st</sup>) O&M Performance Security to the GoS on or before the Scheduled COD. The Concessionaire shall replace the first (1<sup>st</sup>) O&M Performance Security with the second (2<sup>nd</sup>) O&M Performance Security and this process shall be followed for each following Operating Contract Year. Each O&M Performance Security shall be kept valid until the date occurring two (2) Months after expiry of the Operating Contracting Year to which it relates (the **O&M Performance Security Expiry Date (Annual)**). The final O&M Performance Security shall be kept valid until the later of: (a) expiry of a period of six (6) Months from the Final Expiry Date; and (b) the date determined in accordance with Section 21.10.3 (the **O&M Performance Security Expiry Date (Final)**). The Concessionaire shall notify the GoS of the impending expiry of the O&M Performance Security not more than three (3) and not less than two (2) Months prior to the O&M Performance Security Expiry Date. If the O&M Performance Security is not replaced with the O&M Performance Security for the following Operating Contract Year at least one (1) Month prior to the O&M Performance Security Expiry Date, the Parties acknowledge and agree that GoS may encash the full amount of the O&M Performance Security; provided, that on submission of the replacement O&M Performance Security by the Concessionaire, as confirmed by the Independent Auditor to the GoS, in compliance with this Section 4.1.2, and subject to receipt of relevant approvals, applicable Legal Requirements and permitted deductions, the GoS shall return the relevant encashed amount of the O&M Performance Security to the Concessionaire. The O&M Performance Security shall be returned to the Concessionaire on the O&M Performance Security Expiry Date (Annual) or the O&M Performance Security Expiry Date (Final) (as applicable); provided, that no claim for payment is outstanding on such date, in which case it will be returned on satisfaction of such claim. The Parties have agreed that the amount of the O&M Performance Security is reasonable and in accordance with the Legal Requirements.
- 4.1.3 The Performance Securities:
- 4.1.3.1 shall be issued and maintained without any recourse on the Concessionaire, its assets or properties and all costs, expenses, fees and other charges of any nature associated with the issuance, maintenance and encashment of the Performance Securities shall be borne by the Sponsors;

- 4.1.3.2 shall not be secured by the property or assets comprising of the Desalinated Water Supply System or the Project Site; and
- 4.1.3.3 shall be encashed on demand in accordance with the terms of this Agreement.
- 4.1.4 The Concessionaire undertakes that no Encumbrance of any nature shall be created on the Project Site, or any immovable assets and immovable properties comprising of the Desalinated Water Supply System, unless the same have been constructed and/or procured by the Concessionaire, in which case an Encumbrance may be created on the properties constructed and/or procured by the Concessionaire in accordance with the Financing Documents.
- 4.1.5 The Concessionaire shall cause and be responsible for:
- 4.1.5.1 the due and proper application for all Approvals and all renewals thereof required to be obtained in the name of the Concessionaire in connection with the transactions contemplated by this Agreement, other Project Agreements and the Financing Documents, the diligent effort to obtain, the receipt of, and the maintenance of, all such Approvals until the Final Expiry Date;
- 4.1.5.2 preparation of, and compliance with the requirements of, the E&S Impact Assessment;
- 4.1.5.3 development, implementation, operation and maintenance of the E&S Management System;
- 4.1.5.4 procurement and use of any temporary land identified by the E&S Impact Assessment as required by the Concessionaire for the Project Activities, in compliance with the E&S Requirements, and any mitigation measures set out in the E&S Impact Assessment and subsequent E&S Management System;
- 4.1.5.5 the due and proper application for, the diligent effort to obtain, and the receipt of, any visas, work permits, employment permits, dependents' permits, licences and other permits required for all individuals involved in the Project on behalf of or pursuant to contracts with the Concessionaire;
- 4.1.5.6 executing all Project Agreements and Financing Documents, in a timely manner;
- 4.1.5.7 co-operating with KWSC in the identification of the applications to be made by KWSC referred to in Section 4.2.3 and supporting such applications, including providing reasonable assistance in the preparation thereof, so as to expedite the consideration thereof by the appropriate Government Authority; provided, that such applications are in compliance with all applicable Legal Requirements and the terms and conditions of each Project Agreement in connection with which such application is made;
- 4.1.5.8 delivering to the Independent Experts and the GoS Parties, each of the documents required to be delivered in accordance with **SCHEDULE D (Conditions Precedent)** not later than the time for delivery thereof set out therein;
- 4.1.5.9 achieving the Commencement Date on or before the Scheduled Commencement Date; and
- 4.1.5.10 achieving the COD on or before the Scheduled COD.

## **4.2 KWSC'S OBLIGATIONS**

KWSC shall cause and be responsible for:

- 4.2.1 making available, or causing to be made available, to the Concessionaire, the Project Site in accordance with Article 5;

- 4.2.2 the due and proper application for, the diligent effort to obtain, and the receipt of, all Approvals and all renewals thereof that are required to be obtained in the name of KWSC in connection with the transactions contemplated by this Agreement;
- 4.2.3 executing the GoS Project Documents to which it is a party in a timely manner; and
- 4.2.4 delivering to the Independent Experts and the Concessionaire, each of the documents required to be delivered in accordance with **SCHEDULE D (Conditions Precedent)** not later than the time for delivery thereof set out therein.

#### **4.3 GOS' OBLIGATIONS**

The GoS shall cause and be responsible for:

- 4.3.1 as reasonably requested by the Concessionaire, discussing the Project with and providing publicly available and/or non-confidential information about GoS Parties to financial institutions interested in providing financing for the Project; provided, that the GoS Parties shall not be required to make any representations, warranties or undertakings or otherwise incur any liability in connection with any such discussion or in connection with the Financing Documents;
- 4.3.2 making all payments to the Concessionaire in accordance with the terms of this Agreement (including the Water Tariff Payment and the Termination Payments);
- 4.3.3 executing the GoS Project Documents in a timely manner; and
- 4.3.4 delivering to the Independent Experts and the Concessionaire, each of the documents required to be delivered in accordance with **SCHEDULE D (Conditions Precedent)** not later than the time for delivery thereof set out therein.

#### **4.4 SUB-CONTRACTORS**

- 4.4.1 The appointment of the EPC Contractor or the O&M Contractor or any other contractor or supplier shall not relieve the Concessionaire of any of its obligations under this Agreement.
- 4.4.2 All references in this Agreement to any act, default, omission, breach or negligence of the Concessionaire shall be construed to include any such act, default, omission, breach or negligence of the Contractors or any other contractor or supplier of the Concessionaire or those of the Contractors.
- 4.4.3 The Concessionaire shall ensure that the EPC Contract and O&M Contract contain provisions required in terms of **SCHEDULE L (Environment, Health and Safety Requirements)** and which further provide for such contracts to be, at the option of the GoS, novated or assigned to the GoS or its nominee without any further consent or approval from the Concessionaire or the Contractor, or entitle the GoS or its nominee to step into such contract, in substitution of the Concessionaire, if this Agreement is terminated prior to the Term Expiry Date; provided, that the step-in rights of the GoS shall be subject to any substitution rights of the Financing Parties and IZP (if applicable) under the Concession Direct Agreement.
- 4.4.4 The Concessionaire shall at all times comply and shall procure that any Contractors, third-party contractors and subcontractors comply, with the E&S Requirements, in relation to the performance of the Project Activities.

#### **4.5 GOS AND KWSC REPRESENTATIVES**

Each of the GoS Parties shall be entitled from time to time to appoint one (1) or more representatives to support it or represent it in connection with the implementation of the Project. Each GoS Party shall notify the Concessionaire from time to time of its appointed representatives and their roles and responsibilities. Unless and to the extent specified by a GoS Party in writing to the contrary, no such representative shall have authority to act on a GoS Party's behalf for the purpose of giving any instruction or notice under this Agreement or otherwise taking any action binding on a GoS Party for any purpose in connection with this Agreement.

#### **4.6 KWSC PROJECT SITE FACILITIES**

The Concessionaire shall ensure that office(s) and related facilities are provided at the Project Site for the use of KWSC and its representative, in accordance with the requirements set out in **SCHEDULE A (Technical Specifications)**.

#### **4.7 HUMAN RESOURCE POLICIES AND RESOURCES**

4.7.1 The Concessionaire shall (and shall procure that each Contractor shall) develop and maintain written human resource policy and procedures in accordance with the Legal Requirements, including the E&S Standards (the **HR Policy and Procedure**). The HR Policy and Procedure shall be prepared and submitted to the Independent Engineer as a Condition Precedent.

4.7.2 The HR Policy and Procedures shall clearly describe, in relation to the Concessionaire, the working conditions, terms of employment, management of workers' relationship, grievance redress mechanism, and the roles and responsibilities of the Concessionaire and its employees.

4.7.3 The HR Policy and Procedures developed in terms of Section 4.7.1 shall be made available to the respective employees of the Concessionaire and each of the Contractors.

#### **4.8 STAKEHOLDER ENGAGEMENT PLAN**

4.8.1 KWSC shall engage with the Settlements in order to:

4.8.1.1 share information regarding the Project;

4.8.1.2 confirm the water needs of the Settlements and their willingness and/or ability to pay for the water delivered from the Desalinated Water Supply System; and

4.8.1.3 assess the infrastructure needs of the Settlements and available water storage facilities at community and household levels.

4.8.2 KWSC, if required, shall also liaise with the Competent Authorities to ensure that the Settlements are able to legally access the water delivered from the Desalinated Water Supply System.

4.8.3 KWSC shall develop and implement in coordination with the Concessionaire a stakeholder engagement plan (the **Stakeholder Engagement Plan**) in compliance with the Legal Requirements and the E&S Standards and accounting for all consultations and engagements conducted pursuant to Sections 4.8.1 and 4.8.2.

#### **4.9 TEMPORARY LAND**

4.9.1 The Concessionaire shall procure and use any temporary land identified by the E&S Impact Assessment as required by the Concessionaire for the Project Activities.

4.9.2 The procurement or use of any land in terms of Section 4.9.1 shall be subject to an E&S Impact Assessment conducted for such land and compliance with the E&S Requirements.

## **5. PROJECT SITE**

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### **5.1 ACCESS**

If the Concessionaire (or its Contractors) require access to the Project Site prior to execution of the License Agreement, for the purposes of conducting preliminary activities such as investigations of the geotechnical or hydrological conditions of the Project Site, KWSC will support the Concessionaire in granting such access. If agreed, such access will be granted to the Concessionaire (or its Contractors) on the terms and conditions to be agreed and recorded in writing between the Concessionaire and KWSC. If and when such access is granted, the indemnities set out in Article 23 shall become fully effective in respect of the access to and activity on the Project Site.

### **5.2 LICENSE AGREEMENT**

With effect from the Commencement Date, KWSC shall procure that the Project Site is made available to the Concessionaire upon and subject to the terms of the License Agreement.

### **5.3 ACCESS FOR GOS PARTIES AND THEIR DESIGNEES**

The Concessionaire shall permit, and shall procure that its Contractors permit the GoS Parties, the Independent Experts, and the GoS Parties' representatives and designees to enter upon the Project Site at any time:

- 5.3.1 to monitor, sample, or otherwise investigate the nature and volume of discharges or other emissions from the Desalinated Water Supply System;
- 5.3.2 to ensure that any interconnection to any utility system is not adversely affecting or will not adversely affect such system;
- 5.3.3 in response to a fire, explosion or any other like event to preserve the safety or health of persons, materials or equipment at the Desalinated Water Supply System, or elsewhere on the Project Site;
- 5.3.4 to permit the GoS Parties, as may be required, to exercise their rights and comply with their obligations under this Agreement and the other GoS Project Documents;
- 5.3.5 to permit KWSC to comply with any applicable Legal Requirements; or
- 5.3.6 in connection with an Archaeological Delay Event, for the purposes of liaising with any Government Authority in connection with the removal of Archaeological Items from the Project Site.

### **5.4 EXERCISE OF ACCESS RIGHTS**

In exercising the right of access under Section 5.3, each GoS Party shall cause its representatives and designees to comply with all applicable Legal Requirements and the reasonable directions of the Concessionaire. Each GoS Party shall exercise its access rights for the purposes specified in Section 5.3 in a manner that does not interfere with, or increase the cost of, the Concessionaire's activities on the Project Site and shall adhere to the reasonable safety rules and procedures of the Concessionaire that are consistent with Good International Industry Practices.

### **5.5 ACCESS ROUTES AND TRANSPORTATION**

- 5.5.1 The Concessionaire shall be responsible for the selection and usage of all transportation means, transportation routes, roads, bridges, highways and routes to and from the Project Site in respect

of performance of its obligations under this Agreement, and the GoS Parties shall not be responsible for any claims attributable to the Concessionaire in respect of the same.

5.5.2 The Concessionaire shall be responsible for obtaining and maintaining all necessary Approvals required for usage of routes and transportation means as contemplated in Section 5.5.1.

5.5.3 The Concessionaire shall at all times ensure that the access roads are adequate and suitable for the Project Activities and should be maintained in consultation with the Competent Authorities, each at the cost of the Concessionaire.

5.5.4 The Concessionaire shall develop and implement a plan, as part of the E&S Management System, to ensure the safe movement of traffic during the Project Activities, and to allow the Settlements safe access for crossing of the Desalinated Water Supply System, as outlined in part 2 (*E&S Management System*) of **SCHEDULE L (Environment, Health and Safety Requirements)** (the **Traffic and Pedestrian Safety Plan**).

## **5.6 PROJECT SITE RISKS**

5.6.1 KWSC has made available to the Concessionaire the information in KWSC's possession in connection with the Project Site and the Desalinated Water Supply System as set out in **SCHEDULE A (Technical Specifications)** (the **Project Site Information**).

5.6.2 The Concessionaire shall be deemed to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or affect the implementation of the Project at the Project Site.

5.6.3 The Concessionaire shall also be deemed to have inspected and examined the Project Site and its surroundings, analysed and verified the accuracy and reliability of the Project Site Information and to have satisfied itself as to all the relevant matters including:

5.6.4 the nature of the Project Site, including the subsurface, hydrological, climatic and general physical conditions of the Project Site;

5.6.4.1 the suitability of the Project Site for undertaking the Project Activities;

5.6.4.2 the extent, nature and availability of labour, material, transport, accommodation, storage facilities and other facilities and resources necessary to undertake the Project;

5.6.4.3 the nature of design, construction work and operations and maintenance services necessary for the performance of its obligations under this Agreement;

5.6.4.4 the Legal Requirements for undertaking the Project;

5.6.4.5 the risk of injury or damage to the Adjoining Property and to the occupiers thereof or any other risk;

5.6.4.6 the suitability and adequacy of any access roads to the Project Site and other utilities and facilities to be provided by the relevant Government Authority; and

5.6.4.7 all other matters that may affect the performance of its obligations under this Agreement.

5.6.5 The Concessionaire acknowledges and agrees that except as otherwise provided in this Agreement, if any error or discrepancy is subsequently discovered in the data, including the Project Site Information, made available by KWSC or any other person on its behalf, then, such error or discrepancy shall not entitle the Concessionaire to any change in the Implementation Schedule,

and/or compensation for Relief Costs or any other costs it may incur. Further, any misinterpretation of the data, studies and reports provided by KWSC or any other person on its behalf shall not relieve the Concessionaire from the performance of its obligations under this Agreement.

## **5.7 DISCLAIMER**

- 5.7.1 The Concessionaire acknowledges that it has, after a complete and careful examination, made an independent evaluation of the RFP, the scope of the Project, this Agreement, the Project Site, the Project Site Information, existing structures, local conditions and all information provided by KWSC (or any other person on its behalf) or obtained, procured or gathered otherwise and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. The GoS Parties make no representations whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by either and the Concessionaire confirms that it shall have no claim whatsoever against any GoS Party in this regard.
- 5.7.2 The Concessionaire acknowledges and hereby accepts the risk of any inadequacy, mistake or error in or relating to any of the matters specified in Section 5.7.1 and hereby acknowledges and agrees that the GoS Parties shall not be liable for the same in any manner whatsoever to the Concessionaire or any person claiming through or under any of them.
- 5.7.3 Any mistake or error in or relating to any of the matters specified in Section 5.7.1 shall not vitiate this Agreement or render it voidable.
- 5.7.4 In the event that either Technical Party becomes aware of any mistake or error relating to any of the matters specified in Section 5.7.1, that Technical Party shall immediately notify the other Technical Party, specifying the mistake or error; provided, however, that a failure on part of KWSC to give any notice pursuant to this Section 5.7.4 shall not prejudice the disclaimer contained in Section 5.7.1 and shall not in any manner reallocate to the GoS Parties any risks, obligations or liabilities assumed by the Concessionaire pursuant to this Agreement.
- 5.7.5 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Concessionaire and the GoS Parties shall not be liable in any manner for such risks or the consequences thereof.

## **5.8 PROJECT SITE SECURITY**

- 5.8.1 From the Commencement Date, the Concessionaire shall be responsible for making all necessary arrangements to secure the Project Site, and all persons, and moveable and immoveable properties present at or forming part of the Project Site.
- 5.8.2 The KWSC shall provide reasonable security outside the Project Site premises during the Construction Period, as and when requested by the Concessionaire; provided, that the Concessionaire makes a written request thirty (30) Days prior to when the support from KWSC is required and furnish reasonable details in the request as to the nature, time, and location where such security is to be provided.
- 5.8.3 The Concessionaire shall ensure that employment of direct or contracted workers to provide security for the Project Site will be undertaken following an assessment of risks posed by its security arrangements to those within and outside the Project Site.

5.8.4 All security arrangements shall be guided by the principles of proportionality and Good International Industry Practice.

## 6. CONSTRUCTION

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### 6.1 CONSTRUCTION DOCUMENTS

- 6.1.1 The Concessionaire shall be responsible for preparing the Construction Documents in a manner consistent with the requirements of **SCHEDULE A (Technical Specifications)** and other provisions of this Agreement, Good International Industry Practices, the E&S Requirements and in accordance with any other relevant Legal Requirements.
- 6.1.2 The Construction Documents shall be prepared in English language.
- 6.1.3 Within five (5) Months of the Effective Date, the Concessionaire shall prepare, and submit to the Independent Engineer (with a copy to the GoS Parties) for its approval, the proposed Detailed Engineering Design and the proposed Construction Drawings (the **Proposed Construction Documents**). Within thirty (30) Days of receipt thereof, the Independent Engineer shall review the Proposed Construction Documents, and (following consultation with the GoS Parties), either approve the Proposed Construction Documents or reject the Proposed Construction Documents and convey comments/observations (if any) relating to the same, to the Concessionaire, provided, that the Independent Engineer may only refuse to approve the Proposed Construction Documents if the same fail to comply with the requirements of Section 6.1.1.
- 6.1.4 In the event no comments in relation to the Proposed Construction Documents are provided by the GoS Parties in accordance with Section 6.1.3 within the thirty (30) Day review period, it shall be deemed that (a) the GoS Parties have no comments in relation to the Proposed Construction Documents, and (b) consultation by the Independent Engineer with the GoS Parties has already been undertaken.
- 6.1.5 The Concessionaire shall (at its own cost and expense) re-submit the revised Proposed Construction Documents no later than five (5) Days from receipt of the rejection and/or comments/observations under Section 6.1.3, and the approval process under this Section 6.1 shall be repeated until all comments/observations are addressed and the Proposed Construction Documents have been approved.
- 6.1.6 If any errors, omission, ambiguities, inconsistencies, inadequacies, or other defects are found in the Construction Documents, such Construction Documents and any resultant error in the construction and rehabilitation of the Desalinated Water Supply System shall be corrected at the Concessionaire's cost, notwithstanding any consent or approval under this Section 6.1.
- 6.1.7 Unless the Independent Engineer (after consulting the GoS Parties) permits, the Concessionaire shall not commence any construction activities for the Desalinated Water Supply System until the Proposed Construction Documents have been approved in terms of this Section 6.1.

### 6.2 CONSTRUCTION OF THE DESALINATED WATER SUPPLY SYSTEM

- 6.2.1 The Concessionaire shall undertake the Construction Activities in accordance with the parameters set out in **SCHEDULE A (Technical Specifications)** and **SCHEDULE E (Testing)** such that the Desalinated Water Supply System is:
- 6.2.1.1 free from all defects in design, materials, and workmanship;
- 6.2.1.2 safe, reliable and fit for purpose; and
- 6.2.1.3 capable of supplying Desalinated Water up to the Guaranteed Supply Capacity.

- 6.2.2 All obligations of the Concessionaire to be undertaken during the Construction Period shall be consistent with the Construction Documents, Good International Industry Practices, E&S Requirements, and in accordance with any relevant Approvals, the Legal Requirements and the Accounting Principles.
- 6.2.3 The Concessionaire shall rectify any defects and/or deficiencies in the Desalinated Water Supply System, including any defects and/or deficiencies identified by the Independent Engineer or KWSC and shall bear all costs of remedying such defects and deficiencies and retesting the relevant part of the Desalinated Water Supply System and shall not be entitled to any extension of time or additional costs for remedying such defects or deficiencies or for retesting the relevant part of the Desalinated Water Supply System.
- 6.2.4 The Concessionaire shall ensure that an adequate number of suitably skilled and experienced contractors, architects, workmen and other personnel are engaged to undertake the Project. The Concessionaire shall be solely responsible for the work performed by any staff and labour engaged by it to execute the Project and for payment of all applicable labour charges, fees, and cess payable in accordance with the Legal Requirements (including labour welfare legislations). The Concessionaire shall ensure that its Contractors provide all necessary amenities and welfare facilities for the staff and labour engaged by them at the Project Site and comply with all applicable labour laws. The Concessionaire shall indemnify and hold harmless the GoS Parties from and against all claims, liabilities, expenses, costs and losses suffered or incurred by each of the GoS Parties due to the Concessionaire's or any Contractor's failure to comply with any Legal Requirements (including labour welfare legislations).
- 6.2.5 The Independent Experts and KWSC (and its representatives) shall have the right, at all times, to attend and be present at the Project Site and to observe the progress of the Construction Activities.

### **6.3 CHANGE IN SCOPE**

- 6.3.1 Any Party, following the Effective Date, may propose a Change in Scope; provided, that neither Party shall propose a Change in Scope which would, if implemented:
- 6.3.1.1 materially and adversely affect the health and safety of any person;
  - 6.3.1.2 infringe any Legal Requirement;
  - 6.3.1.3 be a departure from Good International Industry Practices;
  - 6.3.1.4 cause any Approval to be revoked or become unobtainable;
  - 6.3.1.5 require a new Approval which will not be obtainable by the Concessionaire despite it using all reasonable endeavours; or
  - 6.3.1.6 materially affect the Project Activities in a manner that cannot be compensated for under this Agreement.
- 6.3.2 Within fifteen (15) Days of receipt of a request for Change in Scope from the GoS Parties, the Concessionaire shall submit a proposal to the GoS Parties and the Independent Experts setting out in sufficient detail the implications of the proposed Change in Scope, including any implications on the Implementation Schedule and the Scheduled COD, any additional costs, including any increase in the financing under the Financing Documents incurred in undertaking the Change in Scope, or any Savings resulting from the Change in Scope.

- 6.3.3 Based on their review of the proposal submitted by the Concessionaire, the GoS Parties may, at their sole discretion: (a) accept the proposal and the corresponding adjustment to the Implementation Schedule and/or the additional costs or reduction in the costs for undertaking the Change in Scope; (b) provide comments on the proposal seeking amendments and/or justification for the implications put forth by the Concessionaire; or (c) reject the proposal submitted by the Concessionaire and withdraw the proposed Change in Scope, within fifteen (15) days from the date of receipt of the Concessionaire's proposal under Section 6.3.2.
- 6.3.4 To the extent the GoS Parties or the Independent Experts seek amendments and/or justification in the proposal submitted by the Concessionaire, the Concessionaire shall incorporate or address, in writing, such comments and submit a revised proposal.
- 6.3.5 On approval of the proposal or the revised proposal (as applicable), by the GoS Parties, the GoS Parties shall issue a Change in Scope Order and the Concessionaire shall proceed with the Change in Scope in accordance with the Change in Scope Order.
- 6.3.6 If the Parties are unable to agree on the implications of a Change in Scope proposed by the GoS Parties, which in the GoS Parties' view is necessary or desirable for the Project, as determined by the Independent Experts, the GoS Parties shall have the right to require the Concessionaire and the Concessionaire shall be under an obligation to carry out the proposed Change in Scope at the cost determined by the Independent Experts. Any Dispute on the terms of the Change in Scope (including the method of payment and funding or application of Savings or reductions) will be resolved in accordance with Article 27.
- 6.3.7 On implementation of a Change in Scope Order, the Concessionaire shall be entitled to the agreed adjustment to the Implementation Schedule and the Scheduled COD, payment of additional amounts, and/or any adjustment to the permissible Financing Due, if any, set out in the Change in Scope Order. The economic benefit of any reduction or Savings in the cost arising from a Change in Scope shall be shared by the Commercial Parties in the ratio and manner agreed by the Commercial Parties.
- 6.3.8 The method of payment for and funding of any additional costs that become payable by the GoS or the application of reduction or Savings in the costs, in relation to a Change in Scope Order, shall be agreed by the Commercial Parties and included in the Change in Scope Order.
- 6.3.9 If, after the Effective Date, the Concessionaire wishes to effect any Change in Scope, the Concessionaire shall obtain the prior written approval of the GoS Parties, such approval not to be unreasonably withheld or delayed. On approval by the GoS Parties, the GoS Parties shall issue a Change in Scope Order and the Concessionaire shall proceed with the Change in Scope in accordance with the Change in Scope Order. Any such change will be affected at the Concessionaire's own risk and cost.
- 6.3.10 Notwithstanding anything to the contrary in this Section 6.3, the Concessionaire shall be bound to implement any Change in Scope that is necessitated by a Change in Law and any consequent adjustment to the Implementation Schedule, and Relief Costs or Savings shall be determined in accordance with Article 20.
- 6.3.11 No Change in Scope shall invalidate this Agreement.

#### **6.4 DRAWINGS, TEST RESULTS, DOCUMENTATION**

- 6.4.1 The Concessionaire shall obtain and maintain at the Project Site in an orderly manner and in accordance with the Operating and Maintenance Procedures and Good International Industry Practices, complete and up to date copies of all:

- 6.4.1.1 operation and maintenance manuals and other technical documentation (including electronic files) for all items of equipment incorporated into the Desalinated Water Supply System as identified in **SCHEDULE A (*Technical Specifications*)**;
- 6.4.1.2 test results (including electronic files) for tests performed on the Desalinated Water Supply System in accordance with:
  - (a) this Agreement;
  - (b) the EPC Contract; and
  - (c) the O&M Contract,
- 6.4.1.3 as-built drawings the Desalinated Water Supply System (including electronic files) for the Desalinated Water Supply System, including for the civil and architectural works; and
- 6.4.1.4 detailed technical documents (including electronic files) related to the design, engineering, construction, operation and maintenance of the Desalinated Water Supply System.

## **7. IMPLEMENTATION SCHEDULE AND DELAYS**

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### **7.1 COMPLIANCE WITH IMPLEMENTATION SCHEDULE**

The Concessionaire shall achieve the timely implementation of the Project in accordance with the Implementation Schedule. The Concessionaire shall promptly inform the Independent Experts and each of the GoS Parties of any actual or anticipated material deviations from the dates stipulated in the Implementation Schedule. Without prejudice to the Parties' rights and obligations under Sections 7.2, 7.3 or 7.4 (as applicable), the Concessionaire shall provide the Independent Experts and each GoS Party with a remedial programme setting out the actions to be taken by the Concessionaire to mitigate the adverse effect of any such deviation on its ability to undertake the Project in accordance with the Implementation Schedule.

### **7.2 ADJUSTMENT OF IMPLEMENTATION SCHEDULE**

7.2.1 If an Intervening Event causes a delay that has, or is reasonably likely to have, the effect of delaying the achievement of the Commencement Date by the Scheduled Commencement Date or the COD by the Scheduled COD (as applicable), then, subject to Section 7.2.2, the Scheduled Commencement Date or the Scheduled COD (as applicable) and the Implementation Schedule shall be adjusted equitably by the Independent Engineer to take into account the ability of the Concessionaire to re-schedule its activities to minimise the delay and the effect of such Intervening Event on the ability of the Concessionaire to achieve the relevant milestone by the respective scheduled date, provided that such scheduled date shall not be extended to the extent that such delay would have nevertheless been experienced had such Intervening Event not occurred.

7.2.2 The Concessionaire must notify the Independent Experts and the GoS Parties in writing promptly (and in any event within fourteen (14) Days) after becoming aware of the occurrence of an Intervening Event, and together with such notice or as soon as possible (and in any event within fourteen (14) Days) following such notice), the Concessionaire shall provide full details of the Intervening Event and its consequences including sufficient details to confirm the existence of an Intervening Event and its impact on the Scheduled Commencement Date or the Scheduled COD (as applicable) and the Implementation Schedule. As soon as practicable (and in any event within fourteen (14) Days after receiving the Concessionaire's detailed information and justification), the Independent Experts shall confirm whether (and to what extent) they agree to adjust the Scheduled Commencement Date or the Scheduled COD (as applicable) and the Implementation Schedule.

7.2.3 If the Concessionaire does not deliver the notices as required by Section 7.2.2 in accordance with the terms thereof, the Concessionaire shall not be entitled to invoke the benefits of Section 7.2.1 or deemed commissioning under Section 8.4 in respect of the relevant Intervening Event.

7.2.4 If a Force Majeure Event causes a delay that has, or is reasonably likely to have, the effect of delaying:

7.2.4.1 the achievement of the Commencement Date, then the provisions of Section 3.4 shall apply; or

7.2.4.2 the achievement of the COD, then the provisions of Section 19.7 shall apply.

### **7.3 CONCESSIONAIRE LIQUIDATED DAMAGES FOR DELAY**

7.3.1 The Concessionaire acknowledges that the GoS Parties will each suffer actual damages if, for any reason not otherwise excused under this Agreement, the Concessionaire fails to achieve the COD by the Scheduled COD. In that event, and without prejudice to the GoS Parties' rights under Article 21, the Concessionaire shall pay liquidated damages to the GoS for each Day (or any part thereof)

of delay at a rate of PKR 10 per Day, commencing from the Scheduled COD until the earlier of:

7.3.1.1 the COD; and

7.3.1.2 the Long Stop Date.

7.3.2 Any liquidated damages payable pursuant to this Section 7.3 shall be paid by the Concessionaire within thirty (30) Days of the date of the Concessionaire's receipt of an invoice from GoS setting out the amount of liquidated damages which are then due and payable by the Concessionaire. If the Concessionaire fails to pay such liquidated damages when due, the GoS shall be entitled to claim such amounts under the Construction Performance Security, plus commission at the Late Payment Rate, accruing from the due date of such payment until the GoS is actually paid such amounts. To the extent that the Concessionaire's liability for liquidated damages under Section 7.3.1 exceeds the then current balance of the Construction Performance Security, the GoS shall be entitled to take steps to recover such amounts (plus any applicable commission) as a debt due from the Concessionaire to GoS (including by way of set-off against any amounts due to the Concessionaire from GoS or KWSC) under any GoS Project Document.

7.3.3 In addition, if the Concessionaire fails to achieve the Scheduled COD by the Long Stop Date, the GoS shall be entitled to encash the Construction Performance Security up to the face amount.

7.3.4 The Parties agree that:

7.3.4.1 the delay liquidated damages payable pursuant to this Section 7.3 represent the actual losses, liabilities, damages, costs, charges or expenses that the GoS Parties will suffer as a result of the failure of the Concessionaire to achieve the COD by the Scheduled COD;

7.3.4.2 there is, in any event, a commercial justification and legitimate interest in imposing such liquidated damages as a payment for the failure of the Concessionaire to achieve the COD by the Scheduled COD which would not be satisfied by a right to recover damages on an unliquidated basis for such default; and

7.3.4.3 the payment or deduction of delay liquidated damages payable pursuant to this Section 7.3 shall not relieve the Concessionaire from its obligations to complete the Construction Activities, or from any of its other duties, obligations, or responsibilities under this Agreement. The Concessionaire shall use and continue to use its best endeavours to avoid or reduce further delay in completing the Construction Activities.

#### **7.4 CONCESSIONAIRE LIQUIDATED DAMAGES FOR ABANDONMENT**

7.4.1 If Abandonment occurs, in addition to any rights or remedies that the GoS may have pursuant to Article 21, the Concessionaire shall pay to the GoS as liquidated damages the following amount:

7.4.1.1 in case of Abandonment prior to the COD, an amount equal to the face amount of the Construction Performance Security as at the date Abandonment occurs, after any amounts paid or payable under Section 7.3 have been paid; and

7.4.1.2 in case of Abandonment on or following to the COD, an amount equal to the face amount of the O&M Performance Security as at the date Abandonment occurs.

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<sup>10</sup> This amount shall be calculated as the value of the Construction Performance Security in PKR divided by one hundred and twenty (120)

7.4.2 Any liquidated damages payable pursuant to this Section 7.4 shall be paid by the Concessionaire within thirty (30) Days of the date of the Concessionaire's receipt of an invoice from the GoS setting out the amount of liquidated damages which are then due and payable by the Concessionaire. If the Concessionaire fails to pay such liquidated damages when due, the GoS shall be entitled to claim such amounts under the Performance Securities or to take steps to recover such amounts as a debt due from the Concessionaire to the GoS, plus commission at the Late Payment Rate, accruing from the due date of such payment until the GoS is actually paid such amounts. To the extent that the Concessionaire's liability for liquidated damages under Section 7.4.1 exceeds the face amount of the Performance Securities, at the date of issue of a demand thereunder, the GoS shall be entitled to take steps to recover such amounts (plus any applicable commission) as a debt due from the Concessionaire to GoS (including by way of set-off against any amounts due to the Concessionaire from GoS or KWSC) under any GoS Project Document.

7.4.3 The Parties agree that:

7.4.3.1 the liquidated damages payable pursuant to this Section 7.4 represent the actual losses, liabilities, damages, costs, charges or expenses that the GoS Parties will suffer as a result of Abandonment by the Concessionaire; and

7.4.3.2 there is in any event a commercial justification and legitimate interest in imposing such liquidated damages as a payment for Abandonment by the Concessionaire which would not be satisfied by a right to recover damages on an unliquidated basis for such default.

## **7.5 GENERAL DAMAGES**

7.5.1 If either of Sections 7.3.1 or 7.4.1 is found for any reason to be void, invalid or otherwise inoperative so as to disentitle GoS from claiming liquidated damages under such Section(s), the GoS is entitled to claim against the Concessionaire for general damages at law for the Concessionaire's failure to achieve the COD by the Scheduled COD or for Abandonment, subject to the limitation that such damages must not exceed the amounts set out in Section 7.3.1 for any Day of delay or Section 7.4.1 for Abandonment (as applicable).

## **8. START-UP AND COMMERCIAL OPERATION**

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### **8.1 TEST PROCEDURES**

- 8.1.1 The Concessionaire shall be responsible for the development and implementation of detailed testing procedures for each test during the mobilisation, construction, inspection, start-up and commissioning of the Desalinated Water Supply System in accordance with **SCHEDULE E (Testing)** (the **Test Procedures**) and shall notify the Independent Experts and each GoS Party in advance of all such testing and carry out all Test Procedures in accordance with **SCHEDULE E (Testing)**.
- 8.1.2 The Independent Experts and designees of each GoS Party shall be entitled to be present at any such testing as provided in **SCHEDULE E (Testing)**.

### **8.2 NOT USED**

### **8.3 COD TESTS**

- 8.3.1 The commercial operations date for the Desalinated Water Supply System (the **COD**) shall occur on the Day following the date on which the Independent Engineer issues to the Concessionaire the COD Certificate, in accordance with the procedure set out in **SCHEDULE E (Testing)**.
- 8.3.2 During any testing conducted pursuant to this Section 8.3, the Concessionaire shall arrange for such quantity of Desalinated Water to be delivered at the Input Water Delivery Point to be able to conduct such tests (as determined by the Independent Engineer).

### **8.4 DEEMED COD**

- 8.4.1 If, due to a Permitted Event (excluding the NPFME) (each a **Deemed Commissioning Event**), the Concessionaire is unable to conduct or conclude the COD Tests for the Desalinated Water Supply System on the date selected therefor in accordance with **SCHEDULE E (Testing)**, then provided that the Concessionaire shall have made all reasonable efforts, as determined by the Independent Engineer, to prevent and/or mitigate the effect of such Deemed Commissioning Event, on and from the date on which the Concessionaire would have been able to achieve the COD but for such event until the date the COD is actually achieved:
- 8.4.1.1 subject to Section 8.4.2, the COD shall be deemed to have been achieved; and
- 8.4.1.2 the Desalinated Water Supply System shall be deemed to be providing Desalinated Water equivalent to Guaranteed Supply Capacity (subject to Deduction for Downtime determined by the Independent Experts) and GoS shall compensate the Concessionaire for the consideration set out in **SCHEDULE H (Water Tariff Payment Calculation)** for such deemed Guaranteed Supply Capacity.
- 8.4.2 If the COD shall have been deemed to be achieved pursuant to Section 8.4.1, and thereafter:
- 8.4.2.1 when the Test Procedures are conducted in accordance with **SCHEDULE E (Testing)**, the Desalinated Water Supply System does not attain the minimum criteria required under **SCHEDULE E (Testing)** for the achievement of the COD, then:
- (a) the Desalinated Water Supply System shall cease to be deemed commissioned and (if the Scheduled COD has passed) the Concessionaire shall be in breach of its obligation to achieve the COD by the Scheduled COD and, if the Long Stop Date has passed, Section 21.5.1 shall also apply;

- (b) the GoS shall have no further obligation to make payments under Section 8.4.1.2;
  - (c) the Concessionaire shall be obliged to repay the GoS the Capacity Payments paid by GoS under Section 8.4.1.2 together with commission accrued thereon at the Late Payment Rate, and the GoS shall have the right to deduct such amounts from future payments to be made pursuant to **SCHEDULE H (Water Tariff Payment Calculation)** in the immediately following Billing Period(s) until the full amount shall have been deducted, or recover such amounts from the Construction Performance Security or the O&M Performance Security; and
  - (d) the GoS shall have the right to pursue any other remedy available to it under this Agreement or under the Law.
- 8.4.3 The Parties shall undertake all reasonable measures to ensure that any COD Tests that are delayed due to any of the circumstances described in Section 8.4.1 shall be undertaken as soon as possible after the circumstances that resulted in such delay are no longer in effect.
- 8.4.4 The Concessionaire shall not be entitled to the benefit of Section 8.4.1 where, and to the extent that a Deemed Commissioning Event, results (in whole or in part) from a delay or default by the Concessionaire or the Sponsors or is concurrent with a delay or default by the Concessionaire or the Sponsors of an obligation of the Concessionaire or the Sponsor under any Project Agreement.

## **9. ELECTRICITY AND OTHER UTILITIES**

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### **9.1 UTILITIES**

- 9.1.1 The Concessionaire shall be responsible for procuring, at its risk and cost, all electricity and other utilities and any fuel required for (a) the Project Activities; and (b) the reinstatement of the Project Site in accordance with the Handover Conditions following the Final Expiry Date in accordance with Section 21.10; and
- 9.1.2 Electricity required for the operation and maintenance of the Desalinated Water Supply System shall be procured from the Electricity Supplier. Electricity shall not be procured or generated from any other source, except in accordance with Section 9.4.
- 9.1.3 During the Concession Period, the Concessionaire shall be responsible for securing all supplies of telecommunication and all waste disposal services required for the Project, either from its own resources or from the applicable authorities at published tariffs and in accordance with the standard terms and conditions of supply and pay for such supplies in accordance with such terms and conditions.
- 9.1.4 KWSC shall ensure relocation of existing utilities under or over the Project Site, which is required to be relocated for implementation of the Project, at its own risk and cost.

### **9.2 ACTUAL ELECTRICITY CONSUMPTION**

- 9.2.1 The Concessionaire shall provide access to the Independent Engineer and KWSC from time to time to inspect the electricity meters installed to measure the supply of Electricity to the Desalinated Water Supply System and to read or attend any reading of such meters. The Concessionaire shall supply details of all readings of such meters within two (2) Business Days after such readings are carried out.
- 9.2.2 The Concessionaire shall procure that the Independent Engineer and KWSC are notified of and invited to attend any reading of the electricity meters.
- 9.2.3 The Concessionaire shall take all reasonable commercial measures to ensure that the Electricity supplied to the Desalinated Water Supply System is accurately measured and shall, if so, required by the Independent Engineer or KWSC, exercise any rights in order to achieve the foregoing.

### **9.3 ELECTRICITY PRICE**

The Concessionaire shall notify the Independent Experts and each GoS Party as soon as possible (and in any event within seven (7) Days) after it becomes aware of any change in the Electricity Price and shall provide the Independent Experts and each GoS Party with full details of the change and the dates when it became or will become effective.

### **9.4 ALTERNATE ENERGY SOLUTIONS**

- 9.4.1 In order to procure a more cost-effective Electricity solution, either Party may propose a change in the Electricity Supplier at any time during the Concession Period. Any proposal by the Concessionaire to change the Electricity Supplier shall be proposed and approved in accordance with the mechanism set out in Article 26, which shall apply *mutatis mutandis* for purposes of this Section 9.4.

- 9.4.2 Any Savings from change in the Electricity Supplier shall be shared between the Commercial Parties in the following manner:
- 9.4.2.1 in the event change in the Electricity Supplier is negotiated and proposed by the GoS, the GoS shall be entitled to the entire resultant Savings;
  - 9.4.2.2 in the event change in the Electricity Supplier is negotiated and proposed by the Concessionaire, the resultant Savings shall be shared between the Commercial Parties (a) on an 80:20 basis, where the GoS shall be entitled to eighty percent (80%) and the Concessionaire shall be entitled to twenty percent (20%), in each case, of the resultant Savings, or (b) in such manner as set out in Article 26.
- 9.4.3 Any Dispute on the method of payment and funding or application of Savings will be resolved in accordance with Article 27.

## **10. OPERATION AND MAINTENANCE**

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### **10.1 O&M OBLIGATIONS**

The Concessionaire shall:

- 10.1.1 ensure that the Desalinated Water Supply System is, at all times, capable of transmitting the Guaranteed Supply Capacity to the Output Water Delivery Point;
- 10.1.2 carry out all O&M Activities in a manner consistent with this Agreement, Good International Industry Practices, E&S Requirements, and in accordance with any relevant Approvals, applicable Legal Requirements, Accounting Principles, and the Operating and Maintenance Procedure;
- 10.1.3 employ in and at the Desalinated Water Supply System all safety devices and safety practices required by applicable Legal Requirements, the requirements of **SCHEDULE A (*Technical Specifications*)**, all Insurance Policies, and Good International Industry Practices;
- 10.1.4 undertake the Project Activities in accordance with the parameters set out in **SCHEDULE A (*Technical Specifications*)** and **SCHEDULE E (*Testing*)** such that the Desalinated Water Supply System is:
  - 10.1.4.1 free from all defects in design, materials, and workmanship;
  - 10.1.4.2 safe, reliable and fit for purpose; and
  - 10.1.4.3 capable of supplying Desalinated Water up to its Guaranteed Supply Capacity;
- 10.1.5 operate and maintain the Desalinated Water Supply System so as to prevent the release or leaching of any Hazardous Substances affecting the Project Site or surrounding environs (including the soil, subsoil, surface water, or groundwater);
- 10.1.6 as soon as reasonably practicable, inform the GoS Parties of any instances of fire, explosion or any other like event at the Project Site;
- 10.1.7 to the extent consistent with Good International Industry Practice, keep accurate and up to date records of any accidents or other occurrences at the Project Site that result in injury to persons or damage to property for a minimum period of ten (10) years from the occurrence of such event, and shall provide to the Independent Engineer and KWSC reasonable access to such records, subject to requirements of confidentiality;
- 10.1.8 ensure that its personnel are on duty at the Desalinated Water Supply System at all times (twenty-four (24) hours a Day and seven (7) Days a week) during the Concession Period;
- 10.1.9 promptly provide KWSC with accurate Unavailability Notice(s), by 11:00 am on the Day prior to Planned Downtime or Unplanned Downtime, and issue superseding Unavailability Notice(s) as soon as it is known that a previously issued Unavailability Notice(s) must be updated;
- 10.1.10 if and when requested by KWSC in exceptional circumstances, use its best endeavours to deliver Desalinated Water in excess of the Guaranteed Supply Capacity; and
- 10.1.11 ensure that the debt-to-equity ratio of the Concessionaire (as determined on the basis of Accounting Principles and confirmed by the Independent Auditor) shall not exceed 70:30.

## **10.2 COORDINATION**

The Concessionaire shall:

- 10.2.1 promptly inform the Independent Experts and each GoS Party of any material issues with the Desalinated Water Supply System;
- 10.2.2 where required by the Independent Experts and KWSC, promptly and in any event within ten (10) days after being so requested, submit a remediation programme setting out the actions to be taken by the Concessionaire to mitigate the adverse effect of any material issues notified in accordance with Section 10.2.1 and abide by such remediation programme once instructed by the Independent Experts and KWSC; provided, that the submission of any remediation programme and instructions issued by the Independent Experts and KWSC shall in no way relieve the Concessionaire of any liability that would have otherwise accrued;
- 10.2.3 maintain operating communications between the Desalinated Water Supply System and KWSC in accordance with the Operating and Maintenance Procedures; and
- 10.2.4 keep a daily operations log for the Desalinated Water Supply System, which shall include information known to it on the Desalinated Water Supply System, and any Downtime or de-ratings, and circuit breaker trip operations requiring a manual reset, and any significant events related to the foregoing. The Independent Engineer and KWSC shall have the right to review logs not in their possession at all reasonable times and upon reasonable notice to the Concessionaire.

## **10.3 OPERATING AND MAINTENANCE PROCEDURES**

- 10.3.1 The Concessionaire shall, at its own costs and expense, develop written operating and maintenance procedures for the Desalinated Water Supply System in accordance with this Section 10.3 (the **Operating and Maintenance Procedures**).
- 10.3.2 The Operating and Maintenance Procedures shall:
  - 10.3.2.1 be based on the design parameters of the Desalinated Water Supply System and other requirements specified in **SCHEDULE A (Technical Specifications)**;
  - 10.3.2.2 incorporate operating and maintenance procedures specified or recommended by the Desalinated Water Supply System equipment suppliers and manufacturers in their operators' manuals;
  - 10.3.2.3 provide a comprehensive procedure for sampling and testing of Desalinated Water at specified locations by third-party laboratories (as approved by the GoS in consultation with the Independent Engineer);
  - 10.3.2.4 be consistent with Good International Industry Practice; and
  - 10.3.2.5 provide comprehensive procedures for all operational interfaces between (a) KWSC, the Electricity Supplier; and (b) the Concessionaire, including in relation to the delivery of Electricity prior and subsequent to the COD.
- 10.3.3 The Concessionaire shall submit a draft of the Operating and Maintenance Procedures to the Independent Engineer and KWSC no later than sixty (60) Days prior to the Scheduled Commencement Date and no later than one hundred and twenty (120) Days prior to the Scheduled COD.
- 10.3.4 Within thirty (30) Days after its receipt thereof, the Independent Engineer and KWSC shall have the right to provide comments on the draft Operating and Maintenance Procedures.

- 10.3.5 If, within such thirty (30) Day period, the Independent Engineer and KWSC do not provide any comments, the draft proposed by the Concessionaire shall become the Operating and Maintenance Procedures.
- 10.3.6 If the Independent Engineer or KWSC provide comments on the draft Operating and Maintenance Procedures within such thirty (30) Day period, the Concessionaire shall, within thirty (30) Days of its receipt of such comments, either incorporate the requested changes to the draft Operating and Maintenance Procedures or request a meeting with the Independent Engineer or KWSC to discuss any outstanding requested changes. Any Dispute over the requested changes still not resolved within ten (10) Days following any such meeting shall be referred for resolution pursuant to Article 27.
- 10.3.7 The Concessionaire acknowledges and agrees that no review or approval or lack thereof by the Independent Engineer or KWSC of the Operating and Maintenance Procedures shall relieve the Concessionaire from any liability it would otherwise have under this Agreement, and that neither the Independent Engineer nor the GoS Parties nor any of their representatives shall be liable to the Concessionaire or any other person by reason of their review or approval of the Operating and Maintenance Procedures.

#### **10.4 SCHEDULED MAINTENANCE**

- 10.4.1 The Concessionaire shall undertake all scheduled Desalinated Water Supply System maintenance in accordance with this Agreement, Good International Industry Practice, E&S Requirements, and in accordance with any relevant Approvals, applicable Legal Requirements, Accounting Principles, Operating and Maintenance Procedures, and the maintenance appendices (each, a **Maintenance Schedule**) developed pursuant to this Section 10.4.
- 10.4.2 The Concessionaire shall submit to the Independent Engineer and KWSC the proposed Maintenance Schedule for the Desalinated Water Supply System at least forty-five (45) Days prior to:
- 10.4.2.1 the Scheduled Commencement Date, in respect of the first (1<sup>st</sup>) Contract Year; and
- 10.4.2.2 the commencement of each subsequent Contract Year, in respect of such Contract Year,
- in each case, setting out:
- (a) its Planned Downtime; and
- (b) a forecast of the Net Desalinated Water Output that could be delivered to the Output Water Delivery Point on each Day in the forthcoming Contract Year.
- 10.4.3 The Concessionaire shall plan its Maintenance Schedule so as to minimize interruptions of the supply of Net Desalinated Water Output.
- 10.4.4 Within thirty (30) Days of receipt of the proposed Maintenance Schedule, the Independent Engineer and KWSC shall notify the Concessionaire whether the proposed Maintenance Schedule is acceptable.
- 10.4.5 If Independent Engineer and KWSC do not, within such thirty (30) Day period, accept the proposed Maintenance Schedule in whole or in part, the Independent Engineer and KWSC shall advise the Concessionaire of a period or periods when the maintenance can be rescheduled, provided that the Independent Engineer and KWSC shall seek to make such rescheduled period or periods as close as reasonably practicable to the Maintenance Schedule proposed by the

Concessionaire and, provided further, that the rescheduled period or periods shall be of equal duration to the period or periods proposed by the Concessionaire. In the event that the Independent Engineer and KWSC fail to provide such advice within the time period stipulated in this Section 10.4, KWSC shall be deemed to have accepted the proposed Maintenance Schedule.

10.4.6 With respect to each Planned Downtime, the Concessionaire shall (in addition to the requirement to issue an Unavailability Notice pursuant to Section 10.1.9):

10.4.6.1 confirm ninety (90) Days; and

10.4.6.2 reconfirm thirty (30) Days,

prior to the planned date for such Downtime.

10.4.7 KWSC may, upon sixty (60) Days prior written notice, request the Concessionaire to re-schedule a Planned Downtime and the Concessionaire shall use its best efforts to accommodate such requested rescheduling. The Concessionaire shall notify KWSC within fifteen (15) Days of its receipt of a request for rescheduling of a Planned Downtime whether the Concessionaire is able to comply with such request.

10.4.8 If the Concessionaire is unable to comply with the request for rescheduling of a Planned Downtime, it shall provide KWSC with the reasons therefor and provide alternative periods in which the Planned Downtime may be rescheduled. In such event, KWSC shall advise the Concessionaire whether it would prefer that the Planned Downtime occur on the initial date or on a rescheduled date.

10.4.9 The Concessionaire shall, within thirty (30) Days of the end of each Planned Downtime, provide to KWSC a report detailing the activities carried out during the Planned Downtime and the results for any tests carried out during such Planned Downtime.

## **10.5 MAINTENANCE DURING UNPLANNED DOWNTIME**

10.5.1 The Concessionaire, during any Unplanned Downtime, shall undertake Desalinated Water Supply System maintenance in a manner consistent with this Agreement, Good International Industry Practices, E&S Requirements, and in accordance with any relevant Approvals, applicable Legal Requirements, Accounting Principles, and Operating and Maintenance Procedures.

10.5.2 The Concessionaire shall (in addition to the requirement to issue an Unavailability Notice pursuant to Section 10.1.9), promptly inform the Independent Engineer and KWSC of the need for any Unplanned Downtime as soon as it becomes aware thereof, detailing the reason for the Unplanned Downtime and each component of the Desalinated Water Supply System that is affected, and submit to the Independent Engineer (with a copy to KWSC) a program detailing:

10.5.2.1 the start date and duration of the Unplanned Downtime; and

10.5.2.2 the activities, and tests (if any) to be carried out during the Unplanned Downtime (the **Unplanned Downtime Maintenance Program**).

10.5.3 The Independent Engineer, keeping in consideration the scheduled start date for the Unplanned Downtime, as soon as reasonably practicable:

10.5.3.1 shall notify the Concessionaire whether the Unplanned Downtime Maintenance Program is acceptable; or

10.5.3.2 may prescribe changes to the Unplanned Downtime Maintenance Program.

- 10.5.4 If the Independent Engineer prescribes any changes to the Unplanned Downtime Maintenance Program under Section 10.5.3.2, the Concessionaire shall be obligated to carry out the Desalinated Water Supply System maintenance during the Unplanned Downtime in accordance with the changes prescribed.
- 10.5.5 In preparation of the Unplanned Downtime Maintenance Program and the execution of the maintenance works during the Unplanned Downtime, the Concessionaire shall endeavour to reduce the duration of the Unplanned Downtime and the costs associated with the maintenance works, to the extent possible, without adversely impacting the integrity of the maintenance works.
- 10.5.6 The Concessionaire shall, within thirty (30) Days of the end of each Unplanned Downtime, provide to KWSC a report detailing the activities carried out during the Unplanned Downtime and the results for any tests carried out during such Unplanned Downtime.

**10.6 TEST PROCEDURES - POST COD**

The Concessionaire and KWSC shall develop and implement the Test Procedures for testing the Desalinated Water Supply System after the COD in accordance with requirements of **SCHEDULE E (*Testing*)**.

## **11. SALE AND PURCHASE**

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### **11.1 GUARANTEED SUPPLY CAPACITY**

11.1.1 During the Operations Period, in consideration of the Concessionaire:

11.1.2.1 maintaining the Guaranteed Supply Capacity;

11.1.2.2 delivering the Net Desalinated Water Output to KWSC; and

11.1.2.3 performing the O&M Activities,

the GoS shall make payments in accordance with **SCHEDULE H (*Water Tariff Payment Calculation*)**.

### **11.2 RISK OF LOSS**

The risk of loss on any Net Desalinated Water Output shall pass from the Concessionaire to KWSC, at the Output Water Delivery Point.

### **11.3 EFFECT OF INTERVENING EVENT**

Subject to Section 11.4, if an Intervening Event:

11.3.1 affects the ability of the Concessionaire to meet the Guaranteed Supply Capacity, the GoS shall, for the Intervening Event Period, continue to pay:

11.3.1.1 during the Operations Period, the Capacity Payments in respect of the Availability Benchmark (without applying the Deduction for Reduced Contracted Availability); and

11.3.1.2 during the Concession Period, the Output Payments in respect of the Net Desalinated Water Output; or

11.3.2 does not affect the ability of the Concessionaire to meet the Guaranteed Supply Capacity, but affects the ability of the Concessionaire to deliver Net Desalinated Water Output, the GoS shall, for the Intervening Event Period, continue to pay:

11.3.2.1 during the Operations Period, the Capacity Payments; and

11.3.2.2 during the Concession Period, the Output Payments in respect of the Net Desalinated Water Output.

### **11.4 NOTICE OF INTERVENING EVENT**

11.4.1 If an Intervening Event occurs after the Commencement Date, the Concessionaire must notify the Independent Experts and the GoS Parties in writing promptly (and in any event within fourteen (14) Days) after becoming aware of the occurrence of an Intervening Event. Together with such notice or as soon as possible (and in any event within fourteen (14) Days) following such notice, the Concessionaire shall provide full details of the Intervening Event and its consequences including sufficient details to confirm the existence of an Intervening Event and its impact on the ability of the Concessionaire to meet the Guaranteed Supply Capacity or deliver Net Desalinated Water Output.

- 11.4.2 As soon as practicable (and in any event within fourteen (14) Days after receiving the Concessionaire's detailed information and justification) pursuant to Section 11.4.1, the Independent Experts shall confirm whether or not (and if so, to what extent) they agree that an Intervening Event has occurred and the extent of its impact on the ability of the Concessionaire to meet the Guaranteed Supply Capacity or deliver Net Desalinated Water Output.
- 11.4.3 Any Dispute as to whether or not an Intervening Event has occurred, or the extent of its impact may be referred by any Party for resolution pursuant to Article 27.
- 11.4.4 If the Concessionaire does not deliver a notice as required by Section 11.4.1 in accordance with the terms thereof, the Concessionaire shall not be entitled to invoke the benefits of Section 11.3 in respect of the relevant Intervening Event.

**12. PAYMENT ACCOUNTS, IZP GUARANTEE INSTRUMENT, SBP DEBIT AUTHORITY, BOTTLED WATER REVENUE ACCOUNT, BOTTLED WATER REVENUE AND BOTTLED WATER REVENUE SHARING**

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**12.1 ESTABLISHMENT AND GOS FUNDING OF PAYMENTS ACCOUNTS**

- 12.1.1 The GoS shall establish and maintain the Water Tariff Payment Account (GoS) until the Final Expiry Date in accordance with the terms of this Agreement.
- 12.1.2 On each Water Tariff Payment Certificate Issuance Date, the Concessionaire shall procure that the Independent Experts jointly issue the Water Tariff Payment Certificate which shall *inter alia* set out the Water Tariff Payment Account (GoS) Funding Amount.
- 12.1.3 Subject to Section 12.1.9, on each Water Tariff Payment Funding Date that falls prior to the Final Expiry Date, the GoS shall fund the Water Tariff Payment Account (GoS) Funding Amount to the Water Tariff Payment Account (GoS).
- 12.1.4 The Water Tariff Payment Account (GoS) shall be operated in accordance with the Water Tariff Payment Account (GoS) Standing Instructions.
- 12.1.5 Upon establishing the GoS Water Tariff Payment Account (GoS), the GoS shall issue the Water Tariff Payment Account (GoS) Standing Instructions containing instructions to the Water Tariff Payment Account (GoS) Bank to debit the Water Tariff Payment Account (GoS):
- 12.1.5.1 on each Water Tariff Payment Date, with the amount set out in the Water Tariff Payment Certificate as payable on such Water Tariff Payment Date;
- 12.1.5.2 on the Termination Payment Date<sup>11</sup> (or in relation to the Financing Due, such other date as set out in the Concession Direct Agreement), with the Termination Payment Amount (Unpaid Total), as set out in Termination Payment Amount (Unpaid Amounts) Certificate, first for payment of the Termination Payment Amount (Unpaid Financing Due) and next for payment of the Termination Payment Amount (Unpaid Other Amount).
- 12.1.6 Subject to Section 12.1.7, the Water Tariff Payment Account (GoS) Standing Instructions issued by the GoS shall remain effective, in each case, until the Final Expiry Date.
- 12.1.7 Prior to the Final Expiry Date, the Water Tariff Payment Account (GoS) Standing Instructions issued by the GoS may be revoked pursuant to a written revocation notice duly executed and confirmed by:
- 12.1.7.1 the authorized representatives of the Commercial Parties; or
- 12.1.7.2 the GoS, if this Agreement is terminated under Article 21 and the Termination Payments have been made.
- 12.1.8 The Water Tariff Payment Account (GoS) Standing Instructions may be amended at any time pursuant to a notice issued by the GoS to the Water Tariff Payment Account (GoS) Bank instructing amendment of the Water Tariff Payment Account (GoS) Standing Instructions (or any part thereof) and the same shall be confirmed and acknowledged by the Water Tariff Payment Account (GoS) Bank; provided, that such notice shall only be effective if the same is also duly signed by the authorized representatives of the Commercial Parties.

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<sup>11</sup> This date will be subject to the terms of the Concession Direct Agreement.

12.1.9 The GoS agrees to create a lien and right of set-off over the Water Tariff Payment Account (GoS) in favour of the Financing Parties (including any agent/trustee of the same), to secure payment of the Financing Due component of the applicable unrecovered Termination Payments (the **Water Tariff Payment Account (GoS) Letter of Lien**). The Water Tariff Payment Account (GoS) Letter of Lien shall be issued by the GoS simultaneously with the Water Tariff Payment Account (GoS) Standing Instructions.

## **12.2 IZP GUARANTEE INSTRUMENT AND SBP DEBIT AUTHORITY**

12.2.1 The Concessionaire shall, in terms of **SCHEDULE D (Conditions Precedent)**, procure issuance of the IZP Guarantee Instrument, whereby IZP shall guarantee payment of an amount equal to the lower of (a) the Termination Payment Amount (Unpaid Financing Due) (as stated in the Termination Payment Amount (Unpaid Amounts) Certificate), (b) the Termination Payment Amount (Coverage), on demand from the Concessionaire, and (c) Termination Payment Amount (Residual 1 Financing Due) (the **Termination Payment Amount (Secured)**); provided, that the demand is made in writing, duly signed by an authorized representative of the Concessionaire and a copy of the Termination Payment Amount (Unpaid Amounts) Certificate or the certificate of the Independent Auditor certifying the Termination Payment Amount (Coverage) (as applicable), is attached thereto (the **IZP Guarantee Demand**). The IZP Guarantee Instrument shall, subject to this Section 12.2.1, remain irrevocable, valid and effective until the earlier of the Financing Termination Date and the date when payments are made to the Concessionaire pursuant to the IZP Guarantee Instrument in terms of this Section 12.2.

12.2.2 Should the Concessionaire fail to procure the IZP Guarantee Instrument under Section 12.2.1 or is unable to obtain coverage for the entire Termination Payment Amount (Secured) due to the refusal of IZP, the Concessionaire shall immediately and in any event not later three (3) Months prior to the Scheduled Commencement Date:

12.2.2.1 notify the GoS and the Independent Experts that it has failed to procure issuance of the IZP Guarantee Instrument or is unable to obtain coverage for the entire Termination Payment Amount (Secured);

12.2.2.2 provide the GoS and the Independent Experts with the names and contact details of IZP for the purposes of attempting to procure issuance of the IZP Guarantee Instrument;

12.2.2.3 provide the GoS and the Independent Experts a report detailing the steps which have been taken by or on behalf of the Concessionaire to obtain the IZP Guarantee Instrument and the terms if any upon which the IZP Guarantee Instrument is available; and

12.2.2.4 provide the GoS and the Independent Experts written authority to disclose to the GoS and the Independent Experts, and provide all documents and evidencing, the steps which have been taken by or on behalf of the Concessionaire to obtain the IZP Guarantee Instrument and the terms if any upon which that insurance is available.

12.2.3 After receipt of the notice under Section 12.2.2, the GoS shall notify the Concessionaire that the GoS:

12.2.3.1 agrees that issuance of the IZP Guarantee Instrument is not likely or coverage cannot be obtained for the entire Termination Payment Amount (Secured); or

12.2.3.2 disagrees that issuance of the IZP Guarantee Instrument is not likely or coverage can be obtained for only part of the Termination Payment Amount (Secured), in which case the GoS may request the Concessionaire to obtain and maintain the IZP Guarantee Instrument if the GoS reasonably considers that the IZP Guarantee Instrument is available on commercially reasonable terms.

- 12.2.4 Subject to Section 12.2.5, the Concessionaire shall give effect to a request under Section 12.2.3.2 promptly.
- 12.2.5 The Concessionaire shall promptly carry out each request made by the GoS in accordance with the terms of the request under Section 12.2.3.2, unless it Disputes the reasonableness of the GoS' request and within ten (10) Business Days refers the Dispute for resolution in accordance with Article 27.
- 12.2.6 The GoS may advise the Concessionaire that it considers procurement of the IZP Guarantee Instrument to be so uneconomic as to make issuance of the IZP Guarantee Instrument unviable and it requires consultation under Section 12.2.7.
- 12.2.7 If it is agreed or determined that issuance of the IZP Guarantee Instrument is unlikely, unviable or coverage cannot be obtained for the entire Termination Payment Amount (Secured), in each case, in accordance with this Section 12.2, the Commercial Parties must meet to discuss the means by which the Termination Payments can be secured to the extent of the Termination Payment Amount (Secured) including:
- 12.2.7.1 securing the Termination Payment Amount (Secured) through a combination of the IZP Guarantee Instrument and the SBP Debit Authority; or
- 12.2.7.2 obtaining the IZP Guarantee Instrument on terms that are more onerous than what is deemed commercially reasonable by the Commercial Parties.
- 12.2.8 In the event the Concessionaire fails to procure issuance of the IZP Guarantee Instrument and it is agreed or determined in terms of Sections 12.2.1 to 12.2.7 above that issuance of the IZP Guarantee Instrument is not likely for the entire Termination Payment Amount (Secured) by the Scheduled Commencement Date, the GoS shall, in terms of **SCHEDULE D (Conditions Precedent)**, issue to the SBP (with a copy to the Concessionaire), in terms of **SCHEDULE D (Conditions Precedent)**, a debit authority (the **SBP Debit Authority**) authorizing the SBP to debit the GoS Account One with an amount equal to such amount of the Termination Payment Amount (Secured) that is not being secured through the IZP Guarantee Instrument in terms of Section 12.2.7.1 above, on demand from the Concessionaire; provided, that the demand is made in writing, duly signed by an authorised representative of the Concessionaire and a copy of the Termination Payment Amount (Unpaid Amounts) Certificate or the certificate of the Independent Auditor certifying the Termination Payment Amount (Coverage) (as applicable), is attached thereto (the **GoS Account One Debit Demand**). The SBP Debit Authority shall, subject to this Section 12.2.2, remain irrevocable, valid and effective until the earlier of the Financing Termination Date and the date when payments are made to the Concessionaire from GoS Account One in terms of this Section 12.2. The GoS shall ensure that there are sufficient funds available in the GoS Account One to satisfy the GoS Account One Debit Demand.
- 12.2.9 If the Concessionaire is unable to obtain the IZP Guarantee Instrument or coverage cannot be obtained for the entire Termination Payment Amount (Secured), in each case, under this Section 12.2:
- 12.2.9.1 the Concessionaire must, in good faith, approach IZP on a regular basis and in any event at intervals of no more than three (3) Months, to establish if the IZP Guarantee Instrument can be obtained for the amount Termination Payment Amount (Secured) not already secured through the IZP Guarantee Instrument on commercially reasonable terms); and
- 12.2.9.2 provide the GoS and the Independent Experts with all relevant information concerning those approaches on a regular basis and in any event at intervals of no more than three (3) Months.

- 12.2.10 If the IZP Guarantee Instrument becomes available on commercially reasonable terms, the Concessionaire must immediately obtain the IZP Guarantee Instrument and otherwise comply with the requirements of this Section 12.2 with respect to the IZP Guarantee Instrument.
- 12.2.11 In the event of termination of this Agreement pursuant to Article 21 and any Termination Payment (or part thereof) is due and payable and remains outstanding (the **Termination Payment Amount (Unpaid Total)**) on the Termination Payment Date, the Concessionaire shall cause the Independent Auditor to issue a certificate (the **Termination Payment Amount (Unpaid Amounts) Certificate**) certifying:
- 12.2.11.1 the Termination Payment Amount (Unpaid Total);
- 12.2.11.2 the unpaid Financing Due (or part thereof) (the **Termination Payment Amount (Unpaid Financing Due)**);
- 12.2.11.3 the residual amount of Termination Payment Amount (Unpaid Financing Due) (if any) that will remain unpaid after recovery from the Water Tariff Payment Account (GoS) in terms of Section 12.1.5.2 (the **Termination Payment Amount (Residual 1 Financing Due)**);
- 12.2.11.4 the residual amount of Termination Payment Amount (Unpaid Financing Due) (if any) that will remain unpaid after recovery from (as applicable) demand under the IZP Guarantee Instrument in terms of Section 12.2.1 and/or from the GoS Account One in terms of Section 12.2.8 (the **Termination Payment Amount (Residual 2 Financing Due)**);
- 12.2.11.5 the unpaid Termination Payments (or part thereof) other than the Financing Due (the **Termination Payment Amount (Unpaid Other Amount)**);
- 12.2.11.6 the residual amount of Termination Payment Amount (Unpaid Other Amount) (if any) that will remain unpaid after recovery from the Water Tariff Payment Account (GoS) in terms of Section 12.1.5.2 (the **Termination Payment Amount (Residual Other Amount)**).
- 12.2.12 Upon issuance of the Termination Payment Amount (Unpaid Amounts) Certificate, the Termination Payment Amount (Unpaid Total) shall be paid to the Concessionaire on the Termination Payment Date in the following manner:
- 12.2.12.1 the Water Tariff Payment Account (GoS) Bank shall, in accordance with the Water Tariff Payment Account (GoS) Standing Instructions, debit the Water Tariff Payment Account (GoS) and credit funds to the Termination Payment Account first for payment of the Termination Payment Amount (Unpaid Financing Due) and next for payment of the Termination Payment Amount (Unpaid Other Amount);
- 12.2.12.2 in the event the funds standing to credit of the Water Tariff Payment Account (GoS) are insufficient to fund the Termination Payment Amount (Unpaid Financing Due) in full, the Concessionaire shall be entitled to issue the IZP Guarantee Demand in accordance with Section 12.2.1 and/or the GoS Account One Debit Demand in accordance with Section 12.2.8 (as applicable) in an amount equal to the Termination Payment Amount (Residual 1 Financing Due); and
- 12.2.12.3 in the event the Termination Payment Amount (Residual 1 Financing Due) and/or the Termination Payment Amount (Unpaid Other Amount) is not paid in full despite payment in terms of Sections 12.2.12.1 and 12.2.12.2 above, the GoS shall pay the Termination Payment Amount (Residual 2 Financing Due) and/or the Termination Payment Amount (Residual Other Amount) to the Concessionaire by crediting the same to the Termination Payment Account.

12.2.13 Commencing from the date of issuance of the SBP Debit Authority and until the Financing Termination Date, the GoS shall share with the Concessionaire on a semi-annual basis, a statement setting out the limits allowed by National Economic Council and any guarantees issued on the GoS Account One.

### **12.3 BOTTLED WATER REVENUE ACCOUNT, BOTTLED WATER REVENUE AND BOTTLED WATER REVENUE SHARING**

#### **12.3.1 ESTABLISHMENT OF BOTTLED WATER REVENUE ACCOUNT**

12.3.1.1 The Concessionaire shall establish and maintain the Bottled Water Revenue Account until the Final Expiry Date in accordance with the terms of this Agreement. In the event the (a) the Additional Capacity System (Bid) is proposed to be established by the Successful Bidder, the Bottled Water Revenue Account shall be established and the Bottled Water Revenue Account Standing Instructions shall be issued, in each case, by the Concessionaire as a Condition Precedent, or (b) the Additional Capacity System (Future) is proposed to be established by the Concessionaire, the Bottled Water Revenue Account shall be established and the Bottled Water Revenue Account Standing Instructions shall be issued, in each case, by the Concessionaire as a condition precedent to commencement of commercial operations of the Additional Capacity System (unless the Bottled Water Revenue Account has already been established and the Bottled Water Revenue Account Standing Instructions have already been issued).

12.3.1.2 The Bottled Water Revenue Account Standing Instructions shall contain instructions to the Bottled Water Revenue Account Bank to debit the Bottled Water Revenue Account on each Bottled Water Revenue Share Payment Date for an amount set out in the Bottled Water Revenue Share Payment Certificate as payable on such Bottled Water Revenue Share Payment Date.

12.3.1.3 Subject to Section 12.3.1.4, the Bottled Water Revenue Account Standing Instructions issued by the Concessionaire shall remain effective, in each case, until the Final Expiry Date.

12.3.1.4 Prior to the Final Expiry Date, the Bottled Water Revenue Account Standing Instructions issued by the Concessionaire may be revoked pursuant to a written revocation notice duly executed and confirmed by the authorized representatives of the Commercial Parties.

12.3.1.5 The Bottled Water Revenue Account Standing Instructions may be amended at any time pursuant to a notice issued by the Concessionaire to the Bottled Water Revenue Account Bank instructing amendment of the Bottled Water Revenue Account Standing Instructions (or any part thereof) and the same shall be confirmed and acknowledged by the Bottled Water Revenue Account Bank; provided, that such notice shall only be effective if the same is also duly signed by the authorized representatives of the Commercial Parties.

#### **12.3.2 BOTTLED WATER REVENUE**

12.3.2.1 The Concessionaire shall be entitled to bill, collect, receive, deposit and retain the Bottled Water Revenue (Actual) in case of establishment of the Additional Capacity System, subject to the terms and conditions set out in this Agreement. All Bottled Water Revenue (Actual) shall be billed and collected in Pakistani Rupees and in accordance with the provisions (including in respect of place and method of collection) of all applicable Laws and this Agreement. When paid, all Bottled Water Revenue (Actual) shall be deposited in the Bottled Water Revenue Account.

12.3.2.2 Subject to Sections 12.3.2.3 and 12.3.2.4, the Concessionaire shall be wholly and exclusively responsible for the billing, collection, receipt, deposit and retention of all Bottled Water Revenue Charge during the Concession Period and shall assume all risks associated therewith. In order to enforce the timely payment of all Bottled Water Revenue Charge, the Concessionaire shall, in

accordance with any relevant Law, be entitled to apply and assess fines and penalties, and otherwise pursue its remedies, against relevant person failing to make payment within thirty (30) Days of the presentation of an invoice. Any and all penalties, fines, commissions, earnings, or similar remedies or compensation assessed by the Concessionaire in accordance with this Section 12.3.2.2 shall be deposited in the Bottled Water Revenue Account.

12.3.2.3 If (a) the Concessionaire shall fail to bill any person for collection of any Bottled Water Revenue Charge due and payable by such person to the Concessionaire or shall fail to collect from any person any Bottled Water Revenue Charge due and payable by such person to the Concessionaire after, in each case, having used commercially reasonable efforts to make such collection, or (b) the Concessionaire shall otherwise fail to receive, deposit or retain any Bottled Water Revenue Charge due and payable by such person to the Concessionaire during the Concession Period (each of (a) and (b), the **Due and Payable Charges**), said failure shall constitute a breach of this Agreement. Upon written notification of such breach, the Concessionaire shall be entitled to a cure period of sixty (60) Days to remedy such breach in the manner stated in Section 12.3.2.4 below. If after the said period of sixty (60) Days, the breach remains unremedied, the GoS shall have the right to draw the relevant amount from the O&M Performance Security and/or seek adjustment of the Water Tariff Payment to the extent of the Bottled Water Revenue (PBGSP-GGSP) together with any commission in accordance with Section 13.7.

12.3.2.4 The Concessionaire shall be entitled to cure any breach referred to in Section 12.3.2.3 by (a) depositing the relevant Due and Payable Charges amount in the Bottled Water Revenue Account, or (b) agreeing to have the relevant Bottled Water Revenue (PBGSP-GGSP) calculated in such manner under Section 12.3.3 that assumes that the Due and Payable Charges have already been paid to the Concessionaire (without actually depositing the amount of the Due and Payable Charges in the Bottled Water Revenue Account). In such case, when and if the obligor in respect of such amount shall eventually deposit such amount in the Bottled Water Revenue Account, such amount and any interest, penalty or fine charged with respect thereto shall not constitute Bottled Water Revenue (Actual) for purposes of this Agreement, to the extent such amount and any interest, penalty or fine charged with respect thereto had already been deposited by the Concessionaire in the Bottled Water Revenue Account in accordance with this Section 12.3.2.4.

12.3.2.5 In the event that a failure to bill any person, or a failure to collect or receive from any person, or a failure to deposit or retain from any person in accordance with this Agreement, any Bottled Water Revenue Charge duly owed by such person remains unremedied for ninety (90) Days or more after the delivery of the notice of such breach by the GoS to the Concessionaire referred to in Section 12.3.2.3, the GoS shall have the right to terminate this Agreement in accordance with Section 21.7.

### 12.3.3 ADDITIONAL CAPACITY SYSTEM AND THE BOTTLED WATER REVENUE SHARING

12.3.3.1 The Concessionaire shall be entitled to establish the Additional Capacity System (Bid), at its own risk, cost and expense. In addition, at any time prior to the expiration of the Concession Period, the Concessionaire shall have the right to submit a proposal (the **Additional Capacity System (Future) Proposal**) for establishment of the Additional Capacity System (Future) on or along the Project Site, for the approval of the Independent Engineer (with copies to the GoS Parties). The Additional Capacity System (Future) Proposal shall also set out the Concessionaire's proposal in relation to the committed volume of the Bottled Water. Upon receipt of the Additional Capacity System (Future) Proposal, the GoS Parties shall communicate their objections or reservations (if any) to the Independent Engineer and the Independent Engineer shall ensure that the same are adequately addressed and where necessary form an approval requirement for such Additional Capacity System (Future) Proposal (the **Additional Capacity System (Future) Approval**). The approved Bottled Water Committed Volume shall also be set out in the Additional Capacity System (Future) Approval.

12.3.3.2 Whether the Additional Capacity System is being developed on privately owned land or land owned by the GoS or KWSC (with prior approval of the GoS Parties), the Concessionaire shall develop, operate, manage and maintain such Additional Capacity System at its own risk, cost and expense and the GoS Parties shall bear no liability whatsoever in relation to the Additional Capacity System. In particular:

- (a) the Additional Capacity System shall be of such nature that is distinct and separate from the Desalinated Water Supply System and may be dismantled without hindering or impairing the Operation and Maintenance and general integrity of the Desalinated Water Supply System in any manner whatsoever;
- (b) the Additional Capacity System shall not be transferred to the GoS under Section 21.10 (unless otherwise agreed between the Concessionaire and the GoS);
- (c) the Additional Capacity System shall be completely dismantled and removed by the Concessionaire on the Final Expiry Date to the extent established on land owned by the GoS or KWSC (unless otherwise agreed between the Concessionaire and the GoS) and the land shall be restored to at least the condition prevailing at the time of handing over to the Concessionaire;
- (d) the cost of establishing the Additional Capacity System shall not be included in determination of the Termination Payment in accordance with the terms of this Agreement (unless compensation is agreed between the Concessionaire and the GoS in furtherance of (b) and (c) above).

12.3.3.3 For purposes of development of the Additional Capacity System, the Concessionaire shall enter into all such agreements as may be reasonably required by the GoS Parties to give full effect to this Section 12.3.3.

12.3.3.4 In the event the Additional Capacity System is developed by the Concessionaire:

- (a) the Concessionaire shall be entitled to the Bottled Water Revenue (Concessionaire Share); and
- (b) the GoS shall be entitled to the Bottled Water Revenue (GoS Share).

12.3.3.5 If applicable, the Concessionaire shall pay the Bottled Water Revenue (PBGSP-GGSP) to the GoS on each Bottled Water Revenue Share Payment Date in accordance with the mechanism set out in Article 13 below.

12.3.3.6 The Concessionaire shall ensure that the Additional Capacity System is developed, operated, managed and maintained in such a manner so as (a) not to hinder or impair the construction and/or Operation and Maintenance and general integrity of the Desalinated Water Supply System, and (b) to avoid danger to any such persons.

## **13. INVOICING AND PAYMENT**

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### **13.1 INVOICES ISSUED BY THE CONCESSIONAIRE**

Save as otherwise provided in this Agreement, the Concessionaire shall issue to the Independent Experts and the GoS itemized invoices together with all supporting data necessary to verify and calculate the Water Tariff Payment (including any applicable Deduction) payable on any Water Tariff Payment Date in accordance with **SCHEDULE H (Water Tariff Payment Calculation)**. The Independent Experts and the GoS may request for any additional information reasonably necessary to verify and calculate such amounts.

### **13.2 INVOICES ISSUED BY GOS**

Save as otherwise provided in this Agreement, the GoS shall issue an itemized invoice to the Concessionaire in relation to any amounts due and payable by the Concessionaire under this Agreement within thirty (30) Days of the end of a Billing Period in which any such amounts accrue. Such invoices shall be accompanied by supporting documents.

### **13.3 PAYMENT CERTIFICATES**

13.3.1 Six (6) Months prior to the first (1<sup>st</sup>) Water Tariff Payment Date and thereafter within five (5) Days of each Water Tariff Payment Evaluation Date (the **Water Tariff Payment Certificate Issuance Date**), the Concessionaire shall procure that the Independent Experts jointly issue a written certificate in respect of such Water Tariff Payment Date (the **Water Tariff Payment Certificate**) to the Concessionaire, the GoS Parties and the GoS Water Tariff Payment Account Bank setting out:

13.3.1.1 the Downtime occurring in the Water Tariff Payment Evaluation Period relating to such Water Tariff Payment Date;

13.3.1.2 the Deduction calculated on the basis of the Downtime occurring in the Water Tariff Payment Evaluation Period relating to such Water Tariff Payment Date;

13.3.1.3 the Water Tariff Payment (less Deduction) to be paid on such Water Tariff Payment Date; and

13.3.1.4 the Water Tariff Payment Account (GoS) Funding Amount to be funded by the GoS.

13.3.2 Notwithstanding anything to the contrary in this Agreement, the Independent Experts shall have no obligation to issue a Water Tariff Payment Certificate unless:

13.3.2.1 each of the Performance Securities remain valid and in effect;

13.3.2.2 the insurances to be obtained by the Concessionaire in accordance with Article 18 are valid and in effect;

13.3.2.3 the required Approvals are in full force and effect, unless the withdrawal or cancellation of any Approval is not attributable to the Concessionaire's failure to comply with the Legal Requirements; and

13.3.2.4 if there is a subsisting Concessionaire Event of Default.

13.3.3 Within five (5) Days of expiry of each Billing Period, the Independent Experts shall issue a certificate to the Commercial Parties setting out the Bottled Water (PBGSP-GGSP) that is payable by the Concessionaire to the GoS (the **Bottled Water Revenue Share Payment Certificate**) on the Bottled Water Revenue Share Payment Date.

#### **13.4 PAYMENT DATES**

13.4.1 The GoS shall pay the Water Tariff Payment to the Concessionaire on each Water Tariff Payment Date strictly in accordance with the terms of this Article 13.

13.4.2 Following issuance of the Water Tariff Payment Certificate by the Independent Experts, the Concessionaire shall (at least ten (10) Days prior to the Water Tariff Payment Date relating to such Water Tariff Payment Certificate):

13.4.2.1 deliver an invoice (together with copies of the Water Tariff Payment Certificate appended thereto) to the GoS in triplicate demanding payment of the Water Tariff Payment (less the Deduction) (the **Water Tariff Payment Invoice**); and

13.4.2.2 deliver the Water Tariff Payment Certificate to the GoS Water Tariff Payment Account Bank for payment to the Concessionaire of the Water Tariff Payment (less the Deduction) on the relevant Water Tariff Payment Date through, as per Water Tariff Payment Account Standing Instructions, debiting of funds standing to the credit of the Water Tariff Payment Account (GoS) on the Water Tariff Payment Date in an amount equal to the Water Tariff Payment (less the Deduction) and crediting of the same to the Water Tariff Payment Account (Concessionaire) on the Water Tariff Payment Date.

13.4.3 If applicable, the Concessionaire shall pay the Bottled Water Revenue (PBGSP-GGSP) to the GoS in relation to each Billing Period within ten (10) Business Days of receipt of the Bottled Water Revenue Share Payment Certificate by the Concessionaire from the Independent Experts (each such date, a **Bottled Water Revenue Share Payment Date**) based on the Bottled Water Revenue Account Standing Instructions.

13.4.4 Each invoice issued pursuant to this Agreement other than those referred to in Section 13.4.2 and 13.4.3 above shall be due and payable within twenty (20) Business Days after the date on which it is received by the receiving Party (each such date, an **Other Payment Date**).

#### **13.5 METHOD OF PAYMENT**

13.5.1 All amounts payable by the GoS against invoices for the Water Tariff Payment, as set out in the Water Tariff Payment Certificates, shall be paid by the GoS, on or before the Water Tariff Payment Date, by debiting the Water Tariff Payment Account (GoS) and crediting the Water Tariff Payment Account (Concessionaire) in terms of the Water Tariff Payment Account (GoS) Standing Instructions.

13.5.2 Subject to Section 13.5.3 below, all amounts payable by the Concessionaire against invoices issued by GoS pursuant to Section 13.2 shall be paid by the Concessionaire on or before the Other Payment Date, by wire transfer of immediately available funds to GoS Designated Account.

13.5.3 The Bottled Water Revenue (PBGSP-GGSP), as set out in the Bottled Water Revenue Share Payment Certificate, shall be paid by the Concessionaire, on the Bottled Water Revenue Share Payment Date, by debiting the Bottled Water Revenue Account and crediting the GoS Designated Account in terms of the Bottled Water Revenue Account Standing Instructions.

## 13.6 **DISPUTED PAYMENTS**

- 13.6.1 If a Commercial Party receiving an invoice, the Bottled Water Revenue Share Payment Certificate or a Water Tariff Payment Certificate (the **Receiving Party**) and Disputes any portion or amount of such invoice, the Bottled Water Revenue Share Payment Certificate or the Water Tariff Payment Certificate, then the Receiving Party shall:
- 13.6.1.1 inform the other Commercial Party (the **Invoicing Party**) and the Independent Experts of the reason for the Dispute, specifying the amount(s) Disputed; and
- 13.6.1.2 pay to the Invoicing Party the undisputed amounts contained in such invoice, the Bottled Water Revenue Share Payment Certificate or a Water Tariff Payment Certificate on or before the relevant Bottled Water Revenue Share Payment Date or the Water Tariff Payment Date (as applicable); provided, that in the case of invoices relating to the Bottled Water Revenue Share Payment Date or the Water Tariff Payment Date, the Independent Experts shall issue the Bottled Water Revenue Share Payment Certificate or the Water Tariff Payment Certificate (as applicable) setting out such amount that is not disputed.
- 13.6.1.3 Each Commercial Party agrees that the invoices rendered by the other Commercial Party may only be disputed on *bona fide* grounds.
- 13.6.2 No previously undisputed invoice, Bottled Water Revenue Share Payment Certificate, the Water Tariff Payment Certificate, or payment may be disputed by:
- 13.6.2.1 the Concessionaire, more than sixty (60) Days after the applicable Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date (as applicable); or
- 13.6.2.2 the GoS, more than three hundred and sixty-five (365) Days after the applicable Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date (as applicable).
- 13.6.3 The Commercial Parties shall use their reasonable endeavours to resolve the payment Dispute by amicable negotiation; provided, that if the Commercial Parties are unable to resolve the Dispute within ten (10) Days of the Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date (as applicable), then either Commercial Party may refer the Dispute for resolution pursuant to Article 27.
- 13.6.4 If it is agreed or determined that a Commercial Party has:
- 13.6.4.1 underpaid an invoice, such Commercial Party shall pay to the other Commercial Party the full amount of the underpayment, together with the commission thereon at the Late Payment Rate accrued from, but excluding, the relevant Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date to, and including, the Day on which such underpayment is paid; or
- 13.6.4.2 overpaid an invoice, the Commercial Party who has received the overpayment shall be obliged to repay the other Commercial Party the full amount of such overpayment, together with commission thereon at the Late Payment Rate accrued from, but excluding, the Day the amount of such overpayment was originally paid to, and including, the Day on which the amount of such overpayment is fully repaid. If agreed or determined that GoS has overpaid an invoice, GoS shall have the right to deduct the amount of such overpayment from future payments in the immediately following Billing Period(s) until the full amount of the overpayment shall have been deducted.

### **13.7 LATE PAYMENTS**

Any amount under any invoice that is not paid in accordance with this Article 13 on or before the Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date (as applicable) shall bear commission at the Late Payment Rate accrued from, but excluding, the Water Tariff Payment Date, Bottled Water Revenue Share Payment Date or Other Payment Date (as applicable), and including the Day on which such payment is made. The GoS shall not be liable to pay any amount under this Section 13.7 if payment of any invoice is delayed due to the Concessionaire's failure to submit a demand for payment in accordance with the GoS Water Tariff Payment Account Standing Instructions.

### **13.8 SET-OFF**

The GoS shall be entitled to set-off against any sum payable by the GoS to the Concessionaire under this Agreement or any other GoS Project Document, any debt or other moneys due and owing (other than any amounts (including any liquidated damages) that are the subject of an on-going Dispute) from the Concessionaire to GoS under or in accordance with this Agreement or any other GoS Project Document.

### **13.9 TAXES AND ROYALTIES**

13.9.1 The Water Tariff Payment are inclusive of all Taxes.

13.9.2 The GoS may deduct from the Water Tariff Payment and any other amounts due to the Concessionaire, any income tax or withholding tax that is required to be deducted at source in accordance with the Legal Requirements.

13.9.3 The Concessionaire shall be responsible for the payment of all applicable Taxes and complying with all procedural requirements related to the payment of Taxes pursuant to this Agreement and shall be solely responsible for any proceedings initiated by any Government Authority in respect of any non-payment or short payment of Taxes.

13.9.4 The Concessionaire shall be responsible for payment of all applicable royalties on any fine and coarse aggregate, core sand, fine sand, grit and any other minerals extracted and/or used by the Concessionaire or any Contractor and furnish proof of payment of such royalties to the GoS along with the invoices for the Water Tariff Payment (as applicable).

13.9.5 Upon a request from the Concessionaire, the GoS will provide all relevant certificates and information it has on record to enable the Concessionaire to obtain any Tax exemptions available in relation to the Project. It is clarified that the GoS shall not be responsible in any manner for ensuring that any applicable Tax exemptions are available to the Concessionaire.

13.9.6 The Concessionaire shall indemnify the GoS Parties from and against any cost or liability that may arise due to the Concessionaire's failure to pay all applicable Taxes, in connection with the Project.

13.9.7 Any Taxes payable in relation to the Project Site shall be borne by KWSC.

## **14. METERING AND MONITORING SYSTEMS<sup>12</sup>**

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### **14.1 ELECTRICITY METERING SYSTEMS**

- 14.1.1 The metering systems and associated equipment to measure the delivery of Electricity to the Desalinated Water Supply System at the Electricity Connection Point shall be procured, installed, tested, commissioned, operated and maintained by the Electricity Supplier.
- 14.1.2 The Concessionaire shall, at its own expense, procure, install, test, commission, complete, own, operate and maintain, at the Electricity Connection Point, back up metering systems and associated equipment in accordance with the Legal Requirements to measure the delivery of Electricity to the Desalinated Water Supply System.

### **14.2 METERING SYSTEMS AND MONITORING SYSTEMS**

The Concessionaire shall, at its own expense:

- 14.2.1 procure, install, operate and maintain at the Metering Points, one or more Metering Systems to measure the volume of the Desalinated Water in accordance with **SCHEDULE A (Technical Specifications)**;
- 14.2.2 procure, install, own, operate and maintain at the Monitoring Points, one or more Monitoring Systems to measure the quality of the Desalinated Water in accordance with **SCHEDULE A (Technical Specifications)**.

### **14.3 GENERAL**

- 14.3.1 Each of the Metering Systems and the Monitoring Systems shall be jointly sealed by the Technical Parties (in the presence of the Independent Engineer).
- 14.3.2 The Concessionaire shall ensure that the procurement, installation, operation and maintenance of the Back-up Metering Systems shall not interfere with the operations and maintenance of the Metering Systems and the Monitoring Systems, and physical testing and analysis of water samples required to be conducted in terms of the Operating and Maintenance Procedures.

### **14.4 READING OF METERS**

- 14.4.1 The Independent Engineer shall read each of the Metering Systems at 23:59 hours on the last Day of each Month for the purpose of determining the Net Desalinated Water Output managed by the Concessionaire up to the Output Water Delivery Point since the last meter reading. The Concessionaire shall be entitled to have a representative present during any such reading.
- 14.4.2 The Independent Engineer shall make all records derived from the Metering Systems, the Monitoring Systems, and the physical testing facilities, available to the Parties upon reasonable request for inspection and verification.
- 14.4.3 The metered data derived from the Metering Systems and the Monitoring Systems shall be telemetered to the distribution control system within the Desalinated Water Supply System, and,

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<sup>12</sup> KWSC reserves the right to communicate specific Metering Points and Monitoring Points prior to the Bid Submission Deadline.

subject to Section 14.5.1, shall be used as the binding measurement of the Net Desalinated Water Output delivered at the Output Water Delivery Point.

14.4.4 The Concessionaire shall maintain and calibrate the Metering Systems and Monitoring Systems in accordance with the requirements of **SCHEDULE A (Technical Specifications)**.

#### **14.5 DEFECTIVE METERING EVENTS AND CORRECTIONS**

14.5.1 If there is a Defective Metering Event in relation to any of the Metering Systems, then subject to Section 14.5.2, the binding measurements referred to in Section 14.5.3 shall be provided by the readings of the respective Back-Up Metering Systems.

14.5.2 If there is a Defective Metering Event in relation to both a Metering System and the corresponding Back-Up Metering System, then any error in the readings from the relevant Metering System shall be corrected in accordance with the following:

14.5.2.1 if the Independent Engineer is able to determine the amount of the error, if any, then all measurements made by the relevant Metering System shall be corrected by such amount; or

14.5.2.2 if the Independent Engineer is unable to determine the amount of the error, if any, then the percentage error for which the relevant Metering System is to be corrected, for the period determined in accordance with Section 14.5.3, shall be determined if:

(a) the percentage of error is ascertainable, by calibration, tests, or mathematical calculation; or

(b) the percentage of error is not ascertainable, on the basis of the readings taken under similar conditions during the period before the last test.

14.5.3 If a correction is to be made pursuant to Section 14.5.2.2, then such correction shall be made to the readings given by the relevant Metering System from the period commencing on:

14.5.3.1 the Day of the Defective Metering Event, if such Day can be established by the Independent Engineer; or

14.5.3.2 if the Day of the Defective Metering Event cannot be established by the Independent Engineer, the Day which is halfway between the Day of the immediately preceding test of such metering device and the Day the Defective Metering Event was discovered.

14.5.4 If, as a result of any corrections pursuant to Section 14.5.2:

14.5.4.1 it is determined that the GoS is required to pay any additional amounts to the Concessionaire, then the Concessionaire shall include such additional amounts in the next invoice to be delivered by the Concessionaire in accordance with Section 13.1; or

14.5.4.2 it is determined that GoS has overpaid the Concessionaire, the Concessionaire shall be obliged to repay such overpaid amount, and the GoS shall have the right to deduct the amount of such overpayment from future payments in the immediately following Billing Period(s) until the full amount of the overpayment shall have been deducted.

#### **14.6 REPAIR, REPLACEMENT AND RECALIBRATION**

14.6.1 If a Defective Metering Event occurs, or a Metering System is otherwise found to be functioning improperly in accordance with the design and equipment parameters, the Independent Engineer

shall instruct the Technical Party owning such Metering System to promptly recalibrate, repair or replace such system at the relevant Technical Party's expense.

- 14.6.2 A Technical Party wishing to recalibrate, repair or replace a Metering System shall notify the other Technical Party and the Independent Engineer so that any recalibration, repair or replacement of a Metering System may be witnessed by the Technical Party not owning such Metering System (and the Independent Engineer) and, upon completion of any such recalibration, repair or replacement, such Metering System shall be jointly sealed by the Technical Parties (in the presence of the Independent Engineer).

#### **14.7 TESTING AND ACCESS**

- 14.7.1 Either Technical Party shall be entitled to request at any time a test of any component of a Metering System. The Technical Party calling for such test shall be responsible for all costs associated with such test unless such test discloses that the accuracy of the tested component is outside the Metering Tolerance, in which case, the Technical Party that owns such component shall bear all such costs and shall repair, replace or recalibrate such component as necessary.
- 14.7.2 Each Technical Party or its representatives or designees shall be entitled to be present at, and to receive reasonable advance notice of, any test, inspection, maintenance and replacement of any part of any Metering System owned by the other Technical Party.
- 14.7.3 The Independent Engineer and KWSC and its designees shall have the right to enter upon the Project Site or enter the Desalinated Water Supply System at such times as may reasonably be required to enjoy its rights or perform its obligations pursuant to this Article 14 and for the purposes of maintaining any equipment on the Project Site owned or operated by it. When so doing, KWSC and the Independent Engineer shall (and shall ensure that any of its designees shall) act in accordance with Good International Industry Practices and the Concessionaire's reasonable safety regulations and procedures.

#### **14.8 WATER QUALITY**

- 14.8.1 The Concessionaire shall perform Desalinated Water quality tests on a continuous basis by means of:
- 14.8.1.1 the Monitoring Systems; and
- 14.8.1.2 physical testing and analysis of Desalinated Water samples by an authorised third party approved by the GoS Parties in writing at least once a day,
- each in accordance with **SCHEDULE A (*Technical Specifications*)** and the Operating and Maintenance Procedures.
- 14.8.2 For the purposes of calculating the Deduction, the results obtained through physical testing and analysis of Desalinated Water samples by an authorised third party approved by the GoS Parties in writing in accordance with the Operating and Maintenance Procedures, shall apply. All payments to be made to such third party shall be borne by the Concessionaire.
- 14.8.3 If water delivered or proposed to be delivered to the Output Water Delivery Point does not conform to the Output Water Quality Specifications, the Independent Engineer shall give notice to the Concessionaire, as soon as practicable upon becoming aware of such failure, confirming whether, such water is to be accepted or rejected. If the Independent Engineer rejects any water that does not conform to the Output Water Quality Specifications, the provisions of **SCHEDULE H (*Water Tariff Payment Calculation*)** shall apply.

## **15. RECORDS, REPORTING AND AUDIT**

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### **15.1 MONITORING RIGHTS**

- 15.1.1 The Independent Experts and the GoS Parties and their duly appointed representatives shall have the right to:
- 15.1.1.1 monitor the Project; and
- 15.1.1.2 review and make copies of all materials required to be obtained and retained by the Concessionaire pursuant to Section 6.4 and all materials pertinent to the exercise of audit rights pursuant to Section 15.2.
- 15.1.2 The purpose of such monitoring and review shall be to determine:
- 15.1.2.1 in the case of the Construction Activities, whether the Desalinated Water Supply System is (or is being) designed, engineered, manufactured, supplied, procured, transported, erected, constructed, installed, tested and commissioned in accordance with the design and equipment parameters set out in **SCHEDULE A (Technical Specifications)**, and to observe the progress of the Construction Activities; and
- 15.1.2.2 in the case of the O&M Activities, to determine whether the Desalinated Water Supply System is being operated and maintained in accordance with the terms of this Agreement.
- 15.1.3 The Concessionaire shall permit the Independent Engineer and KWSC and their duly appointed representatives to conduct such monitoring and review at any time and, following the COD, during normal operating hours, in each case, upon reasonable notice to the Concessionaire.
- 15.1.4 Such monitoring and review shall be conducted in the presence of and, in the case of inquiries addressed to the Concessionaire's employees and contractors, through suitably qualified, appropriate representative(s) of the Concessionaire designated by the Concessionaire for this purpose.
- 15.1.5 The Concessionaire agrees to designate such a representative or representatives and to make such representative(s) available for all such monitoring and review. In the case of monitoring of equipment or supplies, the Independent Engineer and KWSC shall have the right to conduct such monitoring with the prior approval of the Concessionaire, which shall not be unreasonably withheld or delayed, in the presence of a representative of the Concessionaire, at any and all locations inside or outside Pakistan at which such equipment and supplies are designed, manufactured, assembled or tested.
- 15.1.6 The Concessionaire shall ensure that the EPC Contract and the O&M Contract provide for such rights and shall require the EPC Contractor and the O&M Contractor to require that their contracts with subcontractors and suppliers provide for such rights.
- 15.1.7 The foregoing provisions shall be without prejudice to the Independent Engineer's and KWSC's inspection, monitoring and review rights with respect to the Desalinated Water Supply System (or any part thereof) in connection with testing pursuant to **SCHEDULE E (Testing)** or as otherwise provided in this Agreement.
- 15.1.8 The Concessionaire shall provide to the Independent Experts and the GoS Parties, promptly, and in any event within seven (7) Days of becoming aware, a report describing the occurrence of any act or condition materially affecting the Project or the Concessionaire's ability to perform any of

its obligations under this Agreement and any other Project Agreements to which the Concessionaire is a party.

15.1.9 The Concessionaire hereby agrees that:

15.1.9.1 any monitoring or review by any of the Independent Experts or the GoS Parties (or their representatives) pursuant to this Section 15.1 is solely for information, and by conducting any such monitoring or review, neither the Independent Experts nor the GoS Parties (or their representatives) make (or shall be construed to make) any endorsement of the design, or representation or warranty of the safety, durability, or reliability of the Desalinated Water Supply System or any part thereof; and

15.1.9.2 it shall in no way represent to any third party that, as a result of any monitoring or review by Independent Experts and the GoS Parties (or their representatives) pursuant to Section 15.1, the Independent Experts and the GoS Parties (or their representatives) are in any way responsible for the engineering, design or construction soundness of the Desalinated Water Supply System.

## **15.2 BOOKS AND RECORDS AND AUDIT RIGHTS**

15.2.1 The Concessionaire shall comply with the Accounting Principles and maintain proper books, data and records in accordance with the Law and this Agreement.

15.2.2 The Independent Experts and the GoS Parties (and their duly appointed representatives) may at reasonable times, and at their expense, audit the Concessionaire's books, data and records in relation to testing, metering, invoicing, payments, Claims, claims for Relief Costs, Termination Payments, reimbursements and any other charges to GoS, in all such cases for the purpose of determining whether the Concessionaire's charges to GoS have been computed in accordance with this Agreement.

15.2.3 The Independent Experts and the GoS Parties shall have the right, upon reasonable prior notice to the Concessionaire, to examine and/or make copies of the books, data and records referred to in Section 15.2.2 during normal office hours during the period such books, data and records are required to be maintained pursuant to Section 15.2.4.

15.2.4 All books, data and records referred to in this Section 15.2 shall be maintained by the Concessionaire until the Final Expiry Date. The Concessionaire shall provide a notice to KWSC thirty (30) Days prior to the Final Expiry Date for handing over custody of such books, data and records to KWSC, and KWSC shall be entitled to take custody of the same within twenty (20) Days of the date of receipt of the notice provided by the Concessionaire hereunder.

15.2.5 The Concessionaire shall provide to the Independent Experts and the GoS Parties, such information concerning the operational and financial performance of the Project and the Concessionaire, as the Independent Experts and the GoS Parties may reasonably require.

15.2.6 The Concessionaire hereby agrees that:

15.2.6.1 any receipt, review or audit by any of the Independent Experts or the GoS Parties (or their representatives) of any books, data, records or other documentation or information pursuant to this Section 15.2 is solely for information purposes and by such receipt, review or audit, neither the Independent Experts nor the GoS Parties (or their representatives) make (or shall be construed to make) any endorsement as to the accuracy and completeness of any books, data or records; and

15.2.6.2 it shall in no way represent to any third party that, as a result of any receipt, review or audit by the Independent Experts and the GoS Parties (or their representatives) of any books, data or records

pursuant to this Section 15.2, the Independent Experts and the GoS Parties (or their representatives) are in any way responsible for accuracy and completeness of any such books, data or records.

- 15.2.7 The Concessionaire shall provide to the Independent Experts and the GoS Parties an updated Financial Model within three (3) Business Days after any update to the Financial Model is made following a reasonable request by any of the Independent Experts or the GoS Parties.

## **16. COVENANTS**

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### **16.1 LICENCES, PERMITS AND CONSENTS**

The Concessionaire shall, as soon as reasonably practicable and in any event within seven (7) Days of request, deliver to the Independent Experts and KWSC copies of all Approvals that have been issued to the Concessionaire and not previously delivered to the Independent Experts and KWSC.

### **16.2 OTHER BUSINESS**

The Concessionaire shall not:

- 16.2.1 engage in any business activity other than as reasonably required to perform its obligations and enjoy its rights under this Agreement;
- 16.2.2 use the Desalinated Water from the Desalinated Water Supply System for any purpose other than the Project;
- 16.2.3 enter into any agreement of merger, consolidation or amalgamation with any entity; or
- 16.2.4 substantially amend or alter its memorandum of association and/or articles of association without the prior written approval of the Independent Experts and the GoS.

### **16.3 CONTRACTOR'S APPOINTMENT, PROJECT AGREEMENTS, FINANCING DOCUMENTS AND REFINANCING**

16.3.1 Prior to the Commencement Date:

16.3.1.1 a change of the EPC Contractor (including any member of the EPC Contractor) shall be subject to the prior written approval of the GoS Parties. The proposed new EPC Contractor or the proposed new member of the EPC Contractor (as applicable) must meet the relevant EPC Contractor Criteria as confirmed by the Independent Engineer and consented to by KWSC, such confirmation not to be unreasonably withheld or delayed; and

16.3.1.2 the Concessionaire shall ensure that the proposed O&M Contractor meets the O&M Contractor Criteria and the relevant documentation has been submitted to KWSC for determination.

16.3.2 Drafts of the EPC Contract and O&M Contract to be entered into by the Concessionaire shall be provided to the Independent Engineer (with a copy to the GoS) for review at least sixty (60) Days prior to the Scheduled Commencement Date. The GoS shall, within fourteen (14) Days of its receipt of the proposed EPC Contract and the O&M Contract, provide its comments or observation on the same, if any, to the Independent Engineer. The Independent Engineer shall within twenty (20) Days of the delivery of the proposed EPC Contract and O&M Contract, provide its comments on the same, in consultation with the GoS after addressing any objection by the GoS. Prior to execution of the EPC Contract or the O&M Contract, the Concessionaire shall address any comments made by the Independent Engineer. In the event the Independent Engineer fails to provide its comments on the proposed EPC Contract or O&M Contract within twenty (20) Days of the delivery of the same by the Concessionaire, the EPC Contract or O&M Contract (as the case maybe) shall be deemed to have been approved by the Independent Engineer. Promptly following the execution and delivery of the EPC Contract and the O&M Contract, the Concessionaire shall deliver copies to the Independent Engineer and the GoS Parties.

16.3.3 The Concessionaire shall ensure that the Financing Documents conform to the financing terms submitted as part of the Bid, unless otherwise approved in writing by the Independent Auditor and

the GoS. Promptly following the execution and delivery of the Financing Documents, the Concessionaire shall deliver copies thereof to the Independent Experts and the GoS Parties.

16.3.4 The Concessionaire may not enter into:

16.3.4.1 any material amendments, modifications or supplements to, or waivers under any of the Project Agreements;

16.3.4.2 any material amendments, modifications or supplements to, or waivers under any of the Financing Documents; or

16.3.4.3 any material new contracts after the Commencement Date, including any new construction contract for construction activities on the Project Site,

without first giving the Independent Experts and the GoS thirty (30) Days' notice (or sixty (60) Days' notice where Section 16.3.6 applies) of such matter (along with relevant documentation that may be necessary for assessment by the Independent Experts and the GoS) and obtaining the prior written approval of the Independent Engineer and the GoS), which approvals shall not be unreasonably withheld or delayed and which shall be deemed to have been granted if the Independent Engineer and the GoS do not object to such matter within thirty (30) Days of receiving notice thereof, provided that:

- (a) no approval shall be deemed to have been granted by the Independent Experts or the GoS if (i) the Concessionaire shall have failed to provide such information as the Independent Experts or the GoS may reasonably request to evaluate the matter proposed; or (ii) the GoS Parties or the Independent Experts consider that the substitute EPC Contractor does not meet (at minimum) the EPC Contractor Criteria or the substitute O&M Contractor does not meet (at minimum) the O&M Contractor Criteria; and
- (b) in relation to any proposed Refinancing, the GoS or the Independent Experts may withhold approval at their absolute discretion if such changes adversely affect the GoS' rights or obligations under any GoS Project Document (including giving rise to any increase in GoS' financial obligations (whether actual or contingent) at any point in time under any GoS Project Document) or the Concessionaire's or any Sponsor's ability to perform its obligations under any GoS Project Document.

16.3.5 Promptly following the execution and delivery of any items referred to in Sections 16.3.4.1 to 16.3.4.3 (inclusive), the Concessionaire shall deliver a copy of all relevant documents to the Independent Experts and the GoS Parties.

16.3.6 Not later than sixty (60) Days prior to the execution by the Concessionaire of any amendments, modifications or supplements to, or consent to any change of any provision of, or waiver under:

16.3.6.1 the EPC Contract or the O&M Contract that would result in:

- (a) a change of the EPC Contractor or the O&M Contractor;
- (b) a material change to the scope of work of the EPC Contractor or the O&M Contractor;
- (c) a material change to the performance standards to which the EPC Contractor or the O&M Contractor is subject; or
- (d) a change, in the case of the EPC Contract only, to:

- (a) the critical path schedule under the EPC Contract, to the extent such change could affect the ability of the Concessionaire to meet the Implementation Schedule; or
- (b) a major piece of equipment as to either its manufacturer or country of origin; or

16.3.6.2 the Financing Documents that would result in a Refinancing, the Concessionaire shall deliver to the Independent Experts and the GoS Parties a notice executed by a duly authorised officer, setting out the terms of any of the foregoing in reasonable detail including calculations for consideration by the Independent Auditor for determination of any Refinancing Gains.

16.3.7 The Concessionaire acknowledges and agrees that no review or approval (actual or deemed) by the Independent Experts or the GoS Parties of any amendments, modifications, supplements, waivers or new contracts pursuant to Section 16.3.4 shall in any way relieve the Concessionaire from any liability it would otherwise have under this Agreement, and that neither the Independent Experts nor the GoS Parties (or any of their representatives) shall be liable to the Concessionaire, the relevant Contractor or the Financing Parties by reason of their review or approval of the amendments, modifications, supplements, waivers or new contracts.

16.3.8 The Concessionaire acknowledges and agrees that sixty percent (60%) of the Refinancing Gain shall be shared with the GoS. The Refinancing Gain shall be determined by the Independent Auditor based on the calculations provided by the Concessionaire in respect of the proposed Refinancing and such other information and calculations as may be reasonably required by the Independent Auditor from the Concessionaire. The GoS shall select the mechanism for applying the Refinancing Gain (in the aforesaid ratio), through (one or a combination of the following):

16.3.8.1 upfront or staggered payments to the GoS;

16.3.8.2 reduction in Water Tariff Payment; or

16.3.8.3 any other mechanism agreeable to the Commercial Parties, which in each case, shall take effect from the date when the Refinancing Gain is realised.

16.3.9 The Concessionaire shall not introduce any form of balloon loan or balloon structure, in each case whether or not such balloon loan or balloon structure is supported by letters of credit or letters of guarantee of any form.

16.3.10 The Concessionaire shall pay, on behalf of the GoS, all reasonable costs and fees of external advisers appointed by the GoS for the purposes of considering any approval or review of any documents (including amendments, modifications or supplements to, or waivers pursuant to, any Financing Document or Project Agreement) as contemplated in this Section 16.3.

#### **16.4 FUNDING OF SPONSOR FUNDING AMOUNT AND COST OVERRUNS, SHAREHOLDING AND RELATED MATTERS**

##### **16.4.1 FUNDING OF SPONSOR FUNDING AMOUNT AND ORDINARY SHARES**

16.4.1.1 The Concessionaire hereby undertakes to procure funding of the Sponsor Funding Amount by the Sponsors in accordance with this Agreement and the Financing Documents.

16.4.1.2 The Concessionaire shall procure that the Initial Sponsors as well as each New Sponsor executes a shareholder commitment undertaking in favour of the GoS Parties as set out in **SCHEDULE G (Sponsor(s) Undertaking)** (the **Sponsor(s) Undertaking**).

16.4.1.3 Each Sponsor shall fulfil its obligation to pay to the Concessionaire that part of the investment on or before the dates and in the amounts and shall hold such proportion of the Ordinary Shares, that is, in each case, apportioned to such Sponsor in the Bid.

16.4.1.4 Subject to the Laws, the Parties agree that the Sponsor and any future Shareholders shall decide on the split between the Concessionaire's Ordinary Shares and Sponsor Loans in their own discretion.

16.4.1.5 The Concessionaire shall evidence any payment of Equity:

- (a) in respect of the amount expressed as Ordinary Shares, by submission to the GoS (with a copy to the Independent Auditor) of a certified copy of all the legal documents that are submitted to the Government Authority pursuant to the Laws in the event of a limited liability share capital increase; or
- (b) in respect of the amount expressed as Sponsor Loan, by submission to the GoS of the Concessionaire's accounting books together with a certificate from the Independent Auditor.

16.4.1.6 The Parties agree that the Maximum Liability Amount set out in the Sponsor(s) Undertaking represents an aggregate cap on the liability of the Shareholders as set out above subject to the terms and conditions of the Sponsor(s) Undertaking. The Parties also agree that, in the event there are multiple entities evidencing the financial and economic standing as required pursuant to the RFP, the Maximum Liability Amount of any Shareholder shall correspond to the percentage of Equity investment to be made by each Shareholder in the Concessionaire in terms of the Bid and the Financial Model; provided, that, the liability of the Lead Developer shall extend to the total Maximum Liability Amount applicable to the entire Consortium. This shall be without prejudice to any liabilities of the Shareholders under the Finance Documents (including the obligation to fund any Cost Overruns).

16.4.1.7 Promptly following the execution and delivery of any agreements in relation to funding of amounts against issuance of the Ordinary Shares and/or the Sponsor Loans, the Concessionaire shall deliver a copy of such agreements to the Independent Experts and the GoS Parties.

16.4.1.8 The Concessionaire shall not create any classes of shares in the Concessionaire other than the Ordinary Shares without approval of the GoS.

16.4.1.9 The Concessionaire shall not offer for subscription Ordinary Shares to any person other than the Sponsors, save as otherwise provided in this Agreement.

#### 16.4.2 TRANSFER RESTRICTIONS

16.4.2.1 Subject to Sections 16.4.3 and 16.4.2.2:

- (a) up to (and including) the second (2<sup>nd</sup>) anniversary of the COD, no Sponsor shall transfer its shareholding in the Concessionaire unless such transfer is required by operation of Laws and, subject to the Legal Requirements, the Transfer Criteria is complied with;
- (b) following the second (2<sup>nd</sup>) anniversary of the COD and subject to compliance with the Transfer Criteria, any Sponsor may transfer its shareholding in the Concessionaire (the **Transferring Sponsor**) without the consent of the GoS, but with prior notice to the GoS; provided, that such transfer does not result in the Sponsors (in aggregate) holding less than fifty-one percent (51%) of shareholding in the Concessionaire; and

- (c) following the second (2<sup>nd</sup>) anniversary of the COD, if any proposed transfer of shareholding by a Transferring Sponsor results in the Sponsors holding (in aggregate) less than fifty-one percent (51%) shareholding in the Concessionaire, then the Transferring Sponsors shall be required to:
  - (i) comply with the Transfer Criteria; and
  - (ii) seek prior approval of the GoS.

16.4.2.2 Where the Transferring Sponsor is the Lead Developer, in addition to complying with the Transfer Criteria, the following conditions shall also apply:

- (a) prior to any transfer by the Lead Developer, the Lead Developer confirms to the GoS in writing, that the proposed transferee shall at minimum acquire forty percent (40%) of the Ordinary Shares; and
- (b) in the sole opinion of the GoS, the proposed transferee referred to in Section 16.4.2.2(a), at minimum meets the qualification criteria on the basis of which a Lead Developer can be qualified for the Project at the bidding stage.

16.4.2.3 For the purpose of Sections 16.4.2, 16.4.3 and 16.4.5, the term **transfer** shall mean any issuance, sale, transfer, conveyance, disposal or any event, transaction, arrangement, Encumbrance or agreement of any nature that results in or may result in: (a) the issuance of any Ordinary Share to any person; (b) the transfer of direct and/or indirect, legal and/or beneficial ownership of any shares, or securities convertible into shares, that causes or may cause the sale, transfer, conveyance or disposal of the Sponsor's legal and/or beneficial ownership, direct or indirect, in the total (or any part thereof) paid up and outstanding Ordinary Shares of the Concessionaire; or (c) the Sponsor's losing the power to direct the management, policies and decisions, in each case, of the Concessionaire.

16.4.2.4 Prior to the Final Expiry Date, the Lead Developer shall hold at least forty percent (40%) of the issued and outstanding share capital of the Concessionaire in the form of Ordinary Shares. Failure to comply with this Section 16.4.2.4 shall constitute a Concessionaire Event of Default.

#### 16.4.3 OTHER TRANSFER RESTRICTIONS

16.4.3.1 In addition to the restrictions set out in Section 16.4.2, any proposed transfer of Ordinary Shares shall be subject to the following restrictions:

- (a) the proposed transfer of Ordinary Shares must comply with the Legal Requirements;
- (b) the proposed transfer of Ordinary Shares must be in accordance with the terms of this Agreement;
- (c) the GoS (through Independent Experts) has confirmed that it has completed its "*know your customer*" review to its satisfaction (acting reasonably and without unreasonable delay) and that the proposed transferee is acceptable to it (in its sole discretion) on reputational or similar grounds, taking into account without limitation, such transferee's environmental and social track record, links to terrorism, political affiliations and conflicts of interest;
- (d) no default is continuing or will or would result from the transferee becoming a party to this Agreement; and

- (e) the Concessionaire and the Sponsors have delivered certificates to the Independent Experts certifying that each of the relevant foregoing conditions has been satisfied.

16.4.3.2 The Concessionaire shall, refuse to recognize any purported transfer of Ordinary Shares in violation of this Section 16.4.3, or record or register any such transfer of Ordinary Shares. Any transfer made in breach of this Section 16.4.3 shall be null and void.

16.4.3.3 Subject to Section 16.4.5, notwithstanding any transfer of Ordinary Shares pursuant to this Section 16.4.3 or otherwise, each remaining Sponsor shall remain fully liable for all its obligations under this Agreement.

#### 16.4.4 UNDERTAKINGS

16.4.4.1 No later than ninety (90) days after the execution of this Agreement, the restrictions imposed under Sections 16.4.2 and 16.4.3 shall be recorded in the constitutional documents (so as to effectively constitute restrictions thereunder) of the Concessionaire and noted on all share certificates (if any) in respect of Ordinary Shares issued by the Concessionaire to the Sponsors.

#### 16.4.5 PROCEDURE FOR TRANSFER

16.4.5.1 On the date of any transfer of any Ordinary Shares, the Concessionaire and the Transferring Sponsor shall procure that the New Sponsor shall duly execute and deliver the Sponsor(s) Undertaking, which shall be certified by (in the case of a New Sponsor that is not an individual) a duly authorized officer of such New Sponsor or (in the case of a New Sponsor that is an individual) such New Sponsor, of:

- (a) (in the case of a New Sponsor that is not an individual) the New Sponsor's constitutional documents or (in the case of a New Sponsor that is an individual) his/her passport and other personal identification as required by the Concessionaire;
- (b) (in the case of a New Sponsor that is not an individual) a board resolution or other appropriate authorization authorizing the New Sponsor's execution of the Sponsor(s) Undertaking;
- (c) a legal opinion (in form and substance and from a counsel satisfactory to the Concessionaire) in respect of the laws of the jurisdiction of (in the case of a New Sponsor that is not an individual) incorporation or (in the case of a New Sponsor that is an individual) domicile of the New Sponsor as to (i) to (iv) below (as applicable) confirming (as to the New Sponsor) that:
  - (i) the New Sponsor has the capacity to execute the Sponsor(s) Undertaking (and any other documentation required to be signed by the New Sponsor in connection with such transfer);
  - (ii) the New Sponsor's signatory (or signatories), if any, have been duly authorized;
  - (iii) (in the case of a New Sponsor that is not an individual) such documentation required to be entered into by the New Sponsor has been duly executed in accordance with the New Sponsor's constitutional documents;
  - (iv) such documentation required to be entered into by the New Sponsor has been duly executed in accordance with all applicable laws in its jurisdiction of (in the case of a New Sponsor that is not an individual) incorporation or (in the case of a New Sponsor that is an individual) domicile; and

- (v) the obligations of the New Sponsor created pursuant to the documentation entered into by it are legally valid and binding on, and enforceable against, the New Sponsor (subject to any customary legal reservations or qualifications);
- (d) (in the case of a New Sponsor that is not an individual) the latest accounts of the New Sponsor, audited (if audited accounts have been prepared) or unaudited (if audited accounts have not been prepared) prepared in accordance with generally accepted accounting principles in the jurisdiction of its incorporation; and
- (e) (in the case of a New Sponsor that is an individual) a net worth statement for such New Sponsor for the most recent tax year in the jurisdiction of his/her domicile prepared in accordance with generally accepted accounting principles in the jurisdiction of his/her domicile audited by the Auditor (or such other firm of independent accountants of recognized international standing approved by the Concessionaire).

16.4.5.2 Subject to the satisfaction of the conditions in Sections 16.4.2 and 16.4.5, the Concessionaire, the Sponsors and the New Sponsor shall execute the Sponsor(s) Undertaking and deliver the documents referred to in Section 16.4.5.1.

16.4.5.3 Upon any transfer permitted by this Section 16.4.5, the Transferring Sponsor shall be released from its obligations under this Agreement to the extent such obligations are assumed by a New Sponsor.

## **16.5 COMPLIANCE WITH APPLICABLE LEGAL REQUIREMENTS**

Each Party agrees that all applicable Legal Requirements shall govern their performance of this Agreement, and each shall respectively comply in all material respects with the applicable Legal Requirements and shall keep in full force and effect all Approvals required to be in their respective names for the performance of their respective obligations under this Agreement and the other Project Agreements to which it is a party. Without limiting the generality of the foregoing, the Concessionaire specifically acknowledges that the applicable Legal Requirements may from time to time prohibit the import of goods or services manufactured, supplied, or performed from or by any Adverse Person and undertakes not to import any such goods or services. The Concessionaire, in addition to the foregoing, agrees to fully comply with the Asian Development Bank's Anticorruption Policy, 1998, as amended from time to time.

## **16.6 PROJECT SITE RELATED UNDERTAKINGS**

The Concessionaire agrees and undertakes that:

- 16.6.1 it shall take all necessary measures to confine the Project Activities, its personnel and equipment to the Project Site and not encroach on any Adjoining Property;
- 16.6.2 it shall make good any damage to any roads, footpaths, conduits, and other works on any Adjoining Property, which is caused by the Concessionaire or its Contractors or employees;
- 16.6.3 it shall use all reasonable endeavours not to do or permit to be done anything which might:
  - 16.6.3.1 cause destruction, scarring or defacing of natural surroundings in the vicinity of the Project Site;
  - 16.6.3.2 be or become a danger or nuisance or give rise to liability in tort to any owners or occupiers of the Adjoining Property or to members of the public; or
  - 16.6.3.3 cause any contamination or damage to any Adjoining Property.

## **17. INDEPENDENT EXPERTS**

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### **17.1 SELECTION OF INDEPENDENT ENGINEER**

- 17.1.1 Within ten (10) Days from the Effective Date, the Concessionaire shall provide the GoS Parties with a list of three (3) reputable firms of engineers for appointment of the Independent Engineer (the **First IE List**). In the event the proposed Independent Engineer is a consortium of engineers then: (a) a lead consortium member shall serve as the lead Independent Engineer and shall be fully responsible for the overall management, coordination and implementation of the services under the Independent Engineer Contract; and (b) the consortium members shall be jointly and severally liable for the services under the Independent Engineer Contract.
- 17.1.2 Within seven (7) Days of receipt by the GoS Parties of the First IE List, the GoS Parties shall (subject to one (1) of the firms in the First IE List being acceptable to the GoS) select a firm of engineers from First IE List and the Parties shall finalise and execute the Independent Engineer Contract.
- 17.1.3 If the firms of engineers identified in the First IE List are not acceptable to the GoS Parties, the Parties shall select as the Independent Engineer a firm acceptable to them and the Parties shall finalise and execute the Independent Engineer Contract.
- 17.1.4 The Independent Engineer Contract shall be executed within thirty (30) Days from the Effective Date.
- 17.1.5 The Independent Engineer shall provide the services set out in the Independent Engineer Contract, which shall be in accordance with the Indicative Independent Engineer Terms of Reference, provided, however, upon execution of the Independent Engineer Contract, the terms and conditions including scope of work under the Independent Engineer Contract shall supersede.

### **17.2 TERM OF APPOINTMENT OF THE INDEPENDENT ENGINEER**

- 17.2.1 The appointment of the Independent Engineer shall initially be for a term not less than the Construction Period (the **Independent Engineer Initial Term**).
- 17.2.2 The Concessionaire shall ensure that until the Final Expiry Date, an Independent Engineer is retained for the purposes of carrying out the functions of the Independent Engineer under this Agreement.
- 17.2.3 Prior to the expiry of the Independent Engineer Initial Term, the Concessionaire, the Sponsors and the GoS shall have the option to extend the Independent Engineer Contract (on terms and conditions agreeable to the Concessionaire, the Sponsors, the GoS and the Independent Engineer) or appoint a new independent engineer (such appointment to be effective upon expiry of the Independent Engineer Initial Term). In the event a new Independent Engineer is to be appointed, the Parties shall follow the process set out in Section 17.1, *mutatis mutandis*, for appointment of a new independent engineer so as to ensure that at all times until the Final Expiry Date an Independent Engineer is retained.
- 17.2.4 The Parties shall have the right to terminate the Independent Engineer Contract in accordance with its terms; provided, however, that prior to such termination and subject to Section 17.5, the Commercial Parties shall select and appoint a replacement Independent Engineer and execute (with KWSC), the Independent Engineer Contract.

17.2.5 The Concessionaire shall ensure that all provisions of this Agreement pertaining to the Independent Engineer and its responsibilities in respect of the matters set out herein are duly incorporated in the Independent Engineer Contract.

### **17.3 INDEPENDENT ENGINEER AUTHORIZED SIGNATORIES**

17.3.1 The Parties shall require the Independent Engineer to designate and notify, suitably qualified and appropriate representatives, authorized to represent the Independent Engineer in all matters relating to this Agreement and sign for and on behalf of the Independent Engineer any communication or document required to be signed by the Independent Engineer (the **Independent Engineer Authorized Representative(s)**). Any document shall be valid and effective only if is signed by such Independent Engineer Authorized Representative. The Independent Engineer, may by prior notice in writing to the Parties, substitute the Independent Engineer Authorized Representative.

### **17.4 DECISION OF INDEPENDENT ENGINEER & DISPUTE RESOLUTION**

17.4.1 Subject to Section 17.4.2, any advice, instruction, certification, approval or determination of the Independent Engineer shall be binding on the Parties.

17.4.2 In the event the GoS, KWSC, the Sponsors or the Concessionaire disagree with any decision of the Independent Engineer, then it will be deemed as a Dispute under this Agreement and shall be resolved in accordance with Article 27.

17.4.3 The Concessionaire shall be responsible for procuring from the Independent Engineer any approval, consent, determination, certificate or other document or decision required or contemplated under any GoS Project Document within the necessary timelines stated herein and any delay in the procurement of the same shall not give rise to any claim for extension in the Scheduled Commencement Date or Scheduled COD, adjustment in the Implementation Schedule or any additional payments (including Relief Costs).

### **17.5 INDEPENDENT ENGINEER REMUNERATION**

17.5.1 Subject to funding in accordance with Section 17.5.2, the Concessionaire (and, until the Commencement Date, the Sponsors) shall be solely responsible for the payment of fees and expenses due to the Independent Engineer under the Independent Engineer Contract (the **Independent Engineer Payments**). In the event the Independent Engineer terminates the Independent Engineer Contract due to the Independent Engineer Payments not being paid, the GoS (without prejudice to its rights under Article 21) shall be entitled to appoint a third party to carry out the functions of the Independent Engineer (the **GoS Appointed IE**) and all fees and expenses relating to the same shall be payable on demand of the GoS by the Sponsors or the Concessionaire (as the case maybe). The GoS shall be entitled to encash the Performance Securities (to the extent demanded) or deduct such amounts from payments due by the GoS to the Concessionaire, in case the Sponsors or the Concessionaire fail to provide the necessary funds demanded by GoS to pay the GoS Appointed IE. Where a GoS Appointed IE is appointed by the GoS, all references to Independent Engineer herein shall be considered as a reference to the GoS Appointed IE.

17.5.2 The Independent Engineer Payments shall be funded by the:

17.5.3 Sponsors from the date of signing of the Independent Engineer Contract until the Commencement Date; and

17.5.4 the Concessionaire from the Commencement Date until the Final Expiry Date.

## **17.6 INDEPENDENT ENGINEER PAYMENT ACCOUNT**

- 17.6.1 The Concessionaire shall establish and maintain the Independent Engineer Payment Account from the date of signing of the Independent Engineer Contract until the Final Expiry Date.
- 17.6.2 The Concessionaire shall issue standing instructions (that may be suspended, amended or revoked only with the consent of the Parties) to the Independent Engineer Payment Account Bank (the **Independent Engineer Payment Account Standing Instructions**) for making payments to the Independent Engineer in accordance with the Independent Engineer Contract.

## **17.7 SELECTION OF INDEPENDENT AUDITOR**

- 17.7.1 Within ten (10) Days from the Effective Date, the Concessionaire shall provide the GoS with a list of three (3) reputable firms of auditors for appointment of the Independent Auditor (the **First IA List**). In the event the proposed Independent Auditor is a consortium of auditors then: (a) a lead consortium member shall serve as the lead Independent Auditor and shall be fully responsible for the overall management, coordination and implementation of the services under the Independent Auditor Contract; and (b) the consortium members shall be jointly and severally liable for the services under the Independent Auditor Contract.
- 17.7.2 Within seven (7) Days of receipt by the GoS of the First IA List, the GoS shall (subject to one (1) of the firms in the First IA List being acceptable to the GoS) select a firm of auditors from First IA List and the Parties shall finalise and execute the Independent Auditor Contract.
- 17.7.3 If the firms of auditors identified in the First IA List are not acceptable to the GoS, the Commercial Parties shall select as the Independent Auditor a firm acceptable to them and the Parties shall finalise and execute the Independent Auditor Contract.
- 17.7.4 The Independent Auditor Contract shall be executed within thirty (30) Days from the Effective Date.
- 17.7.5 The Independent Auditor shall provide the services set out in the Independent Auditor Contract which shall be in accordance with the Indicative Independent Auditor Terms of Reference, provided, however, upon execution of the Independent Auditor Contract, the terms and conditions including scope of work under the Independent Auditor Contract shall supersede.

## **17.8 TERM OF APPOINTMENT OF THE INDEPENDENT AUDITOR**

- 17.8.1 The appointment of the Independent Auditor shall initially be for a term not less than the Construction Period (the **Independent Auditor Initial Term**).
- 17.8.2 The Concessionaire shall ensure that until the Final Expiry Date, an Independent Auditor is retained, for the purposes of carrying out the functions of the Independent Auditor under this Agreement.
- 17.8.3 Prior to the expiry of the Independent Auditor Initial Term, the Concessionaire, the Sponsors and GoS shall have the option to extend the Independent Auditor Contract (on terms and conditions agreeable to the Concessionaire, the Sponsors, GoS and the Independent Auditor) or appoint a new independent auditor (such appointment to be effective upon expiry of the Independent Auditor Initial Term). In the event a new Independent Auditor is to be appointed, the Commercial Parties shall follow process set out in Section 17.7, *mutatis mutandis*, for appointment of a new independent auditor so as to ensure that at all times until the Final Expiry Date, an Independent Auditor is retained.

17.8.4 The Commercial Parties shall have the right to terminate the Independent Auditor Contract in accordance with its terms provided, however, that prior to such termination and subject to Section 17.11, the Commercial Parties shall select and appoint a replacement Independent Auditor and execute (with KWSC), the Independent Auditor Contract.

17.8.5 The Concessionaire shall ensure that all provisions of this Agreement pertaining to the Independent Auditor and its responsibilities in respect of the matters set out herein are duly incorporated in the Independent Auditor Contract.

#### **17.9 INDEPENDENT AUDITOR AUTHORIZED SIGNATORIES**

17.9.1 The Parties shall require the Independent Auditor to designate and notify, suitably qualified and appropriate representatives, authorized to represent the Independent Auditor in all matters relating to this Agreement and sign for and on behalf of the Independent Auditor any communication or document required to be signed by the Independent Auditor (the **Independent Auditor Authorized Representative(s)**). Any document shall be valid and effective only if it is signed by such Independent Auditor Authorized Representative. The Independent Auditor may, by prior notice in writing to the Parties, substitute the Independent Auditor Authorized Representative.

#### **17.10 DECISION OF INDEPENDENT AUDITOR & DISPUTE RESOLUTION**

17.10.1 Subject to Section 17.10.2, any advice, instruction, certification, approval or determination of the Independent Auditor shall be binding on the Parties.

17.10.2 In the event the GoS, KWSC, the Sponsors or the Concessionaire disagree with any decision of the Independent Auditor, then it will be deemed as a Dispute under this Agreement and shall be resolved in accordance with Article 27.

17.10.3 The Concessionaire shall be responsible for procuring from the Independent Auditor any approval, consent, determination, certificate or other document or decision required or contemplated under this Agreement within the necessary timelines stated herein and any delay in the procurement of the same shall not give rise to any claim for extension of the Scheduled Commencement Date or Scheduled COD, adjustment in the Implementation Schedule or any additional payments (including Relief Costs).

#### **17.11 INDEPENDENT AUDITOR REMUNERATION**

17.11.1 Subject to funding in accordance with Section 17.11.2, the Concessionaire (and, until the Commencement Date, the Sponsors) shall be solely responsible for the payment of fees and expenses due to the Independent Auditor under the Independent Auditor Contract (the **Independent Auditor Payments**). In the event the Independent Auditor terminates the Independent Auditor Contract due to the Independent Auditor Payments not being paid, the GoS (without prejudice to its rights under Article 21) shall be entitled to appoint a third party to carry out the functions of the Independent Auditor (the **GoS Appointed IA**) and all fees and expenses relating to the same shall be payable on demand of the GoS by the Sponsors or the Concessionaire (as the case maybe). The GoS shall be entitled to encash the Performance Securities (to the extent demanded) or deduct such amounts from payments due by the GoS to the Concessionaire, in case the Sponsors or the Concessionaire fail to provide the necessary funds demanded by GoS to pay the GoS Appointed IA. Where a GoS Appointed IA is appointed by the GoS, all references to Independent Auditor herein shall be considered as a reference to the GoS Appointed IA.

17.11.2 The Independent Auditor Payments shall be funded by the:

17.11.2.1 the Sponsors from the date of signing of the Independent Auditor Contract until the Commencement Date; and

17.11.2.2 the Concessionaire from Commencement Date until the Final Expiry Date.

**17.12 INDEPENDENT AUDITOR PAYMENT ACCOUNT**

17.12.1 The Concessionaire shall establish and maintain the Independent Auditor Payment Account from the date of signing of the Independent Auditor Contract until the Final Expiry Date.

17.12.2 The Concessionaire shall issue standing instructions (that may be suspended, amended and/or revoked only with the consent of the Commercial Parties) to the Independent Auditor Payment Account Bank (the **Independent Auditor Payment Account Standing Instructions**) for making payments to the Independent Auditor in accordance with the Independent Auditor Contract.

## 18. INSURANCE

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### 18.1 INSURANCE POLICIES

18.1.1 The Concessionaire, at its sole cost and expense, shall obtain and maintain in effect such Insurance Policies and coverage as is required by the Legal Requirements, the Financing Documents, Good International Industry Practices, **SCHEDULE C (Minimum Insurance Requirements)** and this Article 18 (the **Insurance Policies**); provided, that such coverage may be changed from time to time with the prior written consent of the GoS Parties (in consultation with the Independent Experts), which consent shall not be unreasonably withheld or delayed. Nothing under this Section 18.1 shall prevent the Concessionaire, at its sole cost and expense, from procuring insurance cover in addition to those required under this Section 18.1.

18.1.2 Subject to Section 18.4 and compliance with the Legal Requirements, any Insurance Policies or cover placed by the Concessionaire shall:

18.1.2.1 be placed through a competitive process; and

18.1.2.2 subject to compliance with other applicable Laws, include reinsurance to the extent of ninety-five percent (95%) of one hundred percent (100%) of sum insured with reputable underwriters having not less than Standard & Poor's A-/AM Best A- or equivalent rating.

### 18.2 POLICY ENDORSEMENTS

18.2.1 The Concessionaire shall cause the insurers to provide the following endorsement items in the Concessionaire's 'Third-Party Liability' Insurance Policy (as provided in paragraph 3 of **SCHEDULE C (Minimum Insurance Requirements)**) and, if applicable, umbrella or excess liability Insurance Policies, relating to the ownership, construction, rehabilitation, operation and maintenance of the Desalinated Water Supply System:

18.2.1.1 the GoS Parties and the Independent Experts shall each receive at least thirty (30) Days prior notice of any cancellation of the Insurance Policies except in the event of non-payment of premium, in which case the prior notice of cancellation period shall be ten (10) Days and any such notice shall be delivered by facsimile and confirmed in writing delivered by first class mail or, if sent from an office outside Pakistan, by international courier;

18.2.1.2 the insurance shall be primary with respect to the interest of each GoS Party and any other insurance maintained by it is excess and not contributory with such Insurance Policies; and

18.2.1.3 a cross-liability Section shall be made a part of the policy to provide that in the event of claims being made by reason of:

- (a) personal or bodily injuries suffered by any employee of one insured thereunder for which another insured thereunder is or may be liable; or
- (b) damage to property belonging to any insured thereunder for which another insured thereunder is or may be liable,

then the policy shall cover such insured against whom a claim is made or may be made in the same manner as if separate policies had been issued to each insured thereunder, except with respect to the limits of insurance.

18.2.2 The Concessionaire shall cause its insurers to waive all rights of subrogation against the GoS Parties (and their employees and contractors) and the Concessionaire (and its employees and Contractors) in respect of a claim arising under its Insurance Policies.

18.2.3 The Concessionaire shall be responsible for all deductibles under all policies.

### **18.3 EVIDENCE OF COVER**

18.3.1 Not later than thirty (30) Days after the date any of the Insurance Policies and coverage required to be in effect in accordance with this Article 18 are issued, or renewed in accordance with their terms, the Concessionaire shall cause its insurers or agents to provide the GoS Parties and the Independent Experts with such Insurance Policies, and where the Insurance Policies are being renewed, provide Insurance Policies evidencing the same terms and conditions as the expiring policies and coverage.

18.3.2 The Concessionaire shall provide the GoS Parties and the Independent Experts with copies of receipts or statements from the Concessionaire's insurers evidencing payment by the Concessionaire of the premiums in respect of such Insurance Policies, reinsurance policies and cover.

### **18.4 COMPLIANCE WITH INSURANCE OBLIGATIONS**

18.4.1 With regard to Sections 18.1 to 18.3, to the extent that the Concessionaire is in compliance with insurance obligations under the Financing Documents which provide wider coverage, terms more favourable to the Concessionaire and include the policy endorsements set out in Section 18.2, the Concessionaire shall be deemed to be in compliance with its obligations under Sections 18.1 to 18.3.

18.4.2 Failure by the Concessionaire to obtain the insurance coverage or Insurance Policies required by Sections 18.1 or 18.3, respectively, shall not relieve the Concessionaire of its obligations under this Section 18 or in any way relieve or limit the Concessionaire's obligations and liabilities under any other provision of this Agreement.

18.4.3 If the Concessionaire fails to procure or maintain any insurance required pursuant to this Article 18, then the GoS Parties shall have the right to procure such insurance at the Concessionaire's expense, provided that the GoS Parties shall provide a twenty (20) Days prior notice to the Concessionaire of their intention to exercise such right, unless such intention arises from the Concessionaire's non-payment of premiums for existing insurance, in which case the GoS Parties shall provide at least five (5) Days' prior notice of such intention.

18.4.4 If the Concessionaire fails to reimburse the GoS Parties for such premiums within seven (7) Days of being notified to do so, the GoS Parties shall be entitled to payment of such amount(s) under the Performance Securities or by deducting such amount(s) from any payments due to the GoS Parties by the Concessionaire.

### **18.5 APPLICATION OF PROCEEDS**

Subject to Section 19.10, the Concessionaire shall apply any and all insurance proceeds received in connection with the damage to or loss of the Desalinated Water Supply System, toward the repair, reconstruction or replacement of the Desalinated Water Supply System, in accordance with the provisions of this Agreement.

## **18.6 UNINSURABILITY**

- 18.6.1 The Concessionaire need not affect or maintain any particular insurance to the extent that it covers a risk which, after Financial Close, is agreed or determined in accordance with this Section 18.6 to be Uninsurable, for so long as it remains Uninsurable.
- 18.6.2 Should the Concessionaire not be required to obtain an insurance in reliance on its rights under Section 18.6.1, the Concessionaire shall at all times act in good faith with respect to the GoS Parties and shall not less than forty-five (45) Business Days before the Concessionaire is required to effect that Insurance Policy:
- 18.6.2.1 notify the GoS Parties and the Independent Experts on becoming aware that the risk is, or is likely to become Uninsurable;
- 18.6.2.2 provide the GoS Parties and the Independent Experts with the names and contact details of the Concessionaire's insurance broker and other insurance advisers for the purposes of attempting to arrange that insurance;
- 18.6.2.3 provide the GoS Parties and the Independent Experts a report by the Concessionaire's insurance broker or insurance advisers detailing the steps which have been taken by or on behalf of the Concessionaire to obtain that insurance and the terms if any upon which that insurance is available; and
- 18.6.2.4 provide the GoS Parties and the Independent Experts written authority for the Concessionaire's insurance broker or insurance advisers to disclose to the GoS Parties and the Independent Experts, and provide all documents and evidencing, the steps which have been taken by or on behalf of the Concessionaire to obtain that insurance and the terms if any upon which that insurance is available.
- 18.6.3 After receipt of the notice under Section 18.6.2, the GoS Parties shall notify the Concessionaire that the GoS Parties:
- 18.6.3.1 agree that the risk is Uninsurable; or
- 18.6.3.2 disagrees that the risk is Uninsurable, in which case the GoS Parties may request the Concessionaire to effect and maintain the relevant insurance or Substitute Insurance if the GoS Parties reasonably consider that the relevant insurance or Substitute Insurance is available on commercially reasonable terms.
- 18.6.4 Subject to Section 18.6.5, the Concessionaire shall give effect to a request under Section 18.6.3.2 promptly.
- 18.6.5 The Concessionaire shall promptly carry out each request made by the GoS Parties in accordance with the terms of the request under Section 18.6.3.2, unless it Disputes the reasonableness of the GoS Parties' request and within ten (10) Business Days refers the Dispute for resolution in accordance with Article 27.
- 18.6.6 Not used.
- 18.6.7 If a risk is agreed or determined to be Uninsurable in accordance with this Section 18.6, the Parties must meet to discuss the means by which the risk may be managed, including:
- 18.6.7.1 consideration of the issue of self-insurance by either Party;

- 18.6.7.2 if, though Uninsurable, it is still possible to insure the risk by paying high premiums, taking out the insurance cover, and passing the premium charges through to the GoS under the Water Tariff Payment from the date the insurance cover is taken out;
- 18.6.7.3 for a period to be specified by the GoS Parties, adjust acceptable credit rating of insurer, or allow lower insurance limits in such Insurance Policy such that Excessive Insurance Premium is eliminated or reduced to a mutually acceptable level, which shall be shared equally with the Concessionaire; or
- 18.6.7.4 assigning some other allocation of responsibility to the risk.
- 18.6.8 If the Parties agree that the GoS shall indemnify the Concessionaire against the Uninsurable risk in accordance with Section 18.6.7, the Parties must agree on the beneficiaries of the indemnity, and deductible payable to the GoS, and the amount, scope and period of cover under the indemnity.
- 18.6.9 If a risk is agreed or determined under this Section 18.6 to be Uninsurable but, after the meeting in accordance with Section 18.6.7, the Parties cannot agree as to how to manage the risk, then:
- 18.6.9.1 this Agreement will continue but each Water Tariff Payment will be adjusted to deduct an amount equal to the premium that was payable by the Concessionaire for insurance of such a risk immediately prior to such risk becoming Uninsurable (but will be increased to reflect the premium payable if the risk ceases to be Uninsurable and the Concessionaire takes out insurance to cover that risk); and
- 18.6.9.2 on the occurrence of the risk:
- (a) to the extent it does not amount to an Uninsurable Force Majeure Event, the GoS may at its option indemnify the Concessionaire for the loss or damage suffered or incurred by the Concessionaire to the extent such loss or damage arose from the occurrence of that risk, up to an amount equal to the insurance proceeds that would have been payable had the relevant insurance continued to be available, or, if the insurance had never been available, the amount agreed by the Parties to cover the loss or damage, or if no agreement, determined in accordance with Article 27, and this Agreement will continue. Any such indemnification amount shall be adjusted from the Equity Recovery Charge component of the upcoming Water Tariff Payments in such manner as agreed between the Parties in writing;
  - (b) to the extent it does not amount to an Uninsurable Force Majeure Event and the GoS does not exercise its right to indemnify the Concessionaire under this Section 18.6, then the Concessionaire must reinstate or repair any damage or destruction to the Project Activities, the Desalinated Water Supply System or the Project Site or any part of them in accordance with the terms of this Agreement; or
  - (c) if occurrence of the risk amounts to an Uninsurable Force Majeure Event within the meaning of Article 19, then Article 19 below shall apply to occurrence of such risk.
- 18.6.10 If the GoS (in its sole and absolute discretion) elects to indemnify the Concessionaire after the occurrence of a risk that is Uninsurable in terms of Section 18.6.9.2(a), the GoS will, within sixty (60) Business Days of the occurrence of the Uninsurable risk (or such longer period as the GoS reasonably requires in order to assess the situation and form its intention), require the Concessionaire:

- 18.6.10.1 to reinstate or repair the damage or destruction to the Project Activities, the Desalinated Water Supply System or the Project Site or any part of them caused by the Uninsurable risk in accordance with Section 6.2.3, subject to Section 18.6.9.2(a) above;
- 18.6.10.2 to reinstate or repair the damage or destruction to the Project Activities, the Desalinated Water Supply System or the Project Site or any part of them caused by the Uninsurable risk in accordance with Section 6.2.3 on the basis of different specifications than those for the original Project Activities or the Desalinated Water Supply System (as applicable), in which case the GoS will issue a Change in Scope Order setting out the different specifications and Section 6.3 shall apply.
- 18.6.11 If the Concessionaire is not required to effect or maintain any particular insurance under this Article 18 then:
- 18.6.11.1 the Concessionaire must, in good faith, approach the insurance market on a regular basis and in any event at intervals of no more than six (6) Months, to establish the extent to which the relevant insurance remains an insurance that is unavailable in respect of projects in the nature of the Project (or is not available on commercially reasonable terms); and
- 18.6.11.2 provide the GoS Parties and the Independent Experts with all relevant information concerning those approaches on a regular basis and in any event at intervals of no more than six (6) Months.
- 18.6.12 If an Uninsurable risk (which would, but for the operation of Section 18.6.1, otherwise be required to be insured under this Article 18) ceases to be Uninsurable, the Concessionaire must immediately take out and maintain that insurance and otherwise comply with the requirements of this Article 18 with respect to that insurance and the provisions of Section 18.6.1 will not apply to relieve the Concessionaire from the obligations to effect and maintain that insurance.
- 18.6.13 To the extent the Concessionaire does not affect or maintain any particular insurance under Section 18.6.1, the GoS may set off the amounts of any premiums not paid by the Concessionaire as a consequence against one or more Water Tariff Payment. For these purposes, the premiums saved will be deemed to be the lower of the maximum amount budgeted for the insurance in the Base Case Financial Model and the amount previously paid for the insurance by the Concessionaire.

## **19. FORCE MAJEURE**

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### **19.1 FORCE MAJEURE EVENT**

A **Force Majeure Event** means any circumstance, event or condition (or combination thereof) beyond the reasonable control, directly or indirectly, of the Affected Party but only to the extent that:

- 19.1.1 such circumstance, event or condition, despite the exercise of diligence, cannot be prevented, avoided or overcome by the Affected Party;
- 19.1.2 such circumstance, event or condition prevents the performance by the Affected Party of its obligations under or pursuant to this Agreement (save for payment obligations);
- 19.1.3 such circumstance, event or condition was not foreseeable, or if foreseeable, could not have been prevented or avoided or overcome by the Affected Party having taken all reasonable precautions and due care;
- 19.1.4 the Affected Party has taken all reasonable precautions, due care and measures to prevent, avoid or overcome the effect of such circumstance, event or condition on its ability to perform its obligations under this Agreement and to mitigate its consequences;
- 19.1.5 such circumstance, event or condition is not the direct or indirect result of a breach or failure by the Affected Party to perform any of its obligations under this Agreement or any other Project Agreement (as the case may be);
- 19.1.6 such circumstance, event or condition is without fault or negligence of the Affected Party; and
- 19.1.7 the Affected Party has given the other Party notice in accordance with Section 19.5.1, and shall consist of “*NPFME*” and “*PFME*”.

### **19.2 NPFME**

An **NPFME** means a Force Majeure Event which is not a PFME, including:

- 19.2.1 lightning, fire, earthquake, unusual flood, storm, cyclone, tornado, tsunami, typhoon or other natural disaster or act of God;
- 19.2.2 pandemic, epidemic or plague;
- 19.2.3 accident, explosion or chemical contamination;
- 19.2.4 strikes, works to rule or go-slows (other than solely by employees of the Affected Party or its Affiliates);
- 19.2.5 accidental release or discharge of oil, petroleum, or petroleum-based substances into the marine environment, which causes contamination of the seawater intake or otherwise damages the Desalinated Water Supply System, and is beyond the reasonable control of the Concessionaire, including spills originating from third-party vessels, offshore oil rigs, or other external sources;
- 19.2.6 the long-term, large-scale changes in the global or regional climate due to human-induced global warming or other anthropogenic causes including rising sea levels, extreme weather events, changes in sea temperatures, or significant alterations in ocean salinity and currents, that materially disrupt the implementation of the Project and cannot be reasonably mitigated by the Concessionaire;

- 19.2.7 the discovery of hydrocarbons on, under or within the Project Site; and
- 19.2.8 the discovery of unexploded bombs or munitions on or within the Project Site.

### **19.3 PFME**

A **PFME** means:

- 19.3.1 acts of war (whether declared or not), invasion, armed conflict, act of foreign enemy or blockade in each case occurring within Pakistan or directly involving Pakistan;
- 19.3.2 acts of rebellion, riot, civil commotion, strikes of a political nature, act or campaign of terrorism, or sabotage of a political nature, in each case, occurring within Pakistan;
- 19.3.3 any boycott, sanction, embargo penalty or other restriction imposed directly on Pakistan by the government of **insert main equipment and materials' countries of origin**<sup>13</sup> during the period up to and including the latest of the COD or the expiry of the relevant warranty period stipulated in the EPC Contract;
- 19.3.4 any action or failure to act by a Government Authority, including any action or failure that results in any Approval:
  - 19.3.4.1 ceasing to remain in full force and effect; or
  - 19.3.4.2 not being issued or renewed in a timely manner upon due application having been made, provided, that the proper exercise of any rights of a Government Authority in response to the Concessionaire default under or breach of the terms of any Approval, or any breach of any Legal Requirements by the Concessionaire, shall not constitute a PFME; and
- 19.3.5 a Change in Law.

### **19.4 CERTAIN EVENTS NOT FORCE MAJEURE EVENTS**

Notwithstanding that a Force Majeure Event may otherwise exist, the provisions of this Article 19 shall not excuse:

- 19.4.1 failure to make a payment of money in accordance with the Party's obligations under this Agreement;
- 19.4.2 any failure by the Concessionaire or its Contractors to obtain or maintain any Approval due to negligence or default by the Concessionaire or such Contractor;
- 19.4.3 any failure to research, consider, plan for or take into account reasonably foreseeable ground and weather conditions at the Project Site;
- 19.4.4 any failure by a Contractor which results in the failure or inability of the Concessionaire to perform its obligations under this Agreement where the cause of such failure by the Contractor would not otherwise constitute a Force Majeure Event pursuant to this Agreement;
- 19.4.5 late performance by the Concessionaire or any Contractor, caused by the failure of the Concessionaire or such Contractor for any reason, including failure to engage qualified sub-

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<sup>13</sup> List to be inserted based on source of key items of equipment only.

contractors and suppliers, failure to hire an adequate number of personnel or labour, or any failure of sub-contractors hired by the Concessionaire to perform their respective obligations;

- 19.4.6 late delivery of equipment, machinery, Desalinated Water Supply System or materials caused by default, negligent acts or omissions on part of the Concessionaire or any Contractor;
- 19.4.7 inability to obtain or maintain adequate funding for the Project;
- 19.4.8 mechanical or electrical breakdown or failure of equipment, machinery or Desalinated Water Supply System owned or operated by any Party due to the manner in which the equipment, machinery or Desalinated Water Supply System has been operated or maintained;
- 19.4.9 delays resulting from reasonably foreseeable unfavourable weather (including monsoon) or sea conditions or other similar reasonably foreseeable adverse conditions;
- 19.4.10 delay or non-performance of any Project Activities as a result of SARS-CoV-2, except where the Concessionaire is restricted from undertaking Project Activities at the Project Site due to measures imposed by a Government Authority; in which case such delay or non-performance shall be treated as a NPFME provided the Concessionaire has complied with the requirements of this Article 19 (as applicable to a NPFME); and
- 19.4.11 submission of documents and/or drawings for approval by the GoS Parties or the Independent Experts at a time which does not leave sufficient time for review thereof by the GoS Parties or the Independent Experts within the time periods provided therefor in this Agreement.

## **19.5 OBLIGATIONS**

- 19.5.1 If a Party (the **Affected Party**) desires to invoke a Force Majeure Event as a cause for delay or failure in performance of any of its obligations under this Agreement (other than payment of money), it shall:
  - 19.5.1.1 as soon as reasonably practicable (and in any event no later than ten (10) Days) after the Affected Party first had knowledge of the occurrence of a Force Majeure Event, as a condition precedent to its entitlement under this Article 19, give notice to the other Parties and the Independent Experts of the circumstance, event or condition which it alleges constitutes the Force Majeure Event and an estimate of its likely duration. If the Affected Party does not deliver such notice in accordance with the terms hereof, such Affected Party shall not be entitled to invoke the benefits of Articles/Sections 3.4.1, 8.4.1, 19 or 20 of this Agreement in respect of the relevant Force Majeure Event;
  - 19.5.1.2 within ten (10) Days of the date of a notice issued pursuant to Section 19.5.1.1, provide a written report identifying the Force Majeure Event and the Affected Party's understanding of its effects, including particulars of the circumstance, event or condition, a general description of the obligations likely to be affected, an estimate of its likely duration and a statement of the actions to be taken in order to comply with its obligations under this Article 19. If the Affected Party does not deliver such report in accordance with the terms hereof, such Affected Party shall not be entitled to invoke the benefits of Articles/Sections 3.4.1, 8.4.1, 20 or 21 of this Agreement in respect of the relevant Force Majeure Event; and
  - 19.5.1.3 from time to time, at reasonable intervals, and upon any reasonable request from any other Party, provide updates as to the matters set out in Section 19.5.1.2.
- 19.5.2 The Affected Party shall:

- 19.5.2.1 make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any Force Majeure Event, including recourse to alternate sources of services, equipment and materials, provided that, if there occurs a Force Majeure Event, the effects of which cannot be mitigated by the Concessionaire, and results in the Desalinated Water Supply System not delivering (wholly or partially) Net Desalinated Water Output, the GoS Parties shall have the right to take such actions as are necessary to resume delivery of Net Desalinated Water Output to ensure Desalinated Water is provided to end-consumers;
- 19.5.2.2 as soon as reasonably possible, and in accordance with Good International Industry Practice, ensure the resumption of normal performance of this Agreement after the cessation of any Force Majeure Event or its effects and shall otherwise perform its obligations under this Agreement to the extent not excused under this Article 19; and
- 19.5.2.3 within three (3) Days following the cessation of any Force Majeure Event, submit to the other Parties reasonable proof of the nature of such delay and its effect upon the performance of its obligations under this Agreement.
- 19.5.3 With respect to the Concessionaire only, if a Force Majeure Event occurs that affects the Concessionaire, such event may only be invoked with respect to the part of the Project affected by such event and not with respect to any other part of the Project not so affected, provided that, with respect to the operation of any part of the Project not so affected, such part of the Project is capable of independent or partial operation in accordance with Good International Industry Practice.

#### **19.6 EFFECTS OF A FORCE MAJEURE EVENT GENERALLY**

The Affected Party shall not be liable for any delay or failure in performing its obligations under this Agreement due to a Force Majeure Event, provided that no relief shall be granted to the Affected Party pursuant to this Section 19 to the extent that such failure or delay:

- 19.6.1 would have nevertheless been experienced by the Affected Party had the Force Majeure Event not occurred; or
- 19.6.2 was caused by the failure of the Affected Party to comply with its obligations under Section 19.5.1.

#### **19.7 EFFECTS OF A FORCE MAJEURE EVENT DURING CONSTRUCTION PERIOD**

If, during the Construction Period, a Force Majeure Event occurs which results in material damage to or loss of the Desalinated Water Supply System (while in the custody, care and control of the Concessionaire) or a delay in achieving the COD, in addition to any remedies the Concessionaire may have under Section 8.4 or Article 20:

- 19.7.1 the Parties and the Independent Experts shall consult with one another as soon as practicable after the giving of a notice as provided in Section 19.5.1.1 concerning the effect of such Force Majeure Event upon the Implementation Schedule, and the Implementation Schedule shall be adjusted equitably taking into account the effect which the Affected Party reasonably demonstrates is properly attributable to such Force Majeure Event and the ability of such Party to re-schedule its activities to minimise the overall delays to the Implementation Schedule resulting from such event; and
- 19.7.2 if the Parties and the Independent Experts are unable to agree upon the equitable adjustment to the Implementation Schedule within a period of sixty (60) Days from the date the notice referred to in Section 19.7.1 is received, the Dispute shall be referred for resolution pursuant to Article 27 for the determination of the adjustment to the Implementation Schedule.

## **19.8 EFFECTS OF A FORCE MAJEURE EVENT AFTER COD**

19.8.1 On and from the COD:

19.8.1.1 if a NPFME or Uninsurable NPFME affects the ability of:

- (a) the Concessionaire to meet the Guaranteed Supply Capacity; or
- (b) KWSC to perform its obligations under this Agreement,

the GoS shall, during the NPFME Period, continue to make:

- (c) Capacity Payments based on the extent the Desalinated Water Supply System is capable of delivering Net Desalinated Water Output as determined by the Independent Engineer (regardless of whether KWSC is able to take delivery of Net Desalinated Water Output at the Output Water Delivery Point and without applying the Deduction for Reduced Contracted Availability); and
- (d) Output Payments, in respect of Net Desalinated Water Output;

19.8.1.2 if a PFME or Uninsurable PFME affects the ability of the Concessionaire to meet the Guaranteed Supply Capacity, the GoS shall, during the PFME Period, continue to make:

- (a) Capacity Payments in respect of the Availability Benchmark (without applying the Deduction for Reduced Contracted Availability); and
- (b) Output Payments in respect of Net Desalinated Water Output;

19.8.1.3 If a PFME or Uninsurable PFME does not affect the ability of the Concessionaire to meet the Guaranteed Supply Capacity, but affects the ability of the Concessionaire to deliver Net Desalinated Water Output to KWSC, the GoS shall, during the PFME Period, continue to make:

- (a) Capacity Payments; and
- (b) Output Payments in respect of Net Desalinated Water Output; and

19.8.1.4 if a PFME or Uninsurable PFME affects the performance of KWSC's obligations under this Agreement, the GoS shall, during the PFME Period, continue to make:

- (a) Capacity Payments; and
- (b) Output Payments in respect of the Net Desalinated Water Output.

19.8.2 If the Concessionaire has incurred or suffered any Relief Cost as a result of a PFME, the provisions of Article 20 shall apply.

## **19.9 EXTENSION OF TERM**

19.9.1 Without prejudice to the foregoing, if on or after the COD:

19.9.1.1 there occurs a NPFME affecting the Concessionaire, the Concession Period shall be extended by the period equivalent to the period during which the Guaranteed Supply Capacity (subject to Deduction for Downtime determined by the Independent Experts) cannot be met (such extension to be reduced proportionately to the extent the Desalinated Water Supply System is partially

Available and/or to the extent the Concessionaire receives insurance proceeds in respect of loss of revenue, compensating it for such Unavailability); and

19.9.1.2 there occurs a PFME, the Concession Period may, at the GoS Parties' option, be extended by a period equivalent to any period of relief for a PFME during which GoS has continued to pay the Capacity Payments, provided that during any such extension period, GoS shall be obliged to pay only Component BW of the Capacity Payment (determined pursuant to **SCHEDULE H (Water Tariff Payment Calculation)**) in respect of Guaranteed Supply Capacity, respectively.

19.9.2 Any extension period under Section 19.9.1.2 shall run successively with any extension granted under Section 19.9.1.1.

#### **19.10 REINSTATEMENT OF THE DESALINATED WATER SUPPLY SYSTEM**

19.10.1 If a Force Majeure Event causes an Event of Loss, the Concessionaire shall rebuild, repair and/or restore the Desalinated Water Supply System, using all insurance proceeds or other amounts actually received on account of the Event of Loss, except proceeds from delay in start-up or business interruption insurance (collectively, **Casualty Proceeds**), together with any other amounts that are available to the Concessionaire for such rebuilding, repair and/or restoration, in accordance with this Section 19.10.

19.10.2 All Casualty Proceeds received by the Concessionaire shall be deposited by the Concessionaire into a restoration account segregated from all other funds of the Concessionaire (the **Restoration Account**) to be applied as provided in Section 19.10.5. The Concessionaire:

19.10.2.1 shall diligently pursue all of its rights to compensation against any person with respect to such Event of Loss;

19.10.2.2 may, in the reasonable judgement of the Concessionaire, compromise or settle any claim against any person with respect to such Event of Loss; and

19.10.2.3 shall hold all amounts of Casualty Proceeds (including financial instruments) received by the Concessionaire in respect of any Event of Loss (after deducting all reasonable expenses incurred by the Concessionaire in litigating, arbitrating, compromising or settling any claims) in the Restoration Account.

19.10.3 As soon as reasonably practicable but no later than the date of receipt by the Concessionaire of any Casualty Proceeds, the Concessionaire shall make a good faith determination as to whether:

19.10.3.1 the Desalinated Water Supply System or such portion thereof that has been affected by the Event of Loss can be rebuilt, repaired, or restored to permit operations of the Desalinated Water Supply System or such portion thereof on a commercially feasible basis; and

19.10.3.2 the Casualty Proceeds, together with any other amounts that are available to the Concessionaire for such rebuilding, repair and/or restoration, are sufficient to permit such rebuilding, repair and/or restoration of the Desalinated Water Supply System or such portion thereof.

19.10.4 The determination of the Concessionaire under Section 19.10.3 shall be evidenced by a certificate of a responsible officer of the Concessionaire to be delivered to the Independent Experts and the GoS Parties which, in the event the Concessionaire determines that the Desalinated Water Supply System or such portion thereof can be rebuilt, repaired and/or restored to permit operation thereof on a commercially feasible basis, shall also set out a reasonable good faith estimate by the Concessionaire of the total cost of such rebuilding, repair and/or restoration.

19.10.5 If the Parties agree or the Independent Experts determine under Section 19.10.3 that:

19.10.5.1 the Desalinated Water Supply System cannot be rebuilt, repaired and/or restored to permit operations on a commercially feasible basis or that the Casualty Proceeds, together with any other amounts that are available to the Concessionaire for such rebuilding, repair and/or restoration, are not sufficient to permit such rebuilding, repair and/or restoration, then any Commercial Party may elect to terminate this Agreement in accordance with Section 21.7.3 and all of the Casualty Proceeds shall be distributed in the following order of priority:

- (a) first, to the payment of costs and expenses actually incurred and duly evidenced by the Concessionaire in the performance of its obligations under Section 19.10.7 and not already compensated for by way of payments otherwise received by the Concessionaire;
- (b) second, to the payment of any amount due to the GoS Parties under the Project Agreements; and
- (c) third, to the Concessionaire or to whomever may be lawfully entitled to receive the same or as a court of competent jurisdiction may direct, any surplus then remaining from such proceeds;

19.10.5.2 only a portion of the Desalinated Water Supply System can be rebuilt, repaired and/or restored to permit operations on a commercially feasible basis and that the Casualty Proceeds, together with any other amounts that are available to the Concessionaire for such rebuilding, repair and/or restoration, are sufficient to permit such rebuilding, repair and/or restoration, then GoS may elect to terminate this Agreement in accordance with Section 21.8.3 and all of the Casualty Proceeds shall be distributed in the following order of priority:

- (a) first, to the payment of costs and expenses actually incurred and duly evidenced by the Concessionaire in the performance of its obligations under Section 19.10.7 and not already compensated for by way of payments otherwise received by the Concessionaire;
- (b) second, to the payment of any amount due to the GoS Parties under the Project Agreements; and
- (c) third, to the Concessionaire or to whomever may be lawfully entitled to receive the same or as a court of competent jurisdiction may direct, any surplus then remaining from such proceeds;

or, if GoS is not entitled to or does not elect to terminate this Agreement:

- (d) the amount equal to the estimate of the total cost of such rebuilding, repair and/or restoration agreed by the Parties or determined by the Independent Experts shall be deposited in the Restoration Account to be applied towards the costs of rebuilding, repairing and/or restoring such portion of the Desalinated Water Supply System; and
- (e) the amount, if any, by which all of the Casualty Proceeds exceed the estimate of the total cost shall be distributed in the following order of priority:
  - (i) first, to the payment of any amount due to the GoS Parties under the Project Agreements; and
  - (ii) second, to the Concessionaire or to whomever may be lawfully entitled to receive the same or as a court of competent jurisdiction may direct, any surplus then remaining from such proceeds; or

- 19.10.5.3 the Desalinated Water Supply System (if applicable) can be rebuilt, repaired and/or restored to permit operation on a commercially feasible basis and the Casualty Proceeds, together with any other amounts that are available to the Concessionaire for such rebuilding, repair and/or restoration, are sufficient to permit such rebuilding, repair and/or restoration, then all of the Casualty Proceeds, together with such other amounts as are available to the Concessionaire for such rebuilding, repair and/or restoration, shall be deposited in the Restoration Account to be applied toward the costs of rebuilding, repairing and/or restoring the Desalinated Water Supply System.
- 19.10.6 It is agreed that the Concessionaire shall not be required to deposit any Capacity Payments payable by the GoS under this Agreement, including in relation to:
- 19.10.6.1 Capacity Payments under Section 8.4;
- 19.10.6.2 Guaranteed Supply Capacity under Section 19.8.1.1; and
- 19.10.6.3 Availability Benchmark under Section 19.8.1.2,
- into the Restoration Account or otherwise apply such Capacity Payments to the rebuilding, repairing and/or restoring of the Desalinated Water Supply System or any part thereof pursuant to this Section 19.10.6 in an Event of Loss.
- 19.10.7 Upon the occurrence of an Event of Loss, the Concessionaire shall immediately take all necessary action, consistent with applicable Legal Requirements, to secure and make safe the Desalinated Water Supply System and the Project Site.
- 19.10.8 If the Concessionaire is required to restore the Desalinated Water Supply System, the Concessionaire shall promptly commence any restoration work and shall diligently pursue the same to completion, subject to a reasonable allowance for the time needed to adjust any insurance claims. Before the Concessionaire shall commence any such restoration, and at all times during the course of such restoration, the Concessionaire shall pay the GoS Parties all amounts due to the GoS Parties under the Project Agreements. In addition, at all times, the Concessionaire shall continue to perform and observe all of the terms, covenants, conditions, agreements and obligations of the Concessionaire to be performed under this Agreement and the other Project Agreements notwithstanding any Event of Loss.
- 19.10.9 If, at any time during restoration pursuant to Section 19.10.8, the Independent Engineer believes that the Concessionaire is not diligently pursuing the restoration activities, the Independent Engineer will specify a reasonable restoration timetable and if the Concessionaire subsequently fails to adhere to such timetable, the Concessionaire shall not be entitled to receive Capacity Payments with respect to Availability Benchmark pursuant to Section 19.8 until such time as restoration is complete and the Concessionaire has resumed normal performance of this Agreement in accordance with Section 19.5.2.2.
- 19.10.10 For the avoidance of doubt, in the event that only a part of the Desalinated Water Supply System is rebuilt, repaired and/or restored to allow operation on a commercially feasible basis as referred to in Section 19.10.5.2, the GoS shall continue to make Capacity Payments under Section 19.8.1.2 in respect of the portion of the Desalinated Water Supply System that was unable to be rebuilt, repaired and/or restored, subject to Section 21.8.2.2.

## **20. RELIEF COSTS OR SAVINGS**

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### **20.1 CLAIM FOR RELIEF COSTS OR SAVINGS**

20.1.1 If:

20.1.1.1 any Party believes that:

- (a) a PFME (other than a Change in Law) has occurred; or
- (b) a Change in Law has occurred; and

has resulted in Relief Costs or Savings; or

20.1.1.2 the Concessionaire believes that:

- (a) a failure to achieve the Commencement Date by the Scheduled Commencement Date (under the circumstances described in, and prior to any adjustment pursuant to, Section 3.6.1); or
- (b) an Intervening Event;

has resulted in Relief Costs,

then such Party shall promptly (and in any event within ten (10) Days after the affected Party first had knowledge of the relevant event or circumstance) and as a condition precedent to its entitlement to recover Relief Costs or Savings under this Article 20, issue a notice to the Independent Experts, specifying:

20.1.1.3 the details of such Relief Costs or Savings;

20.1.1.4 details of the event or occurrence which gave or gives rise to such Relief Costs or Savings, providing reasonable evidence of the economic impact thereof which resulted in such Relief Costs or Savings; and

20.1.1.5 any other details required by this Section 20.1.

Such notification obligations shall be in addition to any notice or other requirements under Article 7 or Article 19 and shall be a condition precedent to a Party's entitlement to recover Relief Costs or Savings under this Article 20.

20.1.2 The Party that has made a claim for Relief Costs or Savings under Section 20.1.1 may thereafter, from time to time, deliver to the Independent Experts additional notices identifying further Relief Costs or Savings that have resulted or are reasonably expected to result from the same circumstances, provided that any such additional notice shall be given not later than sixty (60) Days after the Party giving such notice, knew of, or should have known of, such additional Relief Costs or Savings.

20.1.3 The Concessionaire shall, acting in accordance with Good International Industry Practice, use all reasonable efforts to minimise any Relief Costs and maximise any Savings.

20.1.4 If the Parties are unable to agree with the Independent Experts on contents of the notice(s) delivered pursuant to Section 20.1.1 or 20.1.2 within sixty (60) Days of receipt thereof, then the Dispute shall be referred for resolution pursuant to Article 27.

20.1.5 To the extent that a claim for Relief Costs or Savings under Sections 20.1.1 or 20.1.2 has been allowed by the Independent Experts or otherwise allowed under Article 27:

20.1.5.1 with respect to a Relief Cost, if the Relief Cost occurs:

- (a) prior to the COD, the Concessionaire shall, to the extent available and permissible under the terms of the Financing Documents, draw on any funds under the Financing Documents, to fund such Relief Costs and/or request for injection of additional equity by the Shareholders on a best-efforts basis; or
- (b) during the Operations Period, the Concessionaire shall use its best efforts to raise additional capital to fund such Relief Costs; and

20.1.5.2 the GoS shall (in consultation with the Independent Experts) propose to the Concessionaire:

- (a) a mechanism to adjust (upward or downwards) either or both of the Capacity Payments or Output Payments, as appropriate;
- (b) a mechanism to compensate the Concessionaire or the GoS (as applicable) through the payment of a lump-sum amount or staggered payments; and/or
- (c) an extension to the Concession Period,

which takes account of all relevant circumstances and is structured so as to put the Concessionaire into a neutral financial position which results in it deriving neither gain nor loss as a consequence of the relevant event giving rise to the claim under this Article 20.

20.1.6 Notwithstanding the foregoing, any:

20.1.6.1 PFME; or

20.1.6.2 Intervening Event;

that results in Relief Costs shall be funded:

- (a) by the Concessionaire drawing on any funds available under the Financing Documents or injection of additional equity by the Shareholders on a best-efforts basis;
- (b) thereafter, by means of a lump-sum payment by the GoS under Section 20.1.5.2(b); and
- (c) in the event that the Concessionaire draws on any funds under the Financing Documents pursuant to Section 20.1.5.1(a), the GoS shall propose a mechanism to adjust (at the GoS' discretion) the Capacity Payments or Output Payments, as appropriate, as referred to in Section 20.1.5.2(a) to put the Concessionaire into a neutral financial position which results in it deriving neither gain nor loss as a consequence of the relevant event giving rise to the claim under this Article 20.

20.1.7 The Parties shall use reasonable endeavours to agree upon the appropriate adjustment or reimbursement mechanism within thirty (30) Days of the Concessionaire's receipt of the GoS' proposal under Section 20.1.5.2(b), failing which, the Dispute shall be referred for resolution pursuant to Section 27.2.

## **20.2 CLAIMS IN AGGREGATE**

No Party shall be entitled to assert any claim for Relief Costs or Savings under this Article 20 until:

20.2.1 in the case of any claim for Relief Costs or Savings, asserted prior to the COD, the earlier of: (a) the date thirty (30) Days after the end of the Construction Contract Year in which the relevant event or circumstance entitling the Party to claim Relief Costs or Savings occurred; and (b) the date on which the aggregate of all accrued and outstanding claims of such Party under this Article 20 exceeds the equivalent of Pakistani Rupees One Hundred Fifty Million only (PKR 150,000,000/-); or

20.2.2 in the case of any claim for Relief Costs or Savings, asserted after the COD, the earlier of: (a) the date thirty (30) Days after the end of the Operating Contract Year in which the relevant event or circumstance entitling the Party to claim Relief Costs or Savings occurred; and (b) the date on which the aggregate of all accrued and outstanding claims of such Party under this Article 20 exceeds the equivalent of Pakistani Rupees One Hundred Fifty Million only (PKR 150,000,000/-),

at which time all accrued and outstanding claims of such Party may be asserted, provided that once such claims have been asserted, no future claims may be asserted until such time as all future claims again exceed such threshold, or the next annual deadline is reached.

## **21. TERMINATION**

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### **21.1 EXPIRY OF THE TERM**

Unless terminated earlier in accordance with this Article 21, this Agreement shall expire on the Term Expiry Date.

### **21.2 NOT USED**

### **21.3 TERMINATION DUE TO NON-OCCURRENCE OF THE COMMENCEMENT DATE**

21.3.1 If the Commencement Date is not achieved by the Scheduled Commencement Date (as may be extended pursuant to Section 3.4.3) then, provided that the Parties have first used their reasonable endeavours to adjust the Scheduled Commencement Date in accordance with Section 3.4.1, either Commercial Party may terminate this Agreement by issuing a Termination Notice to the other Parties. Upon issuance of such Termination Notice, this Agreement shall terminate on the date of termination specified therein, or such later date as the Commercial Parties may agree in writing and, thereafter no Party shall have any liability to the other except for payment by the GoS of the Termination Payment Sum (Pre-Commencement Date) (in case termination has been caused by delay or failure on the part of a GoS Party in the performance of its obligations under this Agreement, which is not otherwise attributable to the Sponsors, the Concessionaire or any of its Contractors) to the Concessionaire and provided that if such failure is due to reasons solely attributable to the Sponsors, the Concessionaire or any of its Contractors, the Parties acknowledge and agree that the GoS may draw upon and retain the full amount of the Construction Performance Security as payment of liquidated damages for such termination. On payment by the GoS of Termination Payment Sum (Pre-Commencement Date) (if applicable) to the Concessionaire, all the Concessionaire's right, title and interest in the Project shall stand transferred to the GoS (or its nominee).

21.3.2 The Parties agree that:

21.3.2.1 the full amount of the Construction Performance Security are the actual losses that the GoS Parties will suffer in the event that this Agreement is terminated for reasons solely attributable to the Concessionaire as set out in this Section 21.3 (*Termination due to Non-Occurrence of the Commencement Date*); and

21.3.2.2 there is in any event a commercial justification and legitimate interest in imposing such liquidated damages as a payment for the termination of this Agreement for reasons set out in this Section 21.3 (*Termination due to Non-Occurrence of the Commencement Date*) which would not be satisfied by a right to recover damages on an unliquidated basis for such default.

### **21.4 TERMINATION FOR CONVENIENCE**

21.4.1 The GoS may at its absolute discretion and at any time, terminate this Agreement for convenience by giving at least two (2) Months' Termination Notice to the Concessionaire, whereupon this Agreement shall terminate on the date of termination specified therein.

21.4.2 If the GoS exercises its right to terminate this Agreement for convenience pursuant to Section 21.4.1 prior to the Commencement Date, the Concessionaire shall sell, and the GoS shall purchase (on behalf of KWSC), the Concessionaire's right, title and interest in the Project for Termination Payment Sum (Pre-Commencement Date).

21.4.3 If the GoS exercises its right to terminate this Agreement for convenience pursuant to Section 21.4.1, after the Commencement Date, the Concessionaire shall sell, and the GoS shall purchase (on behalf of KWSC), the Concessionaire's right, title and interest in the Project for Termination Payment Sum (GoS Default).

## **21.5 CONCESSIONAIRE EVENT OF DEFAULT**

Except where the relevant event occurs as a consequence of a Permitted Event or a GoS Event of Default, each of the following events shall constitute a **Concessionaire Event of Default**:

- 21.5.1 a failure by the Concessionaire to achieve the COD on or before the Long Stop Date;
- 21.5.2 a failure by the Concessionaire to ensure that the Net Desalinated Water Output meets the Output Water Quality Specifications and such failure continues for ten (10) consecutive Days or for thirty (30) Days in a Billing Period;
- 21.5.3 during the Operations Period, the Actual Loss of Water Output exceeds the Projected Losses of Net Desalinated Water Output by Seventy Five Million (75,000,000) Gallons in any Billing Period or by Twenty Five Million (25,000,000) Gallons for five (5) consecutive Days;
- 21.5.4 in any Billing Period falling in the Construction Period, Deduction in such Billing Period exceed the Water Tariff Payment due in such period (before applying Deduction);
- 21.5.5 in any Billing Period falling in the Operations Period, Deduction in such Billing Period exceed the Capacity Payment due in such period (before applying Deduction);
- 21.5.6 a failure by the Concessionaire to pay any undisputed Bottled Water Revenue (PBGSP-GGSP) within fifteen (15) Days from the due date therefor;
- 21.5.7 a failure by the Concessionaire to obtain and maintain any Approvals required under the Legal Requirements or by a Government Authority in order for it to perform its obligations pursuant to this Agreement where the Concessionaire has failed to use all reasonable endeavours to obtain or renew such Approvals;
- 21.5.8 a failure by the Concessionaire to pay any undisputed liquidated damages within the time periods specified therefor under Sections 7.3 or 7.4, as applicable, or a failure by the Concessionaire to pay any other amount due under this Agreement within sixty (60) Days after such amount has become due and payable;
- 21.5.9 Abandonment;
- 21.5.10 a material breach by the Concessionaire of its obligations under this Agreement, which is not remedied within sixty (60) Days after notice from a GoS Party to the Concessionaire stating that a breach has occurred, identifying the breach and demanding remedy thereof provided that, notwithstanding the exercise of reasonable efforts by the Concessionaire, if such breach cannot be cured within the sixty (60) Days following the notice from the GoS Party, the Concessionaire shall be afforded a further period of sixty (60) Days within which to cure such breach, provided always that the Concessionaire shall throughout such further sixty (60) Days period, exercise reasonable continuous efforts to cure the breach;
- 21.5.11 a material breach by the Concessionaire of the License Agreement;
- 21.5.12 termination of the Independent Engineer Contract by the Independent Engineer due to non-payment by the Concessionaire or the Sponsors (as applicable);

- 21.5.13 termination of the Independent Auditor Contract by the Independent Auditor due to non-payment by the Concessionaire or the Sponsors (as applicable);
- 21.5.14 the voluntary filing by the Concessionaire of a petition of bankruptcy, moratorium, winding up, or other similar relief and/or the passing of a resolution for the bankruptcy, insolvency, winding up, liquidation or other similar proceeding relating to the Concessionaire;
- 21.5.15 the appointment of a liquidator, custodian or similar person in respect of the Concessionaire in a proceeding referred to in Section 21.5.14, which appointment has not been stayed or set aside within sixty (60) Days of such appointment;
- 21.5.16 the making by a Government Authority of an order for the winding up or otherwise confirming the bankruptcy or insolvency of the Concessionaire, which order has not been set aside or stayed within sixty (60) Days of such making;
- 21.5.17 a failure of the Concessionaire to comply with its obligation to obtain and maintain the required insurances in accordance with Article 18;
- 21.5.18 a failure of the Concessionaire to establish, keep valid and maintain either of the Performance Securities in accordance with the terms of this Agreement;
- 21.5.19 a failure of the Concessionaire to increase the face amount of the O&M Performance Security by the Estimated Remedial Cost or extend the validity thereof, in each case, in accordance with the Section 21.10.3;
- 21.5.20 an event of default (howsoever described) has occurred under the Financing Documents;
- 21.5.21 any conditions to disbursement of debt by the Financing Parties under the Financing Documents have not been satisfied (unless deferred or waived in terms thereof);
- 21.5.22 occurrence of an event set out in Section 25.2.2;
- 21.5.23 tampering on three (3) or more separate occasions by the Concessionaire or its Contractors or their employees acting in the course of their employment with the Metering Systems; and
- 21.5.24 any event constituting a Concessionaire Event of Default under a GoS Project Document.

## **21.6 GOS EVENT OF DEFAULT**

Except where the relevant event occurs as a consequence of a failure or delay on the part of the Concessionaire or a Concessionaire Event of Default, each of the following events shall constitute a **GoS Event of Default**:

- 21.6.1 a failure by the GoS to pay any undisputed Water Tariff Payment within thirty (30) Days from the due date therefor;
- 21.6.2 a failure by the GoS to make any undisputed payment under this Agreement, other than a Water Tariff Payment, within ninety (90) Days from the due date therefor;
- 21.6.3 the termination of the License Agreement due to a breach or default by KWSC;
- 21.6.4 the expropriation, nationalisation or compulsory acquisition of any material asset of the Concessionaire or any shares or other interest in the Concessionaire by any Government Authority;

- 21.6.5 a material breach by a GoS Party of its obligations under this Agreement which is not remedied within sixty (60) Days after notice from the Concessionaire to the GoS Parties stating that a breach has occurred, identifying the breach and demanding remedy thereof provided that, notwithstanding the exercise of reasonable efforts by the relevant GoS Party, if such breach cannot be cured within the sixty (60) Days following the notice from the Concessionaire, the GoS Party shall be afforded a further period of sixty (60) Days within which to cure such breach, provided always that the GoS Party shall throughout such further sixty (60) Days period, exercise reasonable continuous efforts to cure the breach;
- 21.6.6 a failure of the GoS to keep valid and maintain the Water Tariff Payment Account (GoS) in accordance with the terms of this Agreement;
- 21.6.7 prior to the Financing Termination Date, the SBP Debit Authority is no longer valid and effective; and
- 21.6.8 the occurrence of an Unenforceability Event.

## **21.7 TERMINATION DUE TO AN EVENT OF DEFAULT**

- 21.7.1 Upon the occurrence of a GoS Event of Default, the Concessionaire may give notice (the **Concessionaire Notice of Intent to Terminate**) to the GoS specifying in reasonable detail the relevant GoS Event of Default giving rise to such notice and the date upon which the Concessionaire proposes to terminate this Agreement, which date shall not be less than thirty (30) Days after the date of the Concessionaire Notice of Intent to Terminate or such longer period as specified in this Agreement (the **GoS Cure Period**).
- 21.7.2 Upon the occurrence of a Concessionaire Event of Default, the GoS may give notice (the **GoS Notice of Intent to Terminate**) to the Concessionaire specifying in reasonable detail the relevant Concessionaire Event of Default giving rise to such notice and the date upon which the GoS proposes to terminate this Agreement, which date shall not be less than thirty (30) Days after the date of the GoS Notice of Intent to Terminate or such longer period as specified in this Agreement (the **Concessionaire Cure Period**); provided, that upon the occurrence of any of the Concessionaire Events of Default under Sections 21.5.14, 21.5.15, or 21.5.16, the GoS may terminate this Agreement immediately.
- 21.7.3 During the Cure Period, the Commercial Parties shall consult as to what steps shall be taken, and the Defaulting Party shall use its reasonable efforts, to mitigate the consequences of, and cure, the relevant Event of Default.
- 21.7.4 If, upon the expiry of the Cure Period, the relevant Event of Default has not been cured, unless the Commercial Parties have otherwise agreed, the GoS or the Concessionaire (as applicable) may issue a Termination Notice to the Defaulting Party whereupon this Agreement shall terminate on the Termination Date specified therein or such later date as the Commercial Parties may agree in writing.
- 21.7.5 If this Agreement is terminated by the GoS due to a Concessionaire Event of Default:
  - 21.7.5.1 the GoS shall have the right to encash the Performance Securities to their full outstanding value; and
  - 21.7.5.2 the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for no compensation where termination occurs prior to the Commencement Date and for the Termination Payment Sum (Concessionaire Default) where termination occurs after the Commencement Date.

- 21.7.6 If this Agreement is terminated by the Concessionaire due to a GoS Event of Default, the Concessionaire shall require the GoS to purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for the Termination Payment Sum (Pre-Commencement Date) where termination occurs prior to the Commencement Date and for the Termination Payment Sum (GoS Default) where termination occurs after the Commencement Date, and it shall do so by giving notice to the GoS, and the GoS shall be obliged to purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for such compensation.
- 21.7.7 In the event that the circumstances giving rise to a Concessionaire Event of Default pursuant to Section 21.5.10 constitute a delay which directly impacts the Implementation Schedule and would, following the passage of time if not remedied, give rise to a Concessionaire Event of Default pursuant to Section 21.5.1, the GoS undertakes and agrees that it shall not terminate this Agreement with respect to such circumstances other than pursuant to Section 21.5.1 thereof.

## **21.8 TERMINATION FOR A PROLONGED FORCE MAJEURE EVENT**

- 21.8.1 Subject to Section 21.8.4, the Concessionaire shall have the right to terminate this Agreement if a PFME prevents KWSC from performing any of its obligations under this Agreement for a continuous period of one hundred twenty (120) Days; provided, that, if the GoS elects in such event to continue paying the Capacity Payments in respect of Availability Benchmark beyond such one hundred twenty (120) Day period, the Concessionaire shall not have the right to terminate this Agreement pursuant to this Section 21.8.1.
- 21.8.2 Subject to Section 21.8.4, the GoS shall have the right to terminate this Agreement if:
- 21.8.2.1 a PFME prevents KWSC from performing any of its obligations under this Agreement for a continuous period of one hundred twenty (120) Days;
- 21.8.2.2 a PFME prevents the Concessionaire from performing any of its obligations under this Agreement for a continuous period of one hundred twenty (120) Days;
- 21.8.2.3 one or more PFME or a combination thereof, results in the GoS incurring Relief Costs; or
- 21.8.2.4 an NPFME prevents KWSC or the Concessionaire from performing any of its obligations under this Agreement for a continuous period of one hundred twenty (120) Days.
- 21.8.3 Subject to Section 21.8.4, either Commercial Party shall have the right to terminate this Agreement if it is agreed, or determined that the Desalinated Water Supply System cannot be rebuilt, repaired and/or restored pursuant to Section 19.10.5.1, and the GoS shall have the right to terminate this Agreement if it is agreed, or determined that the Desalinated Water Supply System can only be partially rebuilt, repaired and/or restored pursuant to Section 19.10.5.2, in either case following an Event of Loss caused by a Force Majeure Event.
- 21.8.4 If a Commercial Party wishes to exercise its right to terminate this Agreement pursuant to Sections 21.8.1, 21.8.2 or 21.8.3, it shall issue a Termination Notice to the other Parties, whereupon this Agreement shall terminate on the Termination Date or such later date as the Commercial Parties may agree in writing.
- 21.8.5 If this Agreement is terminated after the Commencement Date by:
- 21.8.5.1 the Concessionaire pursuant to Section 21.8.1, the Concessionaire shall have the right to require the GoS to purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (GoS Default), and it shall do so by giving notice to the

GoS, and the GoS shall be obliged to purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for such compensation;

21.8.5.2 the GoS pursuant to Section 21.8.2.1, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (PFME);

21.8.5.3 the GoS pursuant to Section 21.8.2.2, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (PFME);

21.8.5.4 the GoS pursuant to Section 21.8.2.3, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (PFME);

21.8.5.5 the GoS pursuant to Section 21.8.2.4 with respect to a prolonged NPFME affecting the Concessionaire, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (NPFME);

21.8.5.6 the GoS pursuant to Section 21.8.2.4 with respect to a prolonged NPFME affecting KWSC, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (NPFME);

21.8.5.7 either Commercial Party pursuant to Section 21.8.3 with respect to an Event of Loss caused by a PFME that prevents the Concessionaire from rebuilding, repairing and/or restoring the Desalinated Water Supply System (in whole) pursuant to Section 19.10.5.1, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (PFME);

21.8.5.8 the GoS pursuant to Section 21.8.3 with respect to an Event of Loss caused by a PFME that prevents the Concessionaire from rebuilding, repairing and/or restoring the Desalinated Water Supply System (in part) pursuant to Section 19.10.5.2, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (PFME);

21.8.5.9 either Commercial Party pursuant to Section 21.8.3 with respect to an Event of Loss caused by a NPFME that prevents the Concessionaire from rebuilding, repairing and/or restoring the Desalinated Water Supply System (in whole) pursuant to Section 19.10.5.1, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (NPFME); or

21.8.5.10 the GoS pursuant to Section 21.8.3 with respect to an Event of Loss caused by a NPFME that prevents the Concessionaire from rebuilding, repairing and/or restoring the Desalinated Water Supply System (in part) pursuant to Section 19.10.5.2, the GoS shall purchase (on behalf of KWSC) the Concessionaire's right, title and interest in the Project for Termination Payment Sum (NPFME).

## **21.9 PAYMENTS ON TERMINATION**

All amounts payable pursuant to this Article 21 shall be paid in Pakistani Rupees in immediately available funds as follows:

21.9.1 with respect to any amounts payable by the Concessionaire, immediately on the date of termination of this Agreement, by way of credit directly to a GoS Designated Account;

21.9.2 subject to Section 21.10.5, with respect to Termination Payments, as set out in the Termination Payment Amount Certificate, payable by the GoS, by the Termination Payment Date, by way of credit directly to the Termination Payment Account; and

21.9.3 with respect to the Termination Payments to the extent not recovered by the Concessionaire in terms of Section 21.9.2, in the manner set out in Sections 12.2.11 and 12.2.12 above.

The obligations of the GoS under this Section 21.9 shall survive termination of this Agreement until such time as all amounts due and owing by the GoS hereunder have been paid.

## **21.10 TRANSFER OF THE PROJECT**

21.10.1 Within one (1) year prior to the Term Expiry Date or within one (1) Month following the Termination Date (as applicable), the Independent Experts shall carry out such tests and inspections as set out in **SCHEDULE E (Testing)** to determine if the Desalinated Water Supply System satisfies the Handover Conditions.

21.10.2 If, in the opinion of the Independent Experts:

21.10.2.1 the Desalinated Water Supply System meets the Handover Conditions, making allowances for any Force Majeure Event or GoS Event of Default that may have affected the Desalinated Water Supply System and for which the Concessionaire shall not be responsible, then the Independent Experts shall issue a Handover Certificate, together with such inspection reports, tests and other data reasonably adequate to substantiate the conclusions reached in the Handover Certificate;

21.10.2.2 the Desalinated Water Supply System does not meet the Handover Conditions, making allowances for any Force Majeure Event or GoS Event of Default that may have affected the Desalinated Water Supply System and for which the Concessionaire shall not be responsible, then as soon as reasonably practicable, and in any event within six (6) Months prior to the Term Expiry Date or within two (2) Months following the Termination Date (as applicable), the Independent Experts shall issue a report (the **Remedial Report**) providing to the Parties (a) a list of the works and services required to be undertaken by the Concessionaire to meet the Handover Conditions (the **Remedial Works**), (b) a remediation plan, including the time period, for completing the Remedial Works (the **Remedial Plan**), and (c) an estimate of the costs of carrying out the Remedial Works (the **Estimated Remedial Costs**). The Concessionaire shall reinstate the Project Site if and to the extent that it is required in accordance with the Remedial Report.

21.10.3 Immediately upon the issuance of a Remedial Report, the Concessionaire shall increase the face amount of the O&M Performance Security by the Estimated Remedial Costs and extend the validity thereof to the date falling six (6) Months following the estimated date stated in the Remedial Report for completion of the Remedial Works.

21.10.4 The Concessionaire shall complete all Remedial Works in accordance with the Remedial Plan at its own costs and expense. Upon completion of the Remedial Works in accordance with the Remedial Plan, as determined by the Independent Experts, the Independent Experts shall issue a Handover Certificate, together with such inspection reports, tests and other data reasonably adequate to substantiate the conclusions reached in the Handover Certificate. Where the Remedial Plan has been prepared following issuance of a Termination Notice, the Termination Payment Date shall be extended (by such period as determined by the Independent Experts) to account for the timelines stated in the Remedial Plan.

21.10.5 Any Termination Payment due to the Concessionaire (other than the Financing Due) shall be made by the GoS subject to the issuance of the Handover Certificate.

21.10.6 If the Concessionaire fails to comply with the Remedial Plan, unless the Parties agree otherwise, the GoS shall have the option to:

21.10.6.1 encash the O&M Performance Security to the extent of the Estimated Remedial Costs; or

21.10.6.2 deduct the Estimated Remedial Costs from any payments due to the Concessionaire from the GoS in terms of this Agreement,

following which (and subject to full recovery of the Estimated Remedial Costs by the GoS) the Handover Certificate shall be deemed as issued.

21.10.7 Upon issuance or deemed issuance (in terms of Section 21.10.6) of the Handover Certificate and payment by the GoS of the Termination Payments under Section 21.9.2, or immediately following the Term Expiry Date, the Concessionaire shall transfer to KWSC, free and clear of all liens and Encumbrances, at no cost to the GoS (other than payment of the Termination Payments, if applicable), all of the Concessionaire's right, title and interest in the Project, including insofar as they are a part of or used in the Project, all of the Concessionaire's right, title and interest in:

21.10.7.1 all raw materials, consumables and spare parts;

21.10.7.2 all tangible personal property;

21.10.7.3 all intangible personal property, including any Intellectual Property Rights;

21.10.7.4 all buildings and fixtures;

21.10.7.5 computerised and non-computerised records, reports, data, files, and information;

21.10.7.6 all drawings, test results, and documents relating to the Project;

21.10.7.7 all warranties of equipment, materials and work;

21.10.7.8 all contract rights and Insurance Policies;

21.10.7.9 all work in progress under contracts with vendors, suppliers, contractors and subcontractors; and

21.10.7.10 all rights with respect to any insurance proceeds payable to or for the account of the Concessionaire, but unpaid at the date of termination of the Agreement, in respect of the Concessionaire's right, title and interest in the Project.

21.10.8 Following the Termination Date and until the issuance of the Handover Certificate, except for the termination of this Agreement pursuant to Concessionaire Events of Default under Sections 21.5.7, 21.5.12, 21.5.13 or 21.5.14, the Concessionaire shall continue to perform the relevant Project Activities in accordance with the requirements of this Agreement and in consideration thereof, shall be entitled to receive the Output Payments in accordance with **SCHEDULE H (Water Tariff Payment Calculation)**.

## **21.11 OTHER REMEDIES**

21.11.1 Except as otherwise expressly provided in this Agreement, upon termination of this Agreement, the Parties shall have no further obligations or liabilities hereunder, save those obligations or liabilities that arose on or before the date, or as a result of termination, shall survive until satisfied in full.

21.11.2 This Article 21 sets out the sole and exclusive grounds upon which this Agreement may be terminated, provided that upon the breach by any Party of any covenant or warranty hereunder, the Party damaged by any such default or breach may, in its sole discretion, in addition to exercising any other remedies provided for hereunder, proceed in accordance with Article 27 to protect and enforce its rights, to recover any damages to which it may be entitled (including all costs and expenses reasonably incurred in the exercise of its remedy), or to seek specific performance by the

other Party of such breaching Party's obligations under this Agreement and the other Project Agreements (as the case may be).

**21.12 SURVIVAL**

The provisions of Articles/Sections 12, 13, 14.5.4, 21, 22, 26, 27 and 29 shall survive the termination of this Agreement.

## **22. EMERGENCY DECOMMISSIONING AND KWSC OVERRIDING POWERS**

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### **22.1 EMERGENCY DECOMMISSIONING**

22.1.1 In the event, during the Operations Period, in the reasonable opinion of the Concessionaire, there exists an Emergency that warrants de-commissioning and closure of the whole or any part of the Project Site (the **Decommissioned Project Area**), the Concessionaire shall be entitled to de-commission and close the whole or any part of Decommissioned Project Area, as the case may be, to the traffic and/or the users for so long as such Emergency and the consequences thereof warrant (the **Emergency Decommissioning**); provided, however, that such Emergency Decommissioning and the particulars thereof shall be notified by the Concessionaire to the GoS, KWSC and the Independent Engineer without any delay, and the Concessionaire shall diligently abide by the applicable standards set out in this Agreement in dealing with such Emergency Decommissioning and act in accordance with the directions that the Independent Engineer may issue for dealing with such Emergency Decommissioning; provided, however:

22.1.1.1 the Concessionaire shall procure the Independent Engineer shall, within seven (7) Days from the date of the Emergency Decommissioning, certify whether such Emergency Decommissioning was warranted; and

22.1.1.2 the Concessionaire shall re-commission the Decommissioned Project Area, without any delay, whenever the Independent Engineer either:

- (a) notifies the Concessionaire to re-commission the same; or
- (b) certifies that such Emergency Decommissioning was not warranted.

22.1.2 Without prejudice to the provisions of Section 22.1.1, the Concessionaire hereby undertakes to re-commission the Decommissioned Project Area efficiently and in a time sensitive manner and as quickly as practicable after the circumstances leading to the Emergency Decommissioning have ceased to exist or have so abated as to enable the Concessionaire to re-commission the Decommissioned Project Area and shall notify the GoS, KWSC and the Independent Engineer of the same without any delay.

22.1.3 KWSC shall ensure that the Emergency Decommissioning of the Decommissioned Project Area and the re-commissioning thereof shall, as soon as practicable, be brought to the notice of the affected persons/users by means of public announcements/notice by KWSC. The Independent Engineer shall determine whether the Concessionaire has successfully re-commissioned the Decommissioned Project Area as soon as practicable upon the termination/ceasing of the circumstances that have resulted in the Emergency Decommissioning.

22.1.4 All expenses, charges, fees, overheads and costs of any nature and all delays, in each case, resulting from and relating to the Emergency Decommissioning shall be borne by and shall be on account of the Concessionaire; provided, however, in the event the Emergency Decommissioning results from an Intervening Event or Force Majeure Event, the provisions of Article 20 shall apply.

### **22.2 KWSC OVERRIDING POWERS**

Notwithstanding anything contained in this Agreement, KWSC shall have the right upon the occurrence of a national emergency, civil commotion and/or as a consequence of a Force Majeure Event, to take over the performance of any or all the obligations of the Concessionaire to the extent deemed necessary by KWSC or as directed by the relevant Government Authority, and exercise such control over the Desalinated Water Supply System and the Project Site and/or give such

directions to the Concessionaire as may be deemed necessary by KWSC; provided, however, that the exercise of such overriding powers by KWSC shall be of no greater scope and of no longer duration than is reasonably required in the circumstances which causes the exercise of such overriding power by KWSC (the **KWSC Overriding Power Event**). The Concessionaire hereby agrees to act in accordance with the instructions issued by KWSC pursuant to the provisions of this Section and undertakes to provide assistance and co-operation to KWSC for performance of its obligations hereunder. In the event KWSC exercises its overriding powers under this Section 22.2, the provisions of Articles 19 and/or 20 (as applicable) shall apply.

## 23. INDEMNITIES

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### 23.1 INDEMNIFICATION BY THE CONCESSIONAIRE

The Concessionaire shall indemnify, defend and hold harmless the GoS Parties (and their Affiliates and contractors and respective shareholders, directors, officers, employees, agents or representatives (collectively the **GoS Indemnified Parties**)), from and against all Claims made against or suffered by any of the GoS Indemnified Parties in relation to:

- 23.1.1 any loss of or damage to property or death or injury to persons (except for workers' compensation claims), resulting from any negligent act or omission of the Concessionaire or any of the Concessionaire Indemnified Parties, or that arising out of or in any manner connected with the performance of this Agreement, except to the extent that such loss, damage, injury or death is attributable to the negligence or misconduct of the GoS Indemnified Parties, or breach of this Agreement by the GoS Indemnified Parties, or the failure of the GoS Indemnified Parties, as applicable, to take reasonable steps in mitigation of the foregoing;
- 23.1.2 the violation of any E&S Requirements by any of the Concessionaire Indemnified Parties occurring at the Project Site or in any way related to the Desalinated Water Supply System, except to the extent that such Claim results from or arises out of:
  - 23.1.2.1 the condition of the affected Project Site existing prior to the effective date of the License Agreement; or
  - 23.1.2.2 any discharge, release or leaching of any Hazardous Substance on, in, over, under or otherwise affecting the Project Site (including the soil, subsoil, surface water or ground water on or beneath the Project Site and the air above the same) caused by a person other than the Concessionaire or any of the Concessionaire Indemnified Parties;
- 23.1.3 any use, presence, suspected presence, disposal, discharge, storage, treatment, transportation, handling, generation, leaching, release, or threatened release of any Hazardous Substance on, in, over, under or otherwise affecting the Project Site and their respective neighbouring properties (including the soil, subsoil, surface water or ground water on or beneath the Project Site and the surrounding environs and the air above the same):
  - 23.1.3.1 caused by the Concessionaire or any of the Concessionaire Indemnified Parties;
  - 23.1.3.2 originating from the Project Site after the Effective Date or, if earlier, the date of issue of the limited notice to proceed under the EPC Contract (if any); or
  - 23.1.3.3 in any way related to the Desalinated Water Supply System;
- 23.1.4 the violation of any Legal Requirements arising out of the Concessionaire's performance of the Project Activities, including the design, construction, testing, commissioning, operation or maintenance of the Desalinated Water Supply System;
- 23.1.5 the performance or non-performance by the Concessionaire or the Contractors of their obligations under any of the Project Agreements; and
- 23.1.6 the presence of the Concessionaire Indemnified Parties on the Project Site.

### **23.2 INDEMNIFICATION BY GOS**

The GoS shall indemnify, defend and hold harmless the Concessionaire (and its Affiliates and Contractors and its or their respective shareholders, directors, officers, employees, agents or representatives (collectively the **Concessionaire Indemnified Parties**), from and against all Claims made against or suffered by the Concessionaire or any of the Concessionaire Indemnified Parties in relation to any loss of or damage to property or death or injury to persons (except for workers' compensation claims), resulting from any negligent act or omission of the GoS Parties or otherwise that arises out of or is in any manner connected with the performance of this Agreement, except to the extent such loss, damage, injury or death is attributable to the negligence or misconduct of the Concessionaire or any Concessionaire Indemnified Parties, or breach of this Agreement by the Concessionaire, or the failure of the Concessionaire or any of the Concessionaire Indemnified Parties, as applicable, to take reasonable steps in mitigation of the foregoing.

### **23.3 LIABILITY**

No Party shall be liable to the other in contract, tort, warranty, strict liability, or any other legal theory for any indirect, consequential, incidental, punitive, or exemplary damages, except as expressly provided herein.

### **23.4 MITIGATION**

The Parties shall make all reasonable endeavours to mitigate any loss, cost or expense they may suffer as a result of any breach of the other Party's material obligations under this Agreement.

### **23.5 JOINT NEGLIGENCE**

In the event any injury or damage results from the joint or concurrent negligent or intentional acts or omissions of the Parties (as determined by the Independent Experts), each Party shall be liable under this indemnification in proportion to its relative degree of fault, as determined by the Independent Experts.

## **24. ASSIGNMENT**

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### **24.1 ASSIGNMENT WITH CONSENT**

Save as expressly provided otherwise in this Agreement, no Party shall be entitled to assign or transfer its rights or obligations under this Agreement without the prior written consent of the other Parties.

### **24.2 ASSIGNMENT TO FINANCING PARTIES**

24.2.1 The Concessionaire shall have the right, in accordance with the Legal Requirements and the Concession Direct Agreement, to assign its rights under this Agreement to any Financing Parties, IZP (if applicable) and/or to any third-party security agent or trustee nominated by the Financing Parties and/or IZP (if applicable). Upon the Concessionaire's request, the GoS Parties shall provide such co-operation to the Financing Parties and IZP (if applicable) as may be requested by the Financing Parties and IZP (if applicable), including providing acknowledgements and notices to the Financing Parties and IZP (if applicable) dealing with matters such as the respective rights and obligations of the Financing Parties and the Concessionaire under the Financing Documents, provided that:

24.2.1.1 such co-operation and the terms of such acknowledgements and notices shall not (except as expressly provided in this Agreement) be interpreted as diminishing the GoS Parties' rights and entitlements under this Agreement; and

24.2.1.2 by providing such co-operation, the GoS Parties shall not assume (and shall not be deemed to be assuming) any obligations under the Financing Documents (other than under any Concession Direct Agreement).

24.2.2 The GoS Parties agree to enter into the Concession Direct Agreement with the Financing Parties and IZP (if applicable) in respect of this Agreement as the Concessionaire, or the Financing Parties, and IZP (if applicable) may reasonably request in connection with the financing of the Project, provided that, in so doing, the GoS Parties shall not assume (and shall not be deemed to be assuming) any obligations under the Financing Documents (other than as expressly set out in the Concession Direct Agreement).

## **25. REPRESENTATIONS AND WARRANTIES**

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### **25.1 CONCESSIONAIRE REPRESENTATIONS AND WARRANTIES**

The Concessionaire represents and warrants to each of the GoS Parties as follows:

- 25.1.1 it is duly incorporated and is validly existing and in good standing under the Legal Requirements;
- 25.1.2 it has the power and authority to enter into and perform its obligations under this Agreement;
- 25.1.3 it has the financial standing and capability to undertake and implement the Project in accordance with the terms of this Agreement;
- 25.1.4 the Sponsors have the financial standing and resources to comply with their obligations under the this Agreement;
- 25.1.5 neither the Concessionaire nor the Sponsors have committed a breach in respect of their payment obligations in relation to a financial indebtedness;
- 25.1.6 this Agreement has been duly authorised, executed and delivered by it and constitutes the legal, valid and binding obligation of it;
- 25.1.7 there is no pending or threatened litigation or claim which would materially impair its ability to perform its obligations under this Agreement;
- 25.1.8 the performance of its obligations under this Agreement will not result in the breach of any term or provision of, or constitute a default under, any judgment, decree, indenture, mortgage or other agreement or instrument to which it is a party or by which it is bound, nor will such performance conflict with any charter, by-law or similar provision applicable to it. There are no conflicts or violations of Legal Requirements which would materially affect its right or ability to comply with the terms of this Agreement;
- 25.1.9 it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Authority which may result in any material impairment of its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would result in material impairment of its ability to perform its obligations under this Agreement;
- 25.1.10 it has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may materially impair its ability to perform its obligations under this Agreement;
- 25.1.11 no representation or warranty made by the Concessionaire and contained herein or in any other document furnished by it to the GoS or to any Government Authority in relation to the Approvals contains any untrue or misleading statement of material fact or omits or will omit to state a material fact rendering such representation or warranty misleading;
- 25.1.12 the Concessionaire is aware of, understands, has complied with, and will comply with, all Anti-Corruption Laws and will ensure the same level of compliance by any Shareholder; and
- 25.1.13 the Concessionaire has undertaken all acts and deeds necessary and complied with all Legal Requirements and the RFP for the award of the Concession to the Concessionaire and the performance of its obligations under this Agreement.

## **25.2 BREACH OF REPRESENTATIONS AND WARRANTIES**

- 25.2.1 In the event that any occurrence or circumstance renders any of its representations or warranties incorrect, the Concessionaire shall immediately notify the GoS Parties and the Independent Experts of the same and take reasonable steps to ensure compliance with its representations or warranties. Such notification shall not have the effect of remedying any incorrect representation or warranty made by the Concessionaire nor shall it adversely affect or waive any right, remedy or obligation of the Parties under this Agreement.
- 25.2.2 In the event any statement, representation or warranty made by the Concessionaire in this Agreement is rendered incorrect, in any material respect, due to any occurrence or circumstance, when made or reaffirmed, and such incorrect statement, representation or warranty has materially impaired the Concessionaire's ability to perform its obligations under this Agreement, then such incorrect statement, representation or warranty shall give rise to a Concessionaire Event of Default pursuant to Section 21.5.
- 25.2.3 The representations and warranties under Section 25.1 shall be deemed repeated on the Commencement Date and each Water Tariff Payment Date, Bottled Water Revenue Share Payment Date and Other Payment Date.

## **25.3 GoS PARTIES' REPRESENTATIONS AND WARRANTIES**

Each GoS Party, severally, represents and warrants to the Concessionaire as follows:

- 25.3.1 it has the power and authority to enter into and perform its obligations under this Agreement;
- 25.3.2 this Agreement has been duly authorised, executed and delivered by it and constitutes its legal, valid and binding obligation;
- 25.3.3 there is no pending or threatened litigation or claim which would materially impair its ability to perform its obligations under this Agreement; and
- 25.3.4 the performance of its obligations under this Agreement will not result in the breach of any term or provision of, or constitute a default under, any judgment, decree, indenture, mortgage or other agreement or instrument to which it is a party or by which it is bound, nor will such performance conflict with any decree, charter, by-law or similar provision applicable to the GoS Party. There are no conflicts or violations of Legal Requirements that would materially affect its right or ability to comply with the terms of this Agreement.

## **25.4 IMMUNITY**

- 25.4.1 Each GoS Party unconditionally and irrevocably:
- 25.4.1.1 agrees that the execution, delivery and performance by it of this Agreement constitutes private and commercial acts and not public or governmental acts;
- 25.4.1.2 agrees that should any proceedings be brought against it or its assets (other than any of its assets which are significant in respect of national security of Pakistan (the **GoS Protected Assets**)) in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity, sovereign or otherwise, from such proceedings, execution, attachment or other legal process shall be claimed by or on behalf of itself or with respect to any of its assets (other than the GoS Protected Assets); and

25.4.1.3 waives any such right of immunity, sovereign or otherwise, which the GoS or its assets (other than the GoS Protected Assets) now has or may acquire in the future, in respect of proceedings under this Agreement.

25.4.2 The Concessionaire expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement and/or any matters arising hereunder including any obligation, liability, or responsibility hereunder.

## **25.5 PROJECT IMPLEMENTATION UNIT**

25.5.1 The Project Implementation Unit shall:

25.5.1.1 oversee day to day implementation of the Project on behalf of the GoS Parties in accordance with the Legal Requirements;

25.5.1.2 together with KWSC and the Concessionaire, develop and establish a grievance redressal mechanism in accordance with the Legal Requirements and the E&S Standards (and accounting for all consultations and engagements conducted pursuant to Sections 4.10.1 and 4.10.2) to record, address, and manage grievances related to the Project Activities, including a focus on:

- (a) the Settlements;
- (b) KWSC employees; and
- (c) other Stakeholders (the **Grievance Redressal Mechanism**); and

25.5.1.3 forward any matter, which cannot be resolved in accordance with the Grievance Redress Mechanism, to the Public Private Partnership Policy Board for resolution.

25.5.2 The Concessionaire shall provide all necessary cooperation and coordination:

25.5.2.1 to the Project Implementation Unit to allow it to carry out its functions; and

25.5.2.2 to KWSC and the Project Implementation Unit to ensure Stakeholder grievances (whether addressed to the Concessionaire or otherwise) are adequately and timely resolved.

## **26. TECHNOLOGICAL IMPROVEMENTS**

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### **26.1 MAINTENANCE OF TECHNOLOGY**

26.1.1 As part of operating, maintaining and repairing the Desalinated Water Supply System during the Operations Period, the Concessionaire must maintain a level of technology in its systems that:

26.1.1.1 is consistent with Good International Industry Practices; and

26.1.1.2 ensures the Desalinated Water Supply System is able to operate effectively and efficiently with the remainder of KWSC's water network and electricity network from time to time.

### **26.2 RESEARCH AND DEVELOPMENT OF TECHNOLOGICAL IMPROVEMENTS**

26.2.1 The Concessionaire must:

26.2.1.1 keep abreast of relevant advances in technology; and

26.2.1.2 undertake or procure access to research and development,  
with the aim of readily identifying Technological Improvements.

### **26.3 IMPLEMENTING TECHNOLOGICAL IMPROVEMENTS**

26.3.1 As soon as practical after the Concessionaire becomes aware of a Technological Improvement, the Concessionaire must notify the GoS Parties and the Independent Experts of that Technological Improvement and:

26.3.1.1 submit a proposal in accordance with Section 6.3.2 in relation to the Technological Improvement;  
or

26.3.1.2 notify the GoS Parties and the Independent Experts that the Concessionaire does not intend to implement the Technological Improvement.

26.3.2 If the Concessionaire:

26.3.2.1 fails to notify the GoS Parties and the Independent Experts of a Technological Improvement under Section 26.3.1; or

26.3.2.2 notifies the GoS Parties and the Independent Experts that it does not intend to implement a Technological Improvement under Section 26.3.1.2,

the GoS Parties may:

26.3.2.3 if they consider that the Technological Improvement is not an Assumed Technological Improvement, issue a Change in Scope Order for the implementation of that Technological Improvement; or

26.3.2.4 if it considers that the Technological Improvement is an Assumed Technological Improvement, direct the Concessionaire to provide the GoS Parties with the Concessionaire's planned program for implementing the Assumed Technological Improvement.

26.3.3 If the Concessionaire receives a direction from the GoS Parties under Section 26.3.2.4, the Concessionaire must:

- 26.3.3.1 as soon as practicable after receiving the direction, notify the GoS Parties of the Concessionaire's planned program for implementing the Assumed Technological Improvement; and
- 26.3.3.2 after providing the notice in Section 26.3.3.1, proceed to implement the Assumed Technological Improvement.
- 26.3.4 Subject to Section 26.3.5, the allocation of Savings arising from implementation of a Technological Improvement (including an Assumed Technological Improvement) will be determined in accordance with Section 6.3 above.

## **27. GOVERNING LAW AND DISPUTE RESOLUTION**

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### **27.1 GOVERNING LAW**

This Agreement and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with the Laws.

### **27.2 NEGOTIATION**

The Parties agree to attempt to resolve any Dispute promptly, amicably, and in good faith. Each Party shall designate a representative who shall be entitled to enter into discussions to resolve by amicable agreement any Dispute in connection with this Agreement.

### **27.3 PUBLIC PRIVATE PARTNERSHIP POLICY BOARD**

If any Dispute is not finally resolved between the Parties pursuant to the Section 27.2 within thirty (30) Days from the date on which a Party receives notice from any of the other Parties that a Dispute exists, then the Parties shall endeavour to settle the Dispute in an amicable manner by mediation administered by an independent and impartial person appointed by the Public Private Partnership Policy Board. If any Dispute is not resolved between the Parties pursuant to this Section 27.3 within sixty (60) Days from the date on which the matter has been referred by the Public Private Partnership Policy Board to an independent and impartial person so appointed, then such Dispute shall be settled exclusively and finally in accordance with Section 27.4.

### **27.4 ARBITRATION**

27.4.1 Each of the Parties unconditionally and irrevocably agrees in respect of a Dispute, which cannot be resolved by the Parties pursuant to Section 27.3:

27.4.1.1 to the submission of such Dispute to binding arbitration governed by the Arbitration Act 1940, by appointment of three (3) arbitrators, of which, one (1) shall be appointed jointly by the GoS Parties, one (1) shall be appointed by the Concessionaire, and one shall be appointed jointly by the two (2) arbitrators appointed by the GoS Parties and the Concessionaire (the **Arbitrators**). Any arbitration proceedings commenced pursuant to this Section 27.4.1 shall be referred to as the **Arbitration**;

27.4.1.2 not to claim any right it may have under the Laws to hinder, obstruct, or nullify the submission of the Dispute to Arbitration; and

27.4.1.3 to accept the Award rendered by the Arbitrators and any judgment entered thereon by a court of competent jurisdiction as final and binding and not to hinder, obstruct or nullify the enforcement or execution of any decision rendered by the Arbitrators or court of competent jurisdiction.

27.4.2 The place of Arbitration shall be Karachi, Pakistan.

27.4.3 The language of Arbitration shall be English.

27.4.4 Any decision or award resulting from the Arbitration (the **Award**) shall be final and binding upon the Parties.

27.4.5 The Parties hereby waive, to the extent permitted under the Laws, any rights to appeal or to review of such Award by any Government Authority.

27.4.6 The fees and expenses of the Arbitrators and all other expenses relating to Arbitration shall be borne and paid by the respective Parties, unless the Award states otherwise. The Arbitrators may provide in the Award, for reimbursement to a Party, of its costs and expenses in bringing or defending the Arbitration claim, including legal fees and expenses incurred by such Party.

27.4.7 This Agreement and the rights and obligations of the Parties shall remain in full force and effect pending the Award for any Arbitration, which Award, if appropriate, shall determine whether and when any termination shall become effective.

**27.5 EXCLUSIVE JURISDICTION**

No Party shall have the right to, nor shall they, commence or maintain any legal proceedings in or outside of Pakistan, concerning a Dispute, until the Dispute has been resolved in accordance with Sections 27.3 or 27.4 and then only to enforce or execute an award.

**27.6 OBLIGATIONS CONTINUING**

Unless otherwise agreed in writing, the existence of a Dispute shall not relieve any Party from the performance of its obligations under this Agreement not the subject of the Dispute.

## **28. INTELLECTUAL PROPERTY RIGHTS**

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### **28.1 CONCESSIONAIRE IPR**

- 28.1.1 The Concessionaire (or its relevant licensor) shall retain exclusive ownership of the Concessionaire IPR and nothing in this Agreement (other than the licence granted under Section 28.1.2) shall operate to transfer to KWSC or vest in KWSC any licence to use or rights in the Concessionaire IPR.
- 28.1.2 The Concessionaire shall cause to be granted to KWSC a perpetual, irrevocable, royalty-free, and non-exclusive licence (with the free right to sub-licence and/or assign to any third party) to use, reproduce and maintain the Concessionaire IPR to the extent and for the duration necessary to enable KWSC to exercise its rights and perform its obligations under this Agreement.
- 28.1.3 The Concessionaire shall ensure that KWSC is provided with copies of such items of the Concessionaire IPR as KWSC may from time-to-time reasonably request.

### **28.2 PROJECT IPR**

- 28.2.1 The Concessionaire shall use its best endeavours to procure that any licence or other arrangement with a third party or a Contractor relating to the Project IPR permits the Concessionaire to:

28.2.1.1 grant the licence set out in Section 28.2.2; and

28.2.1.2 make the transfer required by Section 28.2.3.3.

If the Concessionaire, despite the use of its best endeavours, is unable to secure the rights described above, the Concessionaire shall notify KWSC and shall (at its cost) take such other measures as are required to put KWSC in the position it would have been in if such rights had been procured or as close thereto as is reasonably possible in the circumstances. The Concessionaire shall pay any costs resulting from the performance of this Section 28.2.1, save for any on-going fees payable for the maintenance in force of the Project IPR following the Final Expiry Date to the extent such fees are unaffected, directly or indirectly, by its transfer to KWSC or its nominee, which fees shall, to that extent, be paid by KWSC.

- 28.2.2 The Concessionaire hereby grants to KWSC a royalty-free and non-exclusive licence (with the free right to sub-licence and/or assign to any third party) to use, reproduce and maintain the Project IPR to the extent and for the duration necessary to enable KWSC to exercise its rights and perform its obligations under this Agreement.

28.2.3 On:

28.2.3.1 the Final Expiry Date where KWSC has elected under the Handover Conditions that the Concessionaire should not fully reinstate in terms thereof; or

28.2.3.2 early termination of this Agreement for any reason where the GoS is obliged or has elected to purchase the Concessionaire's right, title and interest in the Project in accordance with Section 21.8 and has paid the purchase price in accordance with Section 21.9.2,

the Concessionaire shall deliver to KWSC or its nominee copies of all Project IPR, in each case in the form utilised by the Concessionaire in the operation of the Project and either:

28.2.3.3 transfer by way of future assignment to KWSC all Project IPR and execute a transfer or any other documents necessary to transfer absolutely such Intellectual Property Rights to KWSC and otherwise to perfect KWSC's title thereto; or

28.2.3.4 to the extent that Project IPR is capable of use by the Concessionaire in any project other than in respect of the Project, grant KWSC a royalty free, non-exclusive, sub-licensable, irrevocable, perpetual and freely assignable licence to use the Project IPR for any purpose in connection with the Project or the Desalinated Water Supply System, any such licence to be effective from the Final Expiry Date.

### **28.3 BREACHES OF INTELLECTUAL PROPERTY RIGHTS**

28.3.1 The Concessionaire shall defend, indemnify and hold the GoS Indemnified Parties harmless against all Claims, costs, charges and expenses arising from or incurred by reason of any actual infringement or alleged infringement of the Concessionaire IPR or the Project IPR licenced to KWSC under Sections 28.1 or 28.2 because of the use by or on behalf of KWSC of the rights granted under Sections 28.1 or 28.2 provided that such infringement has arisen out of the use of the Concessionaire IPR or the Project IPR in accordance with the terms of this Agreement.

28.3.2 Without in any way limiting the foregoing provisions of this Section 28.3, in circumstances where the Concessionaire is liable to indemnify the GoS Indemnified Parties in accordance with Section 28.3.1, the Concessionaire shall at KWSC's request but at the Concessionaire's own expense, complete one or more of the following without delay:

28.3.2.1 procure for KWSC the right to continue to use the Intellectual Property Rights in question; or

28.3.2.2 modify or replace the subject-matter of the activities permitted by this Agreement (at no cost to KWSC) so that it becomes non-infringing without loss of functionality or compatibility or affecting its use.

## **29. CONFIDENTIALITY**

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### **29.1 CONFIDENTIALITY OBLIGATION**

During the term of this Agreement and after termination or expiry of this Agreement for any reason whatsoever, a Party shall:

- 29.1.1 keep the Confidential Information confidential;
- 29.1.2 not disclose the Confidential Information to any other person who is not a Party other than:
  - 29.1.2.1 with the prior written consent of the other Parties; or
  - 29.1.2.2 in accordance with Section 29.2; and
- 29.1.3 not use the Confidential Information for any purpose other than the performance of its obligations under this Agreement.

### **29.2 DISCLOSURE**

During the term of this Agreement and after termination or expiry of this Agreement for any reason, a Party may disclose the Confidential Information:

- 29.2.1 in the case of GoS Parties, to any of its ministers, civil servants, directors, officers and employees, and in the case of the Concessionaire, to its direct shareholders, directors, officers or employees (each a **Recipient**) to the extent necessary to achieve the purposes of this Agreement, provided that:
  - 29.2.1.1 the disclosing Party shall procure that each Recipient is made aware of and complies with the disclosing Party's obligations of confidentiality under this Agreement as if the Recipient was a party to this Agreement; and
  - 29.2.1.2 in no circumstances shall disclosure to the public be permitted pursuant to this Section 29.2.1;
- 29.2.2 if, and only to the extent, required to disclose such information by judicial, regulatory or administrative process or otherwise in accordance with any law or the rules of any recognised stock exchange applicable to the disclosing Party;
- 29.2.3 with the consent of the other Parties (not to be unreasonably withheld), in the interests of attracting debt or equity financing for the Project; provided, that prior to making such disclosure, the disclosing Party obtains an appropriate confidentiality undertaking from the person to whom the Confidential Information is to be disclosed;
- 29.2.4 to its Contractors, provided that prior to making such disclosure, the disclosing Party obtains an appropriate confidentiality undertaking from the person to whom the Confidential Information is to be disclosed;
- 29.2.5 to its legal, financial and/or technical advisors or pursuant to the Financing Documents, provided that prior to making such disclosure, the disclosing Party obtains an appropriate confidentiality undertaking from the person to whom the Confidential Information is to be disclosed; or
- 29.2.6 in a legal action or proceeding brought by the disclosing Party in pursuit of its rights or in exercise of its remedies; or

29.2.7 to its insurers; provided, that prior to making such disclosure, the disclosing Party obtains an appropriate confidentiality undertaking from the person to whom the Confidential Information is to be disclosed.

### **29.3 EXCEPTIONS**

The obligations contained in Sections 29.1 and 29.2 shall not apply to any Confidential Information which:

29.3.1 is at the Effective Date in, or at any time after the Effective Date comes into, the public domain other than through breach of this Agreement by the disclosing Party or any Recipient;

29.3.2 can be shown by the disclosing Party to the reasonable satisfaction of the other Parties to have been known to the disclosing Party independently; or

29.3.3 on, before or after the Effective Date, has come lawfully into the possession of the disclosing Party from a third party.

### **29.4 PRESS RELEASES**

This prohibition shall not forbid a Party, with the prior written consent of the other Parties, from issuing press releases containing Confidential Information in relation to the progress of the Project.

### **29.5 DEFINITION**

For the purposes of this Article 29, **Confidential Information** means this Agreement and all information concerning the Project and the other Parties (or their Affiliates), whether:

29.5.1 in writing, verbally or by any other means; or

29.5.2 acquired directly or indirectly before or after the Effective Date.

## 30. NOTICES

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### 30.1 ADDRESSES FOR SERVICE

A notice and all other forms of written communication shall be personally delivered, sent by registered post, sent by facsimile transfer or sent by email to the relevant address below. Notice or communication by email shall only be valid if receipt is confirmed by the recipient acknowledging receipt of the email.

#### 30.1.1 GOS

Address:	<input type="checkbox"/>
Attention:	<input type="checkbox"/>
Fax:	<input type="checkbox"/>
Email	<input type="checkbox"/>

#### 30.1.2 KWSC

Address:	<input type="checkbox"/>
Attention:	<input type="checkbox"/>
Fax:	<input type="checkbox"/>
Email	<input type="checkbox"/>

#### 30.1.3 CONCESSIONAIRE

Address:	<input type="checkbox"/>
Attention:	<input type="checkbox"/>
Fax:	<input type="checkbox"/>
Email	<input type="checkbox"/>

### 30.2 DEEMED SERVICE

A notice or communication shall be deemed to have been made or delivered:

- 30.2.1 in the case of any communication made by letter, when delivered by hand, by recognised courier or by mail (registered return receipt requested) at the address set out in Section 30.1.1, Section 30.1.2 or Section 30.1.3 (as applicable);
- 30.2.2 in the case of any communication made by facsimile, when transmitted properly addressed to the facsimile number set out in Section 30.1.1, Section 30.1.2 or Section 30.1.3 (as applicable) and the sender has received a sent receipt; and

30.2.3 in the case of any communication made by email, when transmitted properly addressed to the email address set out in Section 30.1.1, Section 30.1.2 or Section 30.1.3 (as applicable), and the sender has received a sent receipt.

**30.3 CHANGES TO ADDRESSES FOR SERVICE**

If a Party changes its notice details set out in Section 30.1, it shall provide the other Parties with prompt notice of any such changes prior to effecting the same.

## **31. MISCELLANEOUS**

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### **31.1 AMENDMENTS**

This Agreement may be amended only with the prior written consent of all the Parties.

### **31.2 NO IMPLIED WAIVER**

The failure of any Party to insist upon strict performance of any provisions of this Agreement shall not be construed as a waiver of any such provisions or the relinquishment of any such right for the future.

### **31.3 INVALIDITY**

The invalidity or unenforceability of any provisions of this Agreement shall be determined in accordance with Section 27.4. The Parties hereby agree to use good faith efforts to negotiate an equitable adjustment to any provisions of this Agreement determined to be invalid or unenforceable with a view towards effecting the purposes of this Agreement, and the validity or enforceability of the remaining provisions of this Agreement shall not be affected by such determination.

### **31.4 BINDING EFFECT**

This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors, legal representatives and permitted assigns.

### **31.5 RELATIONSHIP OF THE PARTIES**

31.5.1 Nothing contained in this Agreement shall be construed to create an association, trust, partnership or joint venture between the Parties. Each Party shall be liable individually and severally for its own obligations under this Agreement.

31.5.2 Unless stated otherwise herein, the obligations of the GoS in this Agreement are limited to payments due to the Concessionaire. The GoS' obligations in this Agreement shall, in no event, extend to the performance obligations of KWSC.

31.5.3 KWSC shall not be responsible for any payments due to the Concessionaire pursuant to this Agreement by the GoS.

31.5.4 Obligations of the GoS and KWSC under this Agreement and the Project Agreements are several and not joint.

### **31.6 EXPENSES**

Without prejudice to the terms of this Agreement, each Party shall pay its own costs and expenses (including the fees and expenses of its agents, representatives, advisors, counsel and accountants) necessary for the negotiation, execution, delivery, performance of, and compliance with this Agreement.

### **31.7 LANGUAGE**

This Agreement is being executed in the English language.

**31.8 ENTIRE AGREEMENT**

This Agreement and its appendices constitute the entire agreement and understanding between the Parties with respect to the subject matter hereof and supersedes all previous understandings, representations, or agreements between the Parties, whether written or oral.

**31.9 NO WAIVER**

The granting of any consent, approval or review by the Independent Experts or a GoS Party to any of the designs, works, plans or time programmes or the manner of implementation of the Project shall not relieve or reduce the Concessionaire's responsibility in performing its obligations as stipulated in the Agreement, or its responsibility to achieve the level of performance provided for in the Agreement.

**31.10 COUNTERPARTS**

The Parties may execute this Agreement in counterparts, which shall, in the aggregate, when signed by all the Parties constitute one and the same instrument; and thereafter, each counterpart shall be deemed to be an original instrument as against any Party who has signed it.

**SCHEDULE A**  
**TECHNICAL SPECIFICATIONS**

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**SCHEDULE A (*Technical Specifications*)** to this Agreement will comprise of **VOLUME II (*TECHNICAL SPECIFICATIONS*)** of the RFP and will be inserted at signing with any necessary changes for references to the Bid.

**SCHEDULE B  
IMPLEMENTATION SCHEDULE**

<b>MILESTONES</b>	<b>DATE</b>
Effective Date (date of signing of the Concession Agreement)	<b>T</b>
Scheduled Commencement Date	<b>T + 6 Months</b>
Proposed Construction Documents submission by the Concessionaire	<b>T + 5 Months</b>
Proposed Construction Documents approval by the Independent Engineer	<b>T + 6 Months</b>
<b>Commissioning of Desalinated Water Supply System</b> <ul style="list-style-type: none"> <li>- start of Start-up Test</li> <li>- start of Performance Test</li> <li>- start of Reliability Run</li> </ul>	<b>T + 27 Months</b> <b>T + 28 Months</b> <b>T + 29 Months</b>
<b>Scheduled COD</b>	<b>T + 30 Months</b>

**SCHEDULE C<sup>14</sup>**  
**MINIMUM INSURANCE REQUIREMENTS**

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**CONSTRUCTION PERIOD INSURANCE**

1. **MARINE CARGO**

***Cover*** : Physical loss or damage to all materials, equipment, machinery, spares and other items for incorporation in the Construction Activities on an “*all risks*” basis whilst in transit by sea, air, or land from country of origin anywhere in the world to the Project Site;

Cover is to be on the basis of Institute Cargo Clauses (A) plus war, plus strike, riot and civil commotion and should include a minimum of sixty (60) Days of storage on Project Site.

***Sum Insured*** : The value of largest shipment or the highest value in temporary storage (as part of the journey to the Project Site) plus insurance and freight (CIF) whichever is greater.

At any time, the shipment value shall not exceed United States Dollars [REDACTED].

***Deductibles*** : Not to exceed United States Dollars [REDACTED] for each loss.

***Period of Insurance*** : From commencement of first shipment to the unloading of final shipment at the Project Site.

***Insured Parties*** : KWSC, EPC Contractor and all other contractors and sub-contractors of any tier involved in the supply of goods, materials or equipment for incorporation into the Project Activities.

***Extensions and Conditions*** : Cover to include:

- (i) Institute Cargo clauses “A”;
- (ii) Institute Cargo clauses (Air Cargo);
- (iii) Institute Strikes & War clauses (Cargo);
- (iv) Institute Strikes & War clauses (Air Cargo);
- (v) Institute Replacement clause;
- (vi) Institute Classification clause;
- (vii) 50/50 clause;
- (viii) 200% accumulation clause.

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<sup>14</sup> All amounts under this **SCHEDULE C (Minimum Insurance Requirements)** shall be finalized by the Concessionaire under the Financing Documents with the consent of the GoS and the Independent Auditor, based on precedent PPP projects and IPP/project financing deals.

2. **CONSTRUCTION “ALL RISKS”**

- Cover*** : Physical loss or damage to the assets installed or rehabilitated as part of the Construction Activities, including all equipment, materials, Desalinated Water Supply System, machinery, spares, temporary structures and all other property of whatsoever nature or description the Desalinated Water Supply System (but excluding construction Desalinated Water Supply System and equipment belonging to or the responsibility of the contractors) to be incorporated in, used or rehabilitated in connection with the Project including testing and commissioning.
- Sum Insured*** : The full reinstatement or replacement value of the assets installed or rehabilitated as part of Construction Activities, including any “*free issue*” items.
- Deductibles*** : Not to exceed for each and every occurrence:
- (i) United States Dollars [redacted] in respect of testing and commissioning, extended maintenance and defects coverage;
  - (ii) United States Dollars [redacted] in respect of storm, tempest, flood, tsunami;
  - (iii) United States Dollars [redacted] in respect of all other losses.
- Period of Insurance*** : From the earlier of the notice to proceed as defined in the EPC Contract, the Commencement Date or from the commencement of the construction activity at the Project Site, until the COD plus cover for minimum twelve (12) Months extended maintenance.
- Insured Parties*** : The GoS Parties, the Concessionaire, the EPC Contractor and all other contractors and sub-contractors of any tier, including consultants for their activities on or about the Project Site only.
- Extensions and Conditions*** : To include:
- (i) Offsite storage;
  - (ii) Inland transit of locally procured materials wholly within Pakistan;
  - (iii) Strike, riot and civil commotion (unless covered under the Terrorism and Sabotage insurance);

- (iv) Insurers to waive all rights of subrogation against KWSC and against all other Insured Parties as provided above;
- (v) LEG 2/96 faulty design/defects coverage;
- (vi) Escalation provision;
- (vii) Inadvertent errors and omissions;
- (viii) Claims will be paid in the currency in which the cost is incurred;
- (ix) 50/50 clause;
- (x) Removal of debris;
- (xi) Expediting expenses;
- (xii) Public authority requirements; and
- (xiii) Professional fees,

and subject to sub-limits based on prevailing insurance market norms.

### 3. THIRD PARTY LIABILITY

- Cover*** : Legal liability of the Insured Parties as provided below for death or bodily injury to third parties or loss or damage to third party property arising out of or in connection with the Mobilisation Activities and Construction Activities.
- Limit of Indemnity*** : No less than United States Dollars [•] for each occurrence but in the aggregate in respect of sudden and accidental pollution risks.
- Deductibles*** : Not to exceed United States Dollars [•] for each and every occurrence.
- Period of Insurance*** : As per the Construction All Risks insurance.
- Insured Parties*** : The GoS Parties, the EPC Contractor and all other contractors and sub-contractors of any tier and their respective directors, officers and employees, and including consultants for their activities on or about the Project Site only.
- Geographical Limits*** : Pakistan and including business trips worldwide in connection with the Project.
- Extensions and Conditions*** : To include:
- (i) Cross liability;

- (ii) Worldwide jurisdiction subject to North American conditions; and
- (iii) Sudden, unintended and unexpected seepage, pollution and contamination.

4. **TERRORISM AND SABOTAGE**

- Cover*** : Physical loss or damage and consequent loss of gross profit following delay to the anticipated COD caused by an act of terrorism and/or sabotage to the Project.
- Sum Insured*** : A sum which is sufficient to cover the largest foreseeable loss scenario for full reinstatement value of such lost or damaged property.
- Indemnity Period*** : Twelve (12) Months from the anticipated Project Commercial Operation Date or as otherwise approved by the Administrative Agent in consultation with the Insurance Consultant.
- Deductibles*** : Not to exceed United States Dollars [ ] in respect of physical loss or damage for each and every occurrence.
- Period of Insurance*** : As per the Construction All Risks insurance.
- Insured Parties*** : KWSC, the EPC Contractor and all other contractors and sub-contractors of any tier.
- Geographical Limits*** : Pakistan.

5. **MARINE DELAY IN START-UP (“MDSU”) INSURANCE**

- Cover*** : Loss of revenue following delay in start of commercial operations of the Project, as a direct result of physical loss or damage covered under the Marine Cargo Insurance above.
- Sum Insured*** : Estimated gross revenue or an amount at least equal to the estimated amount due to Financing Parties under the Financing Documents and fixed expenses incurred during the Indemnity Period.
- Indemnity Period*** : Not less than twelve (12) Months from the anticipated COD.
- Period of Cover*** : As per Marine Cargo insurance above.
- Insured*** : The borrower and the lenders each for their respective rights and interests.
- Deductibles*** : No more than forty-five (45) Days.
- General*** : To include delay due to damage to the carrying vessel or conveyance.

6. **DELAY IN START UP (“DSU”) INSURANCE**

- Cover*** : Loss of revenue following delay in start of commercial operations of the Project as a direct result of physical loss or damage covered under Construction All Risk Insurance above.
- Sum Insured*** : Estimated gross revenue or an amount at least equal to the estimated amount due to Financing Parties under the Financing Documents and fixed expenses during the Indemnity Period.
- Indemnity Period*** : Not less than twelve (12) Months from the anticipated COD.
- Period of Cover*** : As per the Construction All Risks insurance.
- Insured*** : The borrower and the lenders each for their respective rights and interests.
- Deductible*** : No more than sixty (60) Days.
- General*** : To include:
- (i) Denial of access; and
  - (ii) Customers' and suppliers' extensions (in respect of FLEXA perils).

7. **MISCELLANEOUS**

Other insurance as is customary, desirable or necessary to comply with Legal Requirements, such as workers' compensation and employers' liability insurance in relation to all workmen employed in the construction of the Project, and motor vehicle liability insurance for all vehicles owned, hired, leased, used or borrowed for use in connection with the Project.

## OPERATIONS PERIOD INSURANCE

From the Commencement Date or the expiry of the Construction Period insurances (as applicable) and renewable annually unless otherwise agreed by KWSC:

1. **PROPERTY DAMAGE “ALL RISKS”**

- Cover*** : To cover physical loss or damage to all assets comprising the Project including but not limited to, buildings and their contents, machinery, spares, fixtures, fittings and all other personal property, against “*all risks*” of physical loss or damage and machinery breakdown.
- Sum Insured*** : An amount sufficient to reinstate the Desalinated Water Supply System.
- Deductibles*** : Not to exceed for each and every occurrence:
- United States Dollars [redacted] in respect of storm, tempest, flood, tsunami; and
  - United States Dollars [redacted] for all other losses.
- Period of Insurance*** : From the COD and renewable annually till the Term Expiry Date.
- Insured Parties*** : The GoS Parties, the KWSC, O&M Contractor and all other contractors and sub-contractors of any tier and including consultants for their activities on or about the Project Site only.
- Extensions and Conditions*** : To include:
- (i) Offsite storage;
  - (ii) Inland transit of locally procured materials wholly within Pakistan;
  - (iii) Strike, riot and civil commotion (unless covered under the Terrorism and Sabotage insurance);
  - (iv) Insurers to waive all rights of subrogation against KWSC and, in respect of their Project Site activities only against all other Insured Parties as provided above;
  - (v) Escalation provision;
  - (vi) Inadvertent errors and omissions;
  - (vii) Claims will be paid in the currency in which the cost is incurred;
  - (viii) Removal of debris;

- (ix) Expediting expenses;
- (x) Public authority requirements; and
- (xi) Professional fees,

and subject to sub-limits based on prevailing insurance market norms.

2. **THIRD PARTY LIABILITY**

- Cover*** : Legal liability of the Insured Parties, as provided below, for death or bodily injury to third parties or loss or damage to third party property arising out of or in connection with the ownership, operation, use or maintenance of the Project, including supply of products.
- Limit of Indemnity*** : No less than United States Dollars [ ] for each occurrence but in the aggregate in respect of sudden and accidental pollution risks.
- Deductibles*** : Not to exceed United States Dollars [ ] for each and every occurrence.
- Period of Insurance*** : As per the Property Damage All Risks insurance.
- Insured Parties*** : The GoS Parties, the O&M Contractor and all other contractors and sub-contractors of any tier and their respective directors, officers and employees, and including consultants for their activities on or about the Project Site only.
- Geographical Limits*** : Pakistan and including business trips worldwide in connection with the Project.
- Extensions and Conditions*** : To include:
- (i) Cross liability;
  - (ii) Worldwide jurisdiction subject to North American conditions; and
  - (iii) Sudden, unintended and unexpected seepage, pollution and contamination.

3. **TERRORISM AND SABOTAGE**

- Cover*** : Physical loss following interruption in the O&M Activities by an act of terrorism and/or sabotage to the Project.
- Sum Insured*** : A sum which is sufficient to cover the largest foreseeable loss scenario for full reinstatement value of such lost or damaged property.
- Indemnity Period*** : Twelve (12) Months from the anticipated COD.
- Deductibles*** : Not to exceed United States Dollars [ ] in respect of physical loss or damage for each and every occurrence.

- Period of Insurance*** : As per the Property Damage All Risks insurance.
- Insured Parties*** : The GoS Parties, the O&M Contractor and all other contractors and sub-contractors of any tier.
- Geographical Limits*** : Pakistan.

4. **BUSINESS INTERRUPTION INSURANCE**

- Cover*** : Loss of revenue as a direct consequence of loss of or damage to the Project insured under Property All Risks Insurance.
- Sum Insured*** : Gross revenue or an amount equal to the estimated amount due to Financing Parties under the Financing Documents due and fixed expenses incurred during the Indemnity Period.
- Indemnity Period*** : Not less than twelve (12) Months.
- Period of Cover*** : As per Property All Risks Insurance above.
- Insured*** : The GoS Parties, the O&M Contractor and all other contractors and sub-contractors of any tier and including consultants for their activities on or about the Project Site only.
- Deductibles*** : No more than thirty (30) Days for each and every loss.
- General*** : To include denial of access.

5. **MISCELLANEOUS**

Other insurances which:

- (i) are customary or necessary to comply with Legal Requirements, such as contractual insuring responsibility, workers' compensation and employers' liability insurances in relation to all workmen employed in the Project or in connection with its operation; and motor vehicle liability insurance for all vehicles owned, hired, leased, used or borrowed for use in Pakistan in connection with the Project; and
- (ii) are required by applicable Laws of Pakistan.

**SCHEDULE D**  
**CONDITIONS PRECEDENT**

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**1. CONCESSIONAIRE'S RESPONSIBILITY**

It shall be a condition precedent to the Commencement Date that each of the following conditions are satisfied and supplied to the Independent Experts by the Concessionaire, unless any such condition precedent is deferred or waived in writing by the GoS:

- 1.1 copies of its corporate documents duly certified as true copies by the Concessionaire secretary or director of each of the Concessionaire, Sponsors and Contractors;
- 1.2 copies of its Board Resolution that duly authorizes:
  - (a) the Concessionaire, the Sponsors and the Contractors (as the case may be) to enter into the relevant Project Agreements (to which they are a party) and to undertake the obligations, liabilities, as set out in the applicable Project Agreements, and the transactions as contemplated by the Project Agreement (to which they are a party); and/or
  - (b) a specified person or persons to:
    - (i) execute the relevant Project Agreements, on behalf of the Concessionaire, the Sponsors and the Contractors, to which they are a party; and
    - (ii) undertake all other acts, specifically relating to the Project Agreements (to which they are a party), as contemplated therein;
- 1.3 certified copy of the Construction Performance Security already provided to the GoS;
- 1.4 the Base Case Financial Model;
- 1.5 certified true copies of the signed Financing Documents;
- 1.6 within thirty (30) Days of the Effective Date, signed and entered into a valid and effective:
  - (a) Independent Engineer Contract for the appointment of the Independent Engineer; and
  - (b) Independent Auditor Contract for the appointment of the Independent Auditor;
- 1.7 two (2) certified copies of the Concession Direct Agreement;
- 1.8 two (2) certified copies of the License Agreement;
- 1.9 evidence of establishment of the:
  - (a) Independent Engineer Payment Account and issuance of the Independent Engineer Payment Account Standing Instructions; and
  - (b) Independent Auditor Payment Account and issuance of the Independent Auditor Payment Account Standing Instructions;
- 1.10 evidence that the O&M Contractor meets the O&M Contractor Criteria;

- 1.11 two (2) certified copies of its executed EPC Contract(s) and the O&M Contract(s), which are executed in accordance with Section 16.3;
- 1.12 in case of change of EPC Contractor (or a member of the EPC Contractor) prior to the Commencement Date, evidence that the proposed new EPC Contractor or the proposed new member of the EPC Contractor (as applicable) meets the relevant EPC Contractor Criteria;
- 1.13 two (2) certified copies of the Pakistan Engineering License(s) for the EPC Contractor and the O&M Contractor;
- 1.14 copies of a full or limited notice to proceed (as applicable), in the event the Concessionaire has issued a full or limited notice to proceed to the EPC Contractor;
- 1.15 copies of the Approvals procured by the Concessionaire and the same are effective and valid and have not been cancelled and/or rescinded;
- 1.16 a copy of the E&S Impact Assessment report, duly approved by the Sindh Environmental Protection Agency, Government of Sindh;
- 1.17 evidence of establishment of the Water Tariff Payment Account (Concessionaire);
- 1.18 if applicable, evidence of establishment of the Bottled Water Revenue Account and issuance of the Bottled Water Revenue Account Standing Instructions;
- 1.19 a legal opinion from the legal counsel of the Concessionaire confirming that (a) the Concessionaire has been duly organized and is validly existing under the laws of Pakistan and has the requisite power and authority to enter into this Agreement and to undertake the transactions as contemplated by this Agreement and to assume the obligations as contained herein and the enforceability of the same against the Concessionaire, (b) this Agreement has been duly executed and is legally valid, binding and enforceable against the Concessionaire in accordance with the terms herein, and (c) all consents and approvals or actions required to be undertaken, fulfilled and obtained (including the obtaining of any necessary Approvals on behalf of or in the name of the Concessionaire) in order for the Concessionaire to enter into and comply with its obligations under this Agreement, have been undertaken, fulfilled or obtained;
- 1.20 a legal opinion from the legal counsel(s) of the Sponsor(s) confirming that: (a) the Sponsor(s) has/have been duly organized and is/are validly existing under the laws of the jurisdiction where it/they are incorporated and has/have the requisite power and authority to issue the Sponsor(s) Undertaking and to undertake the transactions as contemplated by the Sponsor(s) Undertaking and to assume the obligations as contained in the Sponsor(s) Undertaking and the enforceability of the same against the Sponsor(s); (b) the Sponsor(s) Undertaking has been duly executed and is legally valid, binding and enforceable against the Sponsor(s) in accordance with the terms of the Sponsor(s) Undertaking; and (c) all consents and approvals or actions required to be undertaken, fulfilled and obtained (including the obtaining of any necessary Approvals on behalf of or in the name of the Sponsor(s)) in order for the Sponsor(s) to enter into and comply with its/their obligations under the Sponsor(s) Undertaking, have been undertaken, fulfilled or obtained;
- 1.21 not later than thirty (30) Days prior to the Scheduled Commencement Date, submit evidence of establishment of the E&S Management System;
- 1.22 submit evidence of procurement of all insurances in terms of Article 18;
- 1.23 evidence of incorporation of share transfer restrictions for Sponsors in the corporate documents of the Concessionaire;

- 1.24 a letter from the Financing Parties (or an agent of the same) confirming that the Financing Documents have been signed and that all conditions precedents to Financial Close have been satisfied, deferred or waived except:
  - 1.24.1 establishment of the Water Tariff Payment Account (GoS) and issuance of the Water Tariff Payment Account (GoS) Standing Instructions and the Water Tariff Payment Account Letter of Lien; and
  - 1.24.2 issuance of the IZP Guarantee Instrument and/or the SBP Debit Authority,
    - (the **Conditional FC Letter**);
- 1.25 following confirmation by the Independent Experts to the GoS that the Conditions Precedent set out in paragraph 1.24 have been satisfied, deferred or waived and the Conditional FC Letter has been issued, evidence of issuance of the IZP Guarantee Instrument (if applicable); and
- 1.26 such other documents which the GoS may require in connection with the above.

**2. KWSC'S RESPONSIBILITY**

It shall be a condition precedent to the Commencement Date that each of the following conditions is satisfied and supplied to the Independent Experts by KWSC, unless any such condition precedent is deferred or waived in writing by the Concessionaire:

- 2.1 within thirty (30) Days of the Effective Date, signed and entered into a valid and effective:
  - 2.1.1 Independent Engineer Contract for the appointment of the Independent Engineer; and
  - 2.1.2 Independent Auditor Contract for the appointment of the Independent Auditor;
- 2.2 two (2) certified copies of the Concession Direct Agreement; and
- 2.3 two (2) certified copies of the License Agreement.

**3. GOS' RESPONSIBILITY**

It shall be a condition precedent to the Commencement Date that each of the following conditions is satisfied and supplied to the Independent Experts by the GoS, unless any such condition precedent is deferred or waived in writing by the Concessionaire:

- 3.1 within thirty (30) Days of the Effective Date, signed and entered into a valid and effective:
  - 3.1.1 Independent Engineer Contract for the appointment of the Independent Engineer; and
  - 3.1.2 Independent Auditor Contract for the appointment of the Independent Auditor;
- 3.2 two (2) certified copies of the Concession Direct Agreement;
- 3.3 two (2) certified copies of the License Agreement;
- 3.4 following confirmation by the Independent Experts to the GoS that the Conditions Precedent set out in paragraphs 1.24 and 1.25 have been satisfied, deferred or waived and the Conditional FC Letter has been issued, evidence of:

- 3.4.1 establishment of the Water Tariff Payment Account (GoS) and issuance of the Water Tariff Payment Account (GoS) Standing Instructions and the Water Tariff Payment Account Letter of Lien; and
- 3.4.2 issuance of the SBP Debit Authority (if applicable).

**4. GENERAL CONDITIONS PRECEDENT**

It shall be a condition precedent to the Commencement Date that by the Scheduled Commencement Date, as such date may be extended pursuant to the terms of this Agreement, or such later date as the Parties hereto may agree in writing, a closing certificate dated the date of the Commencement Date from each Party hereto in favour of the other Parties to the effect that the representations and warranties of each of the GoS Parties and the Concessionaire (as applicable), contained or incorporated by reference herein are true and correct in all material respects on and as of the Commencement Date with the same force as though made on and as of the Commencement Date.

## ATTACHMENT A: O&M CONTRACTOR CRITERIA

### **1. O&M CONTRACTOR CRITERIA**

- 1.1 The O&M Contractor (or a Sponsor, in case a Sponsor intends to undertake the relevant O&M Activities for the Project itself) must have undertaken operations and maintenance works for at least two (2) seawater desalination plant projects (which includes intake infrastructure) with one (1) having a capacity of at least five (5) MGD and cumulatively ten (10) MGD, for a period of at least five (5) years, within a period of ten (10) years prior to the Effective Date.
- 1.2 A proposed O&M Contractor shall be required to have a Net Worth of at least United States Dollars Five Million only (USD 5,000,000/-)<sup>15</sup>, based on latest financial statements calculated as follows:
  - 1.2.1 **Net Worth** shall be calculated as the relevant proposed O&M Contractor's Total Assets plus its Revaluation Surplus (or similar entry) minus its Total Liabilities; and on a consolidated basis; provided, that the Revaluation Surplus will be capped at fifty percent (50%) of Net Worth;
  - 1.2.2 **Total Assets** shall be calculated as the total consolidated assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant proposed O&M Contractor is incorporated;
  - 1.2.3 **Total Liabilities** shall be calculated as the total consolidated liabilities of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant proposed O&M Contractor is incorporated;
  - 1.2.4 **Revaluation Surplus** (or similar entry) shall be calculated as the total consolidated figure for any upward changes in the value of the capital/fixed assets of such entity measured in accordance with either IFRS or any other similar accounting or public accounting standard which is permissible in the jurisdiction in which the relevant proposed O&M Contractor is incorporated. It is typically under the 'Equity' line item in balance sheet.

### **2. REQUIRED DOCUMENTATION:**

- 2.1 For the proposed O&M Contractor (or the Sponsor, in case the Sponsor intends to undertake the relevant O&M Activities for the Project itself):
  - 2.1.1 most recent performance certificate/report, or relevant evidence issued by an employer or a third-party which engaged the proposed O&M Contractor (or the Sponsor) for the relevant works/project, indicating the relevant works/project, undertaken by the proposed O&M Contractor (or the Sponsor) in the last ten (10) years, and with respect to each of the works/ projects, the information in the format provided in Form T1 (*Proposed O&M Contractor Technical Criteria Evidence Sheet*) of this attachment, clearly indicating the name of the proposed O&M Contractor (or the Sponsor), scope of operations and maintenance works undertaken by such proposed O&M Contractor (or the Sponsor), in each case evidencing compliance with O&M Contractor Criteria;
  - 2.1.2 in respect of the proposed O&M Contractor: (i) audited financial statements, duly certified by an independent certified public accountant or auditor, for the three (3) most recent full financial years for which audited financial statements are available as at the Effective Date; or (ii) if: (A) the proposed O&M Contractor is incorporated in a jurisdiction which does not require the auditing of

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<sup>15</sup> **Note:** For conversion of values in USD, the exchange rate will be calculated using the month-end exchange rates as specified in the 'Month-End Ex for the relevant year for which the financial statements are provided. For example, financial statement of December 2023, the exchange rate of December 29, 2023 will be used. Rates in 'US \$' tab in the file uploaded by State Bank of Pakistan which can be accessed using the following link [https://www.sbp.org.pk/ecodata/IBF\\_Arch.xls](https://www.sbp.org.pk/ecodata/IBF_Arch.xls).

financial statements; and/or (B) such proposed O&M Contractor has not in fact had its financial statements audited, on such proposed O&M Contractor's non-audited consolidated financial statements, accompanied by a written opinion issued by an independent certified public accountant or auditor certifying the proposed O&M Contractor's net worth for the three (3) most recent full financial years for which such financial statements are available as at the Effective Date; provided, that the non-audited financial statements submitted by an entity, which by applicable law is required to prepare audited financial statements, shall not be accepted.

2.2 A detailed description of the proposed O&M Contractor containing:

2.2.1 legal name;

2.2.2 complete head office contact information, including mailing address, telephone and fax numbers, and an e-mail address;

2.2.3 incorporation details, including corporate charter and articles of incorporation. If the proposed O&M Contractor is an unincorporated legal entity, then the proof of that legal entity's existence must be provided.

In case a Sponsor intends to undertake the works for the Project itself along with the O&M Contractor, such Sponsor will also be considered part of the O&M Contractor, to the extent of the relevant works. Such Sponsor will be required to provide relevant information/details as per the O&M Contractor Criteria for the relevant part.

**FORM T1 - PROPOSED O&M CONTRACTOR TECHNICAL CRITERIA EVIDENCE SHEET**

The Concessionaire shall attach to this form information that describes the proposed O&M Contractor’s background and experience in similar works. A summary table shall be provided for each project or reference, and relevant documents shall be attached herein as evidence (completion certificates, technical reports, cover letters, etc.).

**Note:** The Concessionaire may include concession or operation and maintenance projects specifying the period in which the proposed O&M Contractor has provided services which shall not be beyond ten (10) years.

<b>Suitable relevant project experience with specific details of the Proposed O&amp;M Contractor</b>	<b>Two (2) seawater desalination plant projects (which includes intake infrastructure) with one (1) having a capacity of at least five (5) MGD and cumulatively ten (10) MGD</b>
<i>[Insert name of the Project]</i>	[Y/N]
<i>[Insert name of the Project]</i>	[Y/N]

**PROJECT DETAILS**

Name of plant/project	Location and country of project	Description (overview) of the project /plant along with project/plant components	Scope of work undertaken by the Proposed O&M Contractor	Start Date of Operation	Ownership in plant/project (if applicable)
<i>[one line per plant /project]</i>					

Name of Developer counterparty, organization and/or individual for reference	Capacity of plant /project	Name of project company	Period, in which the contractor provided operations and maintenance services
<i>[one line per plant /project]</i>			

**SCHEDULE E  
TESTING**

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## 1. INTRODUCTION

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- 1.1 The Concessionaire shall establish the Metering System and Monitoring System (including any additional systems) to address all metering and monitoring of inputs to and outputs from the Desalinated Water Supply System.
- 1.2 The Concessionaire shall also develop and implement a proper Metering and Testing Plan to address all metering and monitoring requirements to:
  - 1.2.1 demonstrate compliance with Legal Requirements;
  - 1.2.2 demonstrate compliance with its obligations as set out in the Concession Agreement; and
  - 1.2.3 ensure that process monitoring is adequately implemented throughout the Desalinated Water Supply System including the intake structure, the pre-treatment facility, the reverse osmosis seawater desalination plant, the product water tank, the pumping station, the outlet structure, power supply facilities and all associated facilities and infrastructure.
- 1.3 During the Operations Period, the main compliance monitoring of the Desalinated Water Supply System shall focus on the metering, monitoring and analysis of the received and the Desalinated Water. These main compliance criteria shall be measured against the prescribed range of influent volumes and quality and set limits. The combined compliance and impact of events will be applied to the Water Tariff Payments and Deduction formulae to calculate the Water Tariff Payments due to the Concessionaire for each Billing Period, in accordance with **SCHEDULE H (*Water Tariff Payment Calculation*)**.
- 1.4 The Performance Guarantees included in this **SCHEDULE E (*Testing*)** constitutes the minimum parameters that are explicitly stated herein, as key performance indicators (KPIs) for the Desalinated Water Supply System. However, the Concessionaire can and should consider more variables in the Metering and Testing Plan that shall be approved by the Independent Engineer. In general, where the method or frequency for any activities is prescribed under Law, the Metering and Testing Plan shall adopt those frequencies and methods.
- 1.5 This **SCHEDULE E (*Testing*)** is neither addressing nor referring to the quality control and quality assurance testing for construction materials, such as concrete and earthworks, where, for instance, compressive strength or compaction tests are carried out. The Detailed Engineering Design that must be developed by the Concessionaire and approved by the Independent Engineer, shall address the necessary materials quality control according to current regulations and engineering standards. This shall be explicitly included in all Construction Drawings and the quality control and assurance plan to be developed by the Concessionaire and approved by the Independent Engineer.

## 2. DEFINITIONS

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### 2.1 GENERAL DEFINITIONS

**Performance Guarantees** means the performance guarantees of the Desalinated Water Supply System as provided in attachment 1 (*Guaranteed Performance*), attachment 2 (*Guaranteed Maximum Noise Levels*) and attachment 3 (*Desalinated Water Quality Specifications*) to this **SCHEDULE E (*Testing*)**, including key parameters associated with water quality, water volumes, power consumption, and health and safety.

**Technical Limits** means the water quality design limits of the Desalinated Water Supply System, as set out in table 1.1 of attachment 1 (*Guaranteed Performance*) of this **SCHEDULE E (*Testing*)**.

Different types of testing are considered in this **SCHEDULE E (Testing)**, though the Concessionaire can propose a different approach within the Metering and Testing Plan and, eventually, implement it if the Independent Engineer approves of the same.

2.2 **NOT USED**

2.3 **TESTING DURING THE CONSTRUCTION PERIOD**

The Metering and Testing Plan shall consider Start-up Tests and Trial Runs according to the following:

2.3.1 **Start-up Tests** means the tests to be performed in respect of the Desalinated Water Supply System in accordance with paragraph 7 of this **SCHEDULE E (Testing)**. This testing shall be performed for the purpose of proving the operational performance of elements, equipment, and ancillary systems of the Desalinated Water Supply System identified in the Metering and Testing Plan. During the Start-up Tests, the Concessionaire shall demonstrate that each applicable element of equipment and related system achieves the applicable technical specifications provided by the equipment manufactures as incorporated in the Construction Documents.

2.3.1.1 The Start-up Tests can imply testing at the factory of each such item of equipment to ascertain the mechanical, electrical, electronic and structural suitability and reliability, as appropriate. For instance, the tests shall include hydraulic leakage testing of the equipment prior to installation.

2.3.1.2 Upon arrival of equipment at the Project Site, all equipment shall be made available for inspection in order to determine whether any part of the equipment may have been damaged during transit. The equipment shall be installed without delay whenever possible. If the equipment cannot be installed immediately, it must be stored under the manufacturers' recommended and appropriate conditions.

2.3.1.3 Upon installation, the Start-up Tests shall confirm the operational reliability of the different elements and equipment.

2.3.2 **Trial Run** means the tests to be performed in respect of the Desalinated Water Supply System in accordance with paragraph 8 of this **SCHEDULE E (Testing)**. This testing shall encompass the entire the Desalinated Water Supply System once all components have been developed and construction is finished. A trial run may last for twenty-four (24) hours at least, and it will help the Concessionaire to assess the proper performance of the Desalinated Water Supply System as a prior step before commissioning.

2.4 **TESTING DURING THE COMMISSIONING PHASE**

2.4.1 The commissioning phase of the Desalinated Water Supply System (which will occur during the Construction Period) once the construction is finished shall last for three (3) Months, and during the commissioning, inflows from the Arabian Sea shall be introduced into the system in a stable state. During commissioning:

2.4.1.1 the inlet works and all elements of the Desalinated Water Supply System will be operational,

2.4.1.2 the Concessionaire shall monitor and check all equipment at regular intervals in accordance with the checklists established in the Metering and Testing Plan; and

2.4.1.3 equipment may be stopped to make adjustments, but the Desalinated Water Supply System should not stop operations. The control systems shall be tested thoroughly under normal operating conditions with adjustments made to simulate process faults and equipment failures.

2.4.2 Commissioning is deemed completed once the Desalinated Water Supply System has been fully stabilized and achieves the performance requirements under a full range of anticipated flow conditions.

- 2.4.3 The following types of testing shall be considered in the Metering and Testing Plan during commissioning, in accordance with paragraph 9 of this **SCHEDULE E (Testing)**:
- 2.4.3.1 **Performance Tests** means the tests to assess the performance of the entire the Desalinated Water Supply System for at least twenty-four (24) continuous hours, in terms of water losses, water quality, power consumption and noise levels as set out in attachments 1, 2 and 3 of this **SCHEDULE E (Testing)**. Acceptance details are given in paragraph 9.3.8 of this **SCHEDULE E (Testing)**.
- 2.4.3.2 **Reliability Test Runs** means the tests to be carried out in order to assess the reliability of the entire the Desalinated Water Supply System for a period of thirty (30) consecutive Days. Acceptance details are given in paragraph 9.4.4 of this **SCHEDULE E (Testing)**.
- 2.4.4 Once the Performance Tests, the Reliability Test Runs and such other tests agreed and set out in the Metering and Testing Plan are successfully completed, the Independent Engineer shall issue the COD Certificate.

## 2.5 **TESTING DURING THE OPERATIONS PERIOD**

- 2.5.1 Testing during the Operations Period shall be defined in the Metering and Testing Plan submitted to the Independent Engineer ninety (90) Days prior to the Schedule Project Commercial Operations Date and may consist of:
- 2.5.1.1 **Regular monitoring, metering and testing** during the Operations Period, which include the minimum flow and water quality monitoring requirements for the Desalinated Water Supply System, taking into consideration the Performance Guarantees. Flow and quality monitoring devices shall be installed, based on Good International Industry Practices, at the locations, and with reference to the metering and monitoring system schedule described in paragraphs 2.6.1 and 2.6.2 of **SCHEDULE A (Technical Specifications)**. Those are the minimum requirements that shall be defined and implemented according to the Metering and Testing Plan;
- 2.5.1.2 **Performance Tests** that are carried out for twenty-four (24) hours at least and **Reliability Test Runs** that are performed during thirty (30) consecutive Days, shall also be considered during the Operations Period as a complement to the regular monitoring, metering and testing. The Metering and Testing Plan shall define the frequency and details associated with these types of testing, and they shall be implemented after approval by the Independent Engineer.
- 2.5.1.3 **Handover Performance Testing** means all the tests to be carried out to assess the condition of the Desalinated Water Supply System during the handover from the Concessionaire to KWSC at the end of the Concession Period. This testing shall be like the one carried out during the commissioning stage and will be further defined in the Metering and Testing Plan.

## 3. **GENERAL CONSIDERATIONS**

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### 3.1 **METERING AND TESTING PLAN**

- 3.1.1 The Concessionaire shall be responsible for providing all inputs, materials and other supplies required to carry out all tests under this **SCHEDULE E (Testing)**.
- 3.1.2 The overall Metering and Testing Plan for the Project shall be carried out over the following periods:
- 3.1.2.1 Construction Period, during which,
- (a) Start-up Tests of the Desalinated Water Supply System and related equipment and systems;
  - (b) Performance Test;

- (c) Reliability Test Run; and
  - (d) such other tests as agreed and approved in the Metering and Testing Plan, shall be carried out; and
- 3.1.2.2 Operations Period, as per paragraph 2.5 of this **SCHEDULE E (Testing)** including the Handover Performance Tests before handover of the Project in terms of section 21.10 of this Agreement.
- 3.1.3 At least ninety (90) Days prior to the proposed phases of testing described in paragraphs 2.3, 2.4 and 2.5 of this **SCHEDULE E (Testing)**, the Concessionaire shall submit to the Independent Engineer, in writing, all relevant procedures in the Metering and Testing Plan, which shall include:
- 3.1.3.1 the test program and frequencies;
  - 3.1.3.2 the test standards;
  - 3.1.3.3 the type of inspection and tests;
  - 3.1.3.4 the methodology of tests of the Desalinated Water Supply System;
  - 3.1.3.5 the checklists, including process data to be recorded;
  - 3.1.3.6 the description of instrumentation to be used during testing and calibration of test results;
  - 3.1.3.7 a list of the tests which are to be witnessed by third parties;
  - 3.1.3.8 the quality control procedures;
  - 3.1.3.9 the Concessionaire/Contractor manpower allocation and deployment schedule for performing the tests; and
  - 3.1.3.10 the forms of test records and reports.
- 3.1.4 The Independent Engineer shall have the right, within forty-five (45) Days after receipt of the Metering and Testing Plan, to request the Concessionaire to amend the Metering and Testing Plan to include additional tests, which in the opinion of the Independent Engineer should be carried out to establish that the Desalinated Water Supply System is:
- 3.1.4.1 installed and capable of being operated according to the design, performance and operation requirements specified in **SCHEDULE A (Technical Specifications)**; and
  - 3.1.4.2 capable of attaining the requirements of this **SCHEDULE E (Testing)**,  
and the Concessionaire shall incorporate any such reasonable requests in the Metering and Testing Plan.
- 3.1.5 If the Concessionaire and the Independent Engineer are unable to agree upon any additional tests as required under paragraph 3.1.4 of this **SCHEDULE E (Testing)**, the Dispute shall be referred for resolution pursuant to section 27 of this Agreement; provided, that the Concessionaire shall be entitled to proceed with the testing under its proposed Metering and Testing Plan pending resolution of such matter.
- 3.2 **RIGHT TO WITNESS INSPECTIONS AND TESTS**
- 3.2.1 The Concessionaire shall carry out all necessary off-site tests (including factory acceptance tests) on items relating to the Desalinated Water Supply System at the manufacturers' works before delivery of

such items to the Project Site. The items shall include as a minimum, the major pumps, major flow meters, motors, pressure vessels, and major electrical and instrumentation and control equipment. The off-site tests shall comply with the appropriate standards for the equipment, and/or the manufacturer's requirements.

- 3.2.2 Test certificates shall be submitted as part of the quality assurance/quality control plan, and shall include all test results, calculations, performance graphs and curves, and other requisite information. The test certificates shall be endorsed by representatives of the manufacturer and the Concessionaire and submitted to the Independent Engineer for approval.
- 3.2.3 KWSC shall have the right to have one or more representatives present during any inspections or tests of major equipment and systems of the Desalinated Water Supply System in the workshops. Unless otherwise specified in this **SCHEDULE E (Testing)**, or in the Metering and Testing Plan to be developed in accordance with this **SCHEDULE E (Testing)**, the Concessionaire shall submit to the Independent Engineer a testing schedule at least ten (10) Business Days prior to the commencement of such testing. The Concessionaire shall provide regular updates of such testing schedule to the Independent Engineer.
- 3.2.4 The presence of the Independent Engineer or KWSC's representatives during any inspection or test shall in no way relieve the Concessionaire of its responsibility for supplying the equipment or systems in accordance with the milestone dates as set out in **SCHEDULE B (Implementation Schedule)** of this Agreement.

### 3.3 **TAKING OF SAMPLES AND LABORATORY TESTS**

Unless otherwise specified in the Metering and Testing Plan, taking of samples required for the purposes of these tests shall be undertaken in accordance with national and international standards. Laboratory testing shall be performed by institutions which are licensed and accredited to perform the specific tests.

## 4. **REPORTING**

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- 4.1 In addition to, or in combination with any other reporting that is required under this Agreement, the Concessionaire shall submit monthly, quarterly, and annual reports for the Metering and Monitoring Systems.
- 4.2 The Concessionaire shall report only on those components of the infrastructure that were being operated by the Concessionaire in the corresponding reporting period.
- 4.3 The reports shall clearly address compliance with the applicable requirements of both the existing regulations and this Agreement and shall include the relevant information, including at least, compliance with Performance Guarantees and other matters such as energy consumption and production data, analyses and trending of operational process monitoring and control data, etc.
- 4.4 Any incident that has or is likely to have a detrimental impact on the surrounding environment, and adjoining water resource quality or the quality of treated water to be supplied to an end-user must be reported to the Independent Engineer within twenty-four (24) hours of such incident.

## 5. **INTERNAL AND EXTERNAL AUDITS**

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### 5.1 **INTERNAL AUDITS**

- 5.1.1 The Concessionaire must conduct internal audits on a quarterly basis of its Metering Systems and Monitoring Systems. Audits shall be scheduled in advance for each year.
- 5.1.2 Each audit must assess/address any previous audit findings which remain unresolved. The internal audit process shall also provide for periodic inter-laboratory checking of laboratory analysis results.

5.1.3 The internal audit report shall be submitted to the Independent Engineer within no more than fourteen (14) Days of the completion of the audit.

## 5.2 **EXTERNAL AUDITS**

5.2.1 Independent external audits on the Metering Systems and Monitoring Systems must be conducted on an annual basis. This may be undertaken in conjunction with other audits, e.g., audits of the management and quality systems.

5.2.2 The external auditors shall be appointed by the Concessionaire and the scope of the external audit must include:

5.2.2.1 assessing the effectiveness of the internal audits conducted;

5.2.2.2 making recommendations, if enhancements are required in terms of, but not limited to, the audit scope, audit participants or team, audit findings, corrective actions, and management approval criteria;

5.2.2.3 assessing, making findings and recommending corrective actions on the level of compliance with the Concessionaire's Metering and Testing Plan;

5.2.2.4 making recommendations for any enhancements to the Metering and Testing Plan.

5.2.3 All external audit reports must be submitted to the Independent Engineer within no more than fourteen (14) Days of the completion of the audit, serving as fulfilment of the auditing criteria.

## 6. **NOT USED**

## 7. **DESALINATED WATER SUPPLY SYSTEM START-UP TESTS DURING CONSTRUCTION PERIOD**

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7.1 The Independent Engineer shall have the right to witness the start-up and operational tests of the Desalinated Water Supply System, including all related equipment and systems. The Concessionaire shall submit to the Independent Engineer a test schedule for all Start-up Tests at least twenty (20) Business Days prior to the proposed commencement date of such tests and provide regular updates of such testing schedule to the Independent Engineer. The tests shall include, but not be limited to items such as:

7.1.1 start-up and operational tests of the firefighting system;

7.1.2 start-up tests of the fire protection system;

7.1.3 the pre-energization tests;

7.1.4 the protection and trip setting of the pumping stations and the desalination plant equipment, including related auxiliaries;

7.1.5 demonstration of the functioning of various trip and bypass protections under operating conditions by initiating malfunctioning of any system or by genuine mistake in operation;

7.1.6 start-up and operational tests of common systems such as, but not limited to:

7.1.6.1 electricity supply system;

7.1.6.2 compressed air system;

7.1.6.3 raw water supply system;

- 7.1.6.4 dosing system;
- 7.1.6.5 chlorination system;
- 7.1.6.6 filtration systems; and
- 7.1.6.7 sand filters cleaning system;
- 7.1.7 protection systems/settings, in accordance with the agreed design and the requirements of the water and power connection systems;
- 7.1.8 protection and trip setting of main pumps installed in the Desalinated Water Supply System;
- 7.1.9 outage of one of the filters to simulate proper operation of the remaining filters in the Desalinated Water Supply System;
- 7.1.10 start-up tests of the relevant part of the Desalinated Water Supply System equipment and related facilities and systems, including checking of automatic change-over of standby facilities, interlocks, protections, and alarms;
- 7.1.11 verification of start-up times and loading rates of the pumping stations and the Desalinated Water Supply System at various downtime conditions;
- 7.1.12 hydrostatic testing using potable water, including the following as a minimum:
  - 7.1.12.1 hydrostatic testing of the potable water storage facilities, which shall include a twenty-four (24) hour leakage test for each product water storage facility; and
  - 7.1.12.2 pressure tests for all pressure pipes and elements of pressure systems including the potable water storage facilities, interconnecting pipes and pumping station, as well as the delivery pipe work up to the Output Water Delivery Point;
- 7.1.13 environmental monitoring equipment, water quality monitoring equipment, functioning tests, and verification of guarantees;
- 7.1.14 demonstration of the dispatch and metering data acquisition systems, including the SCADA;
- 7.1.15 verification of mechanical completeness of the Desalinated Water Supply System including the pumping stations;
- 7.1.16 functional test of all electromechanical and safety equipment (e.g., pumps, blowers, backwash systems, wastewater treatment, filters, safety equipment, etc.); and
- 7.1.17 all other tests required to demonstrate the safety and security of the Desalinated Water Supply System and trip systems and to demonstrate compliance with requirements set out in this Agreement.

## **7.2 CERTIFICATION OF START-UP TESTS**

- 7.2.1 The Independent Engineer shall indicate in writing within five (5) Business Days after receiving from the Concessionaire a test report on the Start-up Tests, including all information reasonably necessary to evaluate the results, whether it accepts or Disputes that such test results are accurate and the Start-up Tests have been successfully completed.
- 7.2.2 If the Independent Engineer Disputes the results submitted by the Concessionaire, and the Concessionaire is unable to agree with the determination of the Independent Engineer, such Dispute shall be referred for resolution pursuant to article 27 of the Concession Agreement. If it is agreed or

determined that re-testing is required, the Concessionaire shall perform such re-testing as promptly as possible after the date of such agreement, or determination thereof under article 27 of this Agreement.

## **8. DESALINATED WATER SUPPLY SYSTEM TRIAL RUN**

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- 8.1 After the Start-up Tests have been completed, the Desalinated Water Supply System, including its corresponding integrated equipment and facilities, shall be operated for a minimum twenty-four (24) hour trial run at the load settings and operating conditions agreed by the Concessionaire and the Independent Engineer. The start, stop and switch-over (to standby equipment) procedures shall be included in the Trial Run. The Concessionaire shall be permitted to undertake such work during the Trial Run as is necessary to optimize the running of the Desalinated Water Supply System. The Concessionaire may extend (without adjustment to the Scheduled COD) the duration of the Trial Run to evaluate whether the Desalinated Water Supply System shall be able to achieve the quality and stability of operations which would be required for the Reliability Test Run and the Performance Tests.
- 8.2 After the Trial Run has been duly completed, the Concessionaire shall, prior to undertaking the Performance Test and the Reliability Test Run, demonstrate that:
- 8.2.1 the Desalinated Water Supply System is providing the received volumes;
- 8.2.2 the Desalinated Water Supply System is capable of delivering water in accordance with the Output Water Quality Specifications, and complying with the minimum Performance Guarantees; and
- 8.2.3 the Desalinated Water Supply System including the pumping stations are stable, and the treated water matches with the water quality values provided by the equipment suppliers as set out in the relevant attachments to this **SCHEDULE E (Testing)**.

## **9. DESALINATED WATER SUPPLY SYSTEM PERFORMANCE TEST AND RELIABILITY TEST RUNS**

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### **9.1 GENERAL CONSIDERATIONS**

The performance and reliability testing of the Desalinated Water Supply System shall be for the purpose of demonstrating the respective Performance Guarantees and the reliability of the Desalinated Water Supply System during commissioning.

### **9.2 TEST PROCEDURES AND REPORTING**

- 9.2.1 The testing of the Desalinated Water Supply System items shall be conducted in accordance with the Metering and Testing Plan, and pursuant to the Operating and Maintenance Procedures.
- 9.2.2 A test report shall be prepared by the Concessionaire promptly after completion of each test of the Desalinated Water Supply System items. The report shall include data as recorded, including valid calibration certificates (not older than six (6) Months).

### **9.3 PERFORMANCE TEST**

- 9.3.1 After successful completion of the Start-up Tests and the Trial Run, and after relevant test protocols have been submitted by the Concessionaire and accepted by the Independent Engineer, the Concessionaire shall be allowed to prepare the Desalinated Water Supply System for the Performance Tests.
- 9.3.2 The Concessionaire shall adjust the test results for capacity and power consumption in case the applicable conditions during the test are between the relevant Technical Limits for (without limitation) the:
- 9.3.2.1 pH;

- 9.3.2.2 Turbidity;
  - 9.3.2.3 Aluminium;
  - 9.3.2.4 Chlorine residual;
  - 9.3.2.5 Faecal Coliform; and
  - 9.3.2.6 Total Coliforms.
- 9.3.3 The Performance Test shall be carried out for twenty-four (24) continuous hours for the entire the Desalinated Water Supply System. The exact details of the Performance Test standards and procedure shall be mutually agreed to by the Concessionaire and the Independent Engineer, in accordance with the requirements of the Operating and Maintenance Procedures and coherent with the Metering and Testing Plan.
- 9.3.4 The Concessionaire shall be permitted to annul a Performance Test upon demonstrating to the satisfaction of the Independent Engineer that any parameter of the Technical Limits was exceeded during the initial Performance Test and such exceedance was for a period of time and to a degree which was material to the results of the Performance Test. If a Performance Test is annulled, the Concessionaire shall at its own cost carry out a further Performance Test for a second continuous twenty-four (24) hours period as soon as the relevant parameter is within the Technical Limits.
- 9.3.5 The total electrical power consumption of the Desalinated Water Supply System will be measured during the twenty-four (24) hours Performance Test. The average power consumption shall be used to determine compliance.
- 9.3.6 The Concessionaire shall notify the Independent Engineer of readiness of the Desalinated Water Supply System for the Performance Tests and that the instrumentation for the Performance Tests is installed and checked. Within five (5) Days of such notification, the Performance Test shall commence.
- 9.3.7 During the Performance Test, the Concessionaire shall demonstrate by means of performance and acceptance tests that the Desalinated Water Supply System, including related equipment and systems, achieves the Performance Guarantees, such as:
- 9.3.7.1 percentage of losses as set out in attachment 1 (*Guaranteed Performance*);
  - 9.3.7.2 guaranteed water quality specification as set out in attachment 3 (*Desalinated Water Quality Specifications*) based on water quality technical limits as set out in attachment 1 (*Guaranteed Performance*);
  - 9.3.7.3 guaranteed specific power demand as set out in attachment 1 (*Guaranteed Performance*); and
  - 9.3.7.4 the guaranteed noise levels as set out in attachment 2 (*Guaranteed Maximum Noise Levels*).
- 9.3.8 The Performance Tests shall be deemed to be satisfactorily completed only if the following conditions are met for the entire the Desalinated Water Supply System:
- 9.3.8.1 the percentage of losses is not more than the value set out in attachment 1 (*Guaranteed Performance*) of the transferred volume;
  - 9.3.8.2 the water quality specification achieves the guaranteed water quality specifications as set out in the attachments to this **SCHEDULE E (Testing)**;
  - 9.3.8.3 the specific power demand is less than the maximum specific power demand as set out in attachment 1 (*Guaranteed Performance*); and
  - 9.3.8.4 the guaranteed noise levels as set out in attachment 2 (*Guaranteed Maximum Noise Levels*) are met.

9.3.9 The Independent Engineer shall indicate in writing within seven (7) Business Days after receiving from the Concessionaire a test report on the Performance Tests, including all information reasonably necessary to evaluate the results, whether it accepts or disputes that such test results are accurate.

9.3.10 If the following circumstances arise:

9.3.10.1 KWSC or the Independent Engineer dispute the results submitted by the Concessionaire and the Concessionaire is unable to agree with such determination; or

9.3.10.2 the Concessionaire disputes an Independent Engineer decision pursuant to paragraph 9.3.4 of this **SCHEDULE E (Testing)** as to whether any Performance Test should be annulled,

such Dispute shall be referred for resolution pursuant to Article 27 of this Agreement. If it is agreed or determined that re-testing is required, the Concessionaire shall perform such re-testing as promptly as possible after the date of such agreement, or determination thereof under Article 27 of this Agreement. The Concessionaire shall bear all reasonable costs of KWSC's advisors in attending any repeated testing procedures. For the sake of clarity, KWSC shall bear the cost of attending the first testing procedure.

#### 9.4 **RELIABILITY TEST RUN**

9.4.1 After completion of the Performance Test for the Desalinated Water Supply System, and compilation of relevant test protocols by the Concessionaire, the Concessionaire shall be entitled to prepare the Desalinated Water Supply System for its Reliability Test Run. The Concessionaire shall notify the Independent Engineer that the Desalinated Water Supply System is ready to commence the Reliability Test Run. Within five (5) Days of such notification, the Reliability Test Run shall commence.

9.4.2 The Reliability Test Run for the Desalinated Water Supply System shall last for a period of thirty (30) consecutive Days.

9.4.3 During the Reliability Test Run, the Desalinated Water Supply System shall be operated normally and complying with the Performance Guarantees.

9.4.4 The Reliability Test Run for the Desalinated Water Supply System shall be deemed to be satisfactorily completed only if the following conditions are met:

9.4.4.1 save as provided below in paragraph (a) to (d), no shutdowns shall be permitted during the Reliability Test Run, except if owing to causes beyond the Concessionaire's responsibility or control, which must be proven by the Concessionaire:

(a) between Day 1 up to Day 10 (both Days inclusive), an aggregate of four (4) interruptions in the operations shall be allowed. If these interruptions exceed four (4) in number or twenty-four (24) hours in aggregate, then the Reliability Test Run of the whole the Desalinated Water Supply System must be restarted from Day 1;

(b) between Day 11 up to Day 20 (both Days inclusive), an aggregate of two (2) interruptions in the operations shall be allowed. If these interruptions exceed two (2) in number or twenty-four (24) hours in aggregate, then the Reliability Test Run of the whole the Desalinated Water Supply System must be restarted from Day 11;

(c) between Day 21 up to Day 30 (both Days inclusive), one (1) interruption in the operations shall be allowed. If such interruption exceeds twelve (12) hours or if there is more than one (1) interruption, then the Reliability Test Run of the whole the Desalinated Water Supply System must be restarted from Day 21; and

- (d) if any interruption in the operations, occurs at any time which exceeds twenty-four (24) hours, then the Reliability Test Run of the whole the Desalinated Water Supply System shall be restarted from Day 1;
- 9.4.4.2 cleaning of filter elements and other actions normally required during operation of the Desalinated Water Supply System shall be allowed, provided that the Concessionaire informs the Independent Engineer of such actions in advance and the target output is not affected.
- 9.4.5 An “interruption in operations” in this paragraph 9.4 of this **SCHEDULE E (*Testing*)** shall be interpreted as any of the following:
  - 9.4.5.1 a shutdown of a component of the Desalinated Water Supply System which causes a reduction in the target water output;
  - 9.4.5.2 failure to comply with Output Water Quality Specifications at the Output Water Delivery Point as set out in **SCHEDULE A (*Technical Specifications*)**; or
  - 9.4.5.3 the occurrence of a Defective Metering Event.
- 9.4.6 A test report shall be prepared by the Concessionaire promptly after completion of each Reliability Test Run. The report shall include data as recorded, including valid calibration certificates (not older than six (6) Months).
- 9.5 **COD CERTIFICATE**
  - 9.5.1 Within three (3) Days of the acceptance or deemed acceptance (as the case may be) of the Performance Test, Reliability Test Runs and such other test agreed and approved under the Metering and Testing Plan (collectively, as the **COD Tests**), the Independent Engineer shall issue the COD Certificate to the Parties.
  - 9.5.2 The Independent Engineer shall indicate in writing within five (5) Business Days after receiving from the Concessionaire a test report on the Performance Tests or Reliability Test Runs, including all information reasonably necessary to evaluate the results, whether it accepts or disputes that such test results are accurate and that the Desalinated Water Supply System has been successfully completed.
  - 9.5.3 If the Independent Engineer disputes the results submitted by the Concessionaire, and the Concessionaire is unable to agree with the determination of the Independent Engineer, such Dispute shall be referred for resolution pursuant to article 27 of this Agreement. If it is agreed or determined that re-testing is required, the Concessionaire shall perform such re-testing as promptly as possible after the date of such agreement, or determination thereof under article 27 of this Agreement.

## **10. HANDOVER PERFORMANCE TESTING**

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- 10.1 The Handover Performance Testing shall be carried out before the Desalinated Water Supply System is handed back to KWSC at the end of the Concession period. The principles for performing the Handover Performance Testing shall be the same as the one described in paragraph 2.4 of this **SCHEDULE E (*Testing*)** for the commissioning phase. That means that the Handover Performance Testing period shall include both Performance Tests and Reliability Test Runs as defined in paragraph 9 of this **SCHEDULE E (*Testing*)**.
- 10.2 The handover phase shall take place at the end of the Concession Period, and in any case, the Concessionaire shall prepare a detailed proposal in the Metering and Testing Plan for such testing, to be approved by the Independent Engineer, and in compliance with this Agreement.

## **11. SUPPLY OF SPARE PARTS**

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Prior to the issuance of the Handover Certificate, the Concessionaire shall ensure that necessary spare parts (as determined by the Independent Engineer) required for operation of the Desalinated Water Supply System for one (1) year are available on the Project Site for use by KWSC (or its nominee).

**ATTACHMENTS: PERFORMANCE GUARANTEE DATA FOR THE PROJECT**

**ATTACHMENT 1: GUARANTEED PERFORMANCE**

DESCRIPTION	UNIT	DATA	
<b>1.1: Guaranteed Water Quality Technical Limits:</b> The Desalinated Water Supply System to be implemented by the Concessionaire should be able to provide adequate water quality when receiving influent quality parameters within the range shown below.			
		<b>Design Technical Lower Limit</b>	<b>Design Technical Upper Limit</b>
pH value	Hydrogen ion	6.5	8.5
Turbidity	NTU	0	50
Aluminium	mg/l	0	1.0
Residual Chlorine	mg/l	0	0.02
Faecal Coliform (E. Coli)	cfu/100ml	0	0
Total Coliforms	cfu/100ml	0	0
<b>1.2: Performance of the Entire Desalinated Water Supply System</b>			
		<b>Operations Period</b>	
Percentage of losses from the volume provided	%	Only losses for Planned Downtime is permitted in terms of <b>SCHEDULE H (Water Tariff Payment Calculation)</b>	
Guaranteed total specific power consumption (total for the Desalinated Water Supply System). Total per m <sup>3</sup> electricity consumption (net gross per m <sup>3</sup> consumption including alternative energy per m <sup>3</sup> sources on Project Site and energy recovery measures).	kWh/m <sup>3</sup>	Contracted Specific Net Electricity Consumption (as bid by the Concessionaire)	
Capacity of Desalinated Water Supply System	Gallons/Day	5,000,000	(Guaranteed Supply Capacity)

**ATTACHMENT 2: GUARANTEED MAXIMUM NOISE LEVELS**

<b>DESCRIPTION</b>	<b>UNIT</b>	<b>DATA</b>
Noise levels at a distance of one (1) meter from the noise source and within the pumping station or desalination plant and major buildings	dB(A)	max. eighty (80)
Noise levels at the Project Site boundary	dB(A)	max. sixty (60)
Noise levels within all offices and the laboratory	dB(A)	max. fifty (50)

**Note:** Guaranteed maximum noise levels and subsequent requirements may be adjusted depending on the ambient noise baseline which shall be confirmed as part of the E&S Impact Assessment.

### **ATTACHMENT 3: DESALINATED WATER QUALITY SPECIFICATIONS**

The table below shows the contractual limits for water quality to be provided at the Output Water Delivery Point by the Concessionaire.

**During Operations Period:** Output Water Quality Specifications summarized below:

<b>PARAMETERS</b>	<b>UNIT</b>	<b>ALLOWED RANGE</b>
pH value	Hydrogen ion	6.5 - 8.5
Turbidity	NTU	Max. 5
Aluminium	mg/l	Max. 0.20
Residual Chlorine	mg/l	0.2 - 0.5
Faecal Coliform (E. Coli)	cfu/100ml	Absent
Total Coliforms	cfu/100ml	Absent

**Note:** All the other potable water parameters not mentioned in the table above shall be in compliance with the most stringent of the latest applicable Pakistan standards or the WHO drinking water guidelines (latest revision).

**SCHEDULE F**  
**PERFORMANCE SECURITIES**

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**PART 1 - CONSTRUCTION PERFORMANCE SECURITY**

To

**GOVERNMENT OF SINDH**  
**[INSERT DETAILS]**

GUARANTEE NO. [●] (the **Bank Guarantee**)

Dated: [●]

[INSERT NAME OF BANK], being the Bank Guarantee issuing bank (the **Guarantor Bank**) understands that the following parties shall enter into an agreement titled the “*CONCESSION AGREEMENT*” (the **Agreement**) for the design, finance, build, operate, maintain and transfer of a 5 MGD Seawater Desalination Plant under the public-private partnership mode (the **Project**):

1. **THE GOVERNOR OF SINDH** (through Secretary, Local Government Department, Government of Sindh) having its office located at Local Government Department, Ground Floor, Tughlaq House, Sindh Secretariat, Karachi, Pakistan, for and on behalf of the Government of Sindh (the **GoS**, which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors and assigns);

**AND**

2. **KARACHI WATER AND SEWERAGE CORPORATION**, a statutory body constituted pursuant to section 3 of the Karachi Water and Sewerage Corporation Act, 2023, with its office located at [9<sup>th</sup> Mile, Karsaz, Karachi, Pakistan] (**KWSC** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns);

**AND**

3. [●], a company incorporated under the Laws of Pakistan, with its registered office at [●] (the **Concessionaire** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns).

Further, the Guarantor Bank understands that pursuant to the terms of the request for proposals issued in respect of the Project by KWSC (the **RFP**) read with the Agreement, the Concessionaire is required to provide the GoS with a Bank Guarantee (referred to in the RFP and the Agreement as the Construction Performance Security) in an amount equal to Pakistani Rupees [●] only (PKR [●]/).

The above premised, the Guarantor Bank hereby undertakes irrevocably, unconditionally and on-demand to pay to the GoS (without any notice, reference or recourse to the Concessionaire or to any other entity or without any recourse or reference to any contract, agreement, document or other instruments (including the RFP and the Agreement) whether executed or not), any sum or sums (or any part thereof) equivalent in aggregate up to but not exceeding a maximum amount of:

Pakistani Rupees [●] only (PKR [●]/-)  
(the **Guaranteed Amount**)

immediately, however not later than within five (5) business days from the date of the Guarantor Bank’s receipt of the GoS’ first written demand (the **Demand**) at the Guarantor Bank’s office located at [INSERT ADDRESS OF THE GUARANTOR BANK AT WHICH DEMAND SHALL BE MADE], or through SWIFT instructions

transmitted by the GoS' bank, on behalf of the GoS, to the Guarantor Bank, or through fax sent by the GoS at the Guarantor Bank's fax number i.e., [●], such Demand stating:

- (a) the Bank Guarantee number;
- (b) the total amount demanded; and
- (c) the bank account to which the amounts demanded pursuant to the demand are to be credited/transferred (the **Beneficiary Account**).

A Demand shall only be honoured by us: (i) in the case of a written Demand, if it is made by and bears the signature of an authorised officer or other representative of the GoS; or (ii) in the case of a Demand transmitted through SWIFT, if it is transmitted through authenticated SWIFT instructions by the GoS' bank, on behalf of the GoS; or (iii) in the case of a Demand made through fax, it is made by and bears the signature of an authorised officer or other representative of the GoS.

The Guarantor Bank shall unconditionally honour a Demand hereunder made in compliance with this Bank Guarantee at sight and immediately on the date of receipt of your Demand, as stated earlier, and shall transfer the amount specified in the Demand to the Beneficiary Account, in immediately available and freely transferable funds in the currency of this Bank Guarantee, free and clear of and without any set-off or deduction for or on account of any present or future taxes, levies, imposts, duties, charges, fees, deductions or withholdings of any nature whatsoever and by whomsoever imposed.

This Bank Guarantee shall come into force and shall become automatically effective upon its issuance.

After having come into force, this Bank Guarantee and the Guarantor Bank's obligations hereunder shall expire on [INSERT DATE AND TIME] (the **Expiry Date**) irrespective of whether this Bank Guarantee has been returned to the Guarantor Bank provided that, in the event that the GoS issues a Demand to the Guarantor Bank on or immediately prior to the Expiry Date and the same is received by the Guarantor Bank on or prior to the Expiry Date, the Guarantor Bank shall honour such Demand.

Upon expiry, this Bank Guarantee shall be returned to the Concessionaire without undue delay. multiple Demands may be made by the GoS under this Bank Guarantee, but the Guarantor Bank's aggregate liability shall be restricted up to the Guaranteed Amount.

The Guaranteed Amount shall be revised upon receipt by the Guarantor Bank of a notice duly signed by the GoS and the Concessionaire of the revised Guaranteed Amount. The Expiry Date shall be revised upon receipt by the Guarantor Bank of a notice duly signed by the GoS and the Concessionaire of the revised date.

The Guarantor Bank hereby agrees that any part of the Agreement or the RFP may be amended, renewed, extended, modified, compromised, released or discharged without:

- (a) in any way impairing or affecting the Guarantor Bank's liabilities hereunder;
- (b) notice to the Guarantor Bank; and
- (c) the necessity for any additional endorsement, consent or guarantee by the Guarantor Bank.

This Bank Guarantee, for its validity period, shall not be affected in any manner by any change in the Guarantor Bank's constitution or of the Concessionaire's constitution or of their successors and assignees and this Bank Guarantee shall be legally valid, enforceable and binding on each of their successors and permitted assignees.

All references to any contract, agreement, document or other instruments (including the Agreement and the RFP), whether executed or not, are by way of reference only and shall not affect the Guarantor Bank's obligations to make payment under the terms of this Bank Guarantee.

If one or more of the provisions of this Bank Guarantee are held or found to be invalid, illegal, or unenforceable for any reason whatsoever, in any respect, any such invalidity, illegality, or unenforceability of any provision shall not affect the validity of the remaining provisions of this Bank Guarantee.

The Guarantor Bank hereby declares and confirms that under its constitution and applicable laws, it has the necessary power and authority and all necessary authorizations, approvals and consents thereunder, to:

- (a) enter into, execute and deliver this Bank Guarantee; and
- (b) perform the obligations it has undertaken under this Bank Guarantee, which obligations are valid and legally binding on and enforceable against the Guarantor Bank under the laws of Pakistan.

Further, the Guarantor Bank hereby declares and confirms that the signatory(ies) to this Bank Guarantee is/are its duly authorized officer(s) to execute this Bank Guarantee.

This Bank Guarantee and all rights and obligations arising from this Bank Guarantee shall be governed and construed in all respects in accordance with the laws of Pakistan. The courts in Karachi, Pakistan shall have exclusive jurisdiction in respect of any dispute relating to any matter contained herein.

The issuance of this Bank Guarantee is permitted according to the laws of Pakistan and the laws of the jurisdiction where this Bank Guarantee is issued.

This Bank Guarantee is subject to the Uniform Rules for Demand Guarantee, ICC Publication No.758. To the extent that there is any inconsistency between the terms of this Bank Guarantee and the Uniform Rules for Demand Guarantees, ICC Publication No. 758, the terms of this Bank Guarantee shall prevail.

**EXECUTED & ISSUED  
FOR & ON BEHALF OF THE GUARANTOR BANK**

.....  
NAME:  
DESIGNATION:  
DATED:

**PART 2 - O&M PERFORMANCE SECURITY**

To

**GOVERNMENT OF SINDH**  
[*INSERT DETAILS*]

GUARANTEE NO. [●] (the **Bank Guarantee**)

Dated: [●]

[INSERT NAME OF BANK], being the Bank Guarantee issuing bank (the **Guarantor Bank**) understands that the following parties have entered into an agreement titled the “*CONCESSION AGREEMENT*” dated [●] (the **Agreement**) for the design, finance, build, operate, maintain and transfer of a 5 MGD Seawater Desalination Plant under the public-private partnership mode (the **Project**):

1. **THE GOVERNOR OF SINDH** (through Secretary, Local Government Department, Government of Sindh) having its office located at Local Government Department, Ground Floor, Tughlaq House, Sindh Secretariat, Karachi, Pakistan, for and on behalf of the Government of Sindh (the **GoS**, which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors and assigns);

**AND**

2. **KARACHI WATER AND SEWERAGE CORPORATION**, a statutory body constituted pursuant to section 3 of the Karachi Water and Sewerage Corporation Act, 2023, with its office located at [9<sup>th</sup> Mile, Karsaz, Karachi, Pakistan] (**KWSC** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns);

**AND**

3. [●], a company incorporated under the Laws of Pakistan, with its registered office at [●] (the **Concessionaire** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns).

Further, the Guarantor Bank understands that pursuant to the terms of the Agreement, the Concessionaire is required to provide the GoS with a Bank Guarantee (referred to in the Agreement as the O&M Performance Security) in an amount equal to Pakistani Rupees [●] only (PKR [●]/-).

The above premised, the Guarantor Bank hereby undertakes irrevocably, unconditionally and on demand to pay to the GoS (without any notice, reference or recourse to the Concessionaire or to any other entity or without any recourse or reference to any contract, agreement, document or other instruments (including the Agreement) whether executed or not), any sum or sums (or any part thereof) equivalent in aggregate up to but not exceeding a maximum amount of:

Pakistani Rupees [●] only (PKR [●]/-)  
(the **Guaranteed Amount**)

immediately, however not later than within five (5) business days from the date of the Guarantor Bank’s receipt of the GoS’ first written demand (the **Demand**) at the Guarantor Bank’s office located at [INSERT ADDRESS OF THE GUARANTOR BANK AT WHICH DEMAND SHALL BE MADE], or through SWIFT instructions transmitted by the GoS’ bank, on behalf of the GoS, to the Guarantor Bank, or through fax sent by the GoS at the Guarantor Bank’s fax number i.e., [●], such Demand stating:

- (a) the Bank Guarantee number;
- (b) the total amount demanded; and

- (c) the bank account to which the amounts demanded pursuant to the demand are to be credited/transferred (the **Beneficiary Account**).

A Demand shall only be honoured by us: (i) in the case of a written Demand, if it is made by and bears the signature of an authorised officer or other representative of GoS; or (ii) in the case of a Demand transmitted through SWIFT, if it is transmitted through authenticated SWIFT instructions by GoS' bank, on behalf of GoS; or (iii) in the case of a Demand made through fax, it is made by and bears the signature of an authorised officer or other representative of GoS.

The Guarantor Bank shall unconditionally honour a Demand hereunder made in compliance with this Bank Guarantee at sight and immediately on the date of receipt of your Demand, as stated earlier, and shall transfer the amount specified in the Demand to the Beneficiary Account, in immediately available and freely transferable funds in the currency of this Bank Guarantee, free and clear of and without any set-off or deduction for or on account of any present or future taxes, levies, imposts, duties, charges, fees, deductions or withholdings of any nature whatsoever and by whomsoever imposed.

This Bank Guarantee shall come into force and shall become automatically effective upon its issuance.

After having come into force, this Bank Guarantee and the Guarantor Bank's obligations hereunder shall expire on [INSERT DATE AND TIME] (the **Expiry Date**) irrespective of whether this Bank Guarantee has been returned to the Guarantor Bank provided that, in the event that the GoS issues a Demand to the Guarantor Bank on or immediately prior to the Expiry Date and the same is received by the Guarantor Bank on or prior to the Expiry Date, the Guarantor Bank shall honour such Demand.

Upon expiry, this Bank Guarantee shall be returned to the Concessionaire without undue delay. multiple Demands may be made by the GoS under this Bank Guarantee, but the Guarantor Bank's aggregate liability shall be restricted up to the Guaranteed Amount.

The Guaranteed Amount shall be revised upon receipt by the Guarantor Bank of a notice duly signed by the GoS and the Concessionaire of the revised Guaranteed Amount. The Expiry Date shall be revised upon receipt by the Guarantor Bank of a notice duly signed by the GoS and the Concessionaire of the revised date.

The Guarantor Bank hereby agrees that any part of the Agreement may be amended, renewed, extended, modified, compromised, released or discharged without:

- (a) in any way impairing or affecting the Guarantor Bank's liabilities hereunder;
- (b) notice to the Guarantor Bank; and
- (c) the necessity for any additional endorsement, consent or guarantee by the Guarantor Bank.

This Bank Guarantee, for its validity period, shall not be affected in any manner by any change in the Guarantor Bank's constitution or of the Concessionaire's constitution or of their successors and assignees and this Bank Guarantee shall be legally valid, enforceable and binding on each of their successors and permitted assignees.

All references to any contract, agreement, document or other instruments (including the Agreement), whether executed or not, are by way of reference only and shall not affect the Guarantor Bank's obligations to make payment under the terms of this Bank Guarantee.

If one or more of the provisions of this Bank Guarantee are held or found to be invalid, illegal, or unenforceable for any reason whatsoever, in any respect, any such invalidity, illegality, or unenforceability of any provision shall not affect the validity of the remaining provisions of this Bank Guarantee.

The Guarantor Bank hereby declares and confirms that under its constitution and applicable laws, it has the necessary power and authority and all necessary authorizations, approvals and consents thereunder, to:

- (a) enter into, execute and deliver this Bank Guarantee; and
- (b) perform the obligations it has undertaken under this Bank Guarantee, which obligations are valid and legally binding on and enforceable against the Guarantor Bank under the laws of Pakistan.

Further, the Guarantor Bank hereby declares and confirms that the signatory(ies) to this Bank Guarantee is/are its duly authorized officer(s) to execute this Bank Guarantee.

This Bank Guarantee and all rights and obligations arising from this Bank Guarantee shall be governed and construed in all respects in accordance with the laws of Pakistan. The courts in Karachi, Pakistan shall have exclusive jurisdiction in respect of any dispute relating to any matter contained herein.

The issuance of this Bank Guarantee is permitted according to the laws of Pakistan and the laws of the jurisdiction where this Bank Guarantee is issued.

This Bank Guarantee is subject to the Uniform Rules for Demand Guarantee, ICC Publication No.758. To the extent that there is any inconsistency between the terms of this Bank Guarantee and the Uniform Rules for Demand Guarantees, ICC Publication No. 758, the terms of this Bank Guarantee shall prevail.

**EXECUTED & ISSUED  
FOR & ON BEHALF OF THE GUARANTOR BANK**

.....  
NAME:  
DESIGNATION:  
DATED:

**SCHEDULE G**  
**SPONSOR(S) UNDERTAKING**

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**FROM:**

[*Initial Sponsors*] (the **Sponsors** and each a **Sponsor**)

**TO:**

1. THE GOVERNMENT OF SINDH (through Secretary, Local Government Department, Government of Sindh) (the **GoS**);
  2. KARACHI WATER AND SEWERAGE CORPORATION (**KWSC**);
  3. [●] (the **Concessionaire**),
- together, the **Parties** and each a **Party**.

Dated: [●]

Ref: [●]

**RE: 5 MGD SEAWATER DESALINATION PLANT PROJECT - ACCESSION TO THE AGREEMENT**

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Dear Sir(s)/Madam(s):

In this undertaking (this **Undertaking**) we, the Sponsors of the Concessionaire, refer to the concession agreement dated [●] between the GoS Parties and the Concessionaire (the **Agreement**). Specifically, but not limited to, reference is made to section 16.4 of the Agreement. Terms defined in the Agreement shall have the same meaning in this Undertaking unless given a different meaning herein.

Furthermore, we are hereby agreeing to accede to the Agreement in respect of the obligations and responsibilities under section 16.4 of the Agreement and as set out in Section 2 (*Shareholder Undertakings*) of this Undertaking as well as in relation to the representations and warranties set out in Section 3 (*Limited Warranties and Representations*), the undertakings set out in Section 4 (*Additional Undertakings*) and indemnities set out in Section 5 (*Limited Indemnities Undertaking*) of this Undertaking for the additional benefit for and in favour of the GoS Parties.

**1. ACCESSION**

- 1.1 The Sponsors agree to become a party to the Agreement and to be bound by the terms and conditions of the Agreement as the acceding party (the **Acceding Party**). The Acceding Party confirms to procure for all the relevant obligations and responsibilities as set out herein. The Sponsors also undertake to ensure that each subsequent Shareholder accedes to this Undertaking concurrently with its acquisition of shares in the Concessionaire.
- 1.2 The Acceding Party enters into the Agreement exclusively in relation to the obligations and undertakings encompassed in section 16.4 of the Agreement (the **Shareholder Undertakings**) and set out in Section 2 (*Shareholder Undertakings*) in this Undertaking as well as in relation to the representations and warranties set out in Section 3 (*Limited Warranties and Representations*), the undertakings set out in Section 4 (*Additional Undertakings*) and indemnities set out in Section 5 (*Limited Indemnities Undertaking*) of this Undertaking.
- 1.3 The GoS Parties and the Concessionaire hereby explicitly accept and confirm the accession of the Acceding Party to the Agreement.

## **2. SHAREHOLDER UNDERTAKINGS**

Pursuant to section 16.4 of the Agreement, the Acceding Party shall implement the following undertakings:

### **2.1 EQUITY INVESTMENT UNDERTAKING**

2.1.1 The Acceding Party undertakes the following pursuant to section 16.4 of the Agreement:

2.1.1.1 each Sponsor shall fulfil its obligation to pay to the Concessionaire that part of the Sponsor Funding Amount on or before the dates and in the amounts and shall hold such proportion of the Ordinary Shares, that is, in each case, apportioned to such Sponsor in the Financial Model;

2.1.1.2 that the Sponsors and any future Shareholders shall decide on the split between the Concessionaire's Ordinary Shares and Sponsor Loans at their own discretion.

2.1.2 The payment of the Sponsor Funding Amount shall be evidenced as follows:

2.1.2.1 in respect of the amount expressed as Ordinary Shares, by submission to the GoS (with a copy to the Independent Auditor) of a certified copy of all the legal documents that are submitted to the Government Authority pursuant to the Laws in the event of a limited liability share capital increase;

2.1.2.2 in respect of the amount expressed as Sponsor Loan, by submission to the GoS of the Concessionaire's accounting books together with a certificate from the Independent Auditor.

### **2.2 SHARE CAPITAL UNDERTAKING AND OTHER MATTERS**

2.2.1 The Acceding Party acknowledges, agrees to and undertakes to strictly comply with the transfer restrictions, other transfer restrictions, undertakings and procedure of transfer, in each case, in relation to the Ordinary Shares, as set out in section 16.4 of the Agreement.

2.2.2 The Acceding Party undertakes to do all things and take all actions that are required to be done or taken by the Acceding Party under the Laws of Pakistan to enable the Concessionaire to comply with its obligations under the GoS Project Documents.

### **2.3 LEAD DEVELOPER LIABILITY**

2.3.1 Notwithstanding anything to the contrary contained herein, the Lead Developer's liability shall extend to the total Maximum Liability Amount applicable to the entire Consortium.

## **3. LIMITED WARRANTIES AND REPRESENTATIONS**

3.1 The Acceding Party represents and warrants to the GoS Parties that on the Effective Date and the Commencement Date or on the day of its access as Shareholder each of the following is true and correct in all material respects:

3.1.1 it has full power, authority and right and has taken all actions necessary to enter into the Agreement and to assume and perform its rights and obligations as set out in the Agreement;

3.1.2 there is no proceeding, action, claim or investigation, pending or threatened against the Acceding Party the outcome of which may constitute a Concessionaire Event of Default or have a material adverse effect on its financial condition or its ability to perform its obligations under the Agreement; and

3.1.3 there are no fines, penalties or other sanctions imposed on the Acceding Party which may have a material adverse effect on its financial condition or its ability to perform its obligations under the Agreement.

#### 4. **ADDITIONAL UNDERTAKINGS**

- 4.1 The Acceding Party is aware of, understands, has complied with, and will comply with, all Anti-Corruption Laws and Anti-Corruption Guidelines.
- 4.2 The Acceding Party confirms that all funds (whether in the form of financing or equity) that are or will be used by the Acceding Party for the fulfilment of its obligations under the Agreement are not and will not be acquired through or in connection with a crime. The Acceding Party shall be obliged to provide any and all information confirming its compliance with the Measures Against Money Laundering Laws and its implementing regulations.
- 4.3 The Acceding Party confirms that it has received all the information about the Concession that was prepared by the GoS Parties for the purposes of the Agreement and which was made available to the Acceding Party, namely the documents and information provided in the RFP and those contained in the schedules to the Agreement. The Acceding Party confirms that it has made its own preliminary assessment of the Concession.

#### 5. **LIMITED INDEMNITIES UNDERTAKING**

- 5.1 Subject to the Maximum Liability Amount set out in Section 5.2 below, each Sponsor shall bear explicit liability for the undertakings set out in Section 2 (*Shareholder Undertakings*) hereof, for the representations and warranties as well as the undertakings set out in Sections 3 (*Limited Warranties and Representations*) and 4 (*Additional Undertakings*) hereof, jointly and severally with the other Shareholders as well as with the Concessionaire, towards the GoS Parties under the Agreement.
- 5.2 By signing this Undertaking, the GoS Parties acknowledge and agree that the total maximum liability of Sponsors and any subsequent Shareholder (where this provision under no circumstances should be understood and interpreted as limiting in any way the Concessionaire's liability) shall be **insert amount**<sup>16</sup> (as updated from time to time in accordance with the Financial Model) (the **Maximum Liability Amount**) inasmuch as such liability arises for the Sponsor or any subsequent Shareholder as the Acceding Party under this Undertaking and/or as a matter of Law; provided, the Maximum Liability Amount shall apply to the aggregate of the claims by the GoS Parties against the Sponsors and any subsequent Shareholder(s). This shall be without prejudice to any liabilities of the Shareholders under the Finance Documents (including the obligation to fund any Cost Overruns).

#### 6. **GOVERNING LAW**

This Undertaking and any contractual and non-contractual matters deriving therefrom shall be governed by the Laws of Pakistan.

#### 7. **DISPUTE RESOLUTION**

Any dispute or difference arising out of or in connection with this Undertaking, shall regardless of the nature thereof, be referred to dispute resolution pursuant to the provisions of article 27 of the Agreement, which provisions are incorporated herein by reference and shall apply *mutatis mutandis* to this Undertaking.

Regards,

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<sup>16</sup> This amount will be updated based on the Equity investment requirements set out in the Financial Model (as updated from time to time).

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**FOR AND ON BEHALF OF  
SPONSORS**

[Date]

Signature \_\_\_\_\_  
Signed by \_\_\_\_\_  
acting as \_\_\_\_\_

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**ACKNOWLEDGED AND ACCEPTED BY THE GOS PARTIES**

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GOS

Signature \_\_\_\_\_

Name  
(block capitals) \_\_\_\_\_

Title \_\_\_\_\_

In the presence of:

Witness signature \_\_\_\_\_

Witness name  
(block capitals) \_\_\_\_\_

Witness signature \_\_\_\_\_

Witness name  
(block capitals) \_\_\_\_\_

KARACHI WATER AND SEWERAGE  
CORPORATION

Signature .....

Name  
(block capitals) .....

Title .....

In the presence of:

Witness signature .....

Witness name  
(block capitals) .....

Witness signature .....

Witness name  
(block capitals) .....

**SCHEDULE H**  
**WATER TARIFF PAYMENT CALCULATION**

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**1. DEFINITIONS**

**Actual Loss of Water Output** means the actual loss of water output (in Gallons) due to Downtime;

**Available** or **Availability** means the Guaranteed Supply Capacity or the Reduced Contracted Availability (as applicable);

**Bi-Annual Period** means each six (6) month period, the first (1<sup>st</sup>) such period starting on COD. For purposes of this definition, the term **month** means a period starting on one Day in a calendar Month and ending on the numerically corresponding Day in the next calendar Month, save that where any such period would otherwise end on a Day which is a public holiday in Pakistan, it shall end on the next Day, unless that Day falls in the calendar Month succeeding that in which it would otherwise have ended, in which case it shall end on the preceding Day; provided, however, that if a period starts on the last Day in the month in which that period ends, that period shall end on the last Day in that later month, and references to **months** shall be construed accordingly;

**Bid Sheet** has the meaning given to it in the RFP;

**Billing Period** means from the COD, each Bi-Annual Period falling within the Operations Period, with the first (1<sup>st</sup>) Bi-Annual Period starting at 00:00 hours on the COD and ending at 23:59 on the Day immediately preceding the start of the next Bi-Annual Period and the last Bi-Annual Period ending at 23:59 on the Term Expiry Date;

**Bottled Water (Guaranteed GoS Share Payment)** has the meaning given to it in the Main Body;

**Capacity Payment** or **CP** means the water payment (in PKR) payable for a Billing Period, that covers capital cost recovery payment and the fixed operating and maintenance payment, paid by GoS for the Guaranteed Supply Capacity *less* any Deductions;

**Capital Cost Recovery Charge** or **CCRW** means the aggregate amount (in PKR/MGD) of:

- (a) Debt Principal Recovery Charge;
- (b) Debt Interest Recovery Charge;
- (c) Taxation Charge;
- (d) Insurance Charge;
- (e) Equity Recovery Charge; and
- (f) IZP Guarantee Charge (if applicable);

**Contracted Specific Net Electricity Consumption**<sup>17</sup> or **ECR<sub>CC</sub>** means the electricity consumption (in kWh/annum) for the Operations Period, as defined in paragraph 5 of this **SCHEDULE H (Water Tariff Payment Calculation)** and specified in the table provided under paragraph 1 of part 1 (*Agreed Values for Payment Calculation*) of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Debt Interest Recovery Charge** or **I\_RC** means the amount (in PKR/Gallons) as stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period after being adjusted in accordance with paragraph 2

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<sup>17</sup> To be finalized after the Detailed Engineering Design.

of part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Debt Principal Recovery Charge** or **P\_RC** means the amount (in PKR/Gallons) as stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period;

**Deduction** means the deductions to the Water Tariff Payments on account of Deduction for Reduced Water Availability and Deduction for Off-Spec Output Water;

**Deduction for Off-Spec Output Water** or **DOOW** means the deductions (in PKR) described in paragraph 5 of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Deduction for Reduced Water Availability** or **DRWA** means the deductions (in PKR) described in paragraph 5 of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Downtime** means the Planned Downtime or the Unpanned Downtime (as applicable);

**Electricity Consumption** or **EC** means the electricity consumption (in kWh) for producing the Net Desalinated Water Output, calculated in accordance with paragraph 8.2.1(b) of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Electricity Connection Point** means the physical connection at which the Desalinated Water Supply System and the electricity transmission and distribution facilities of the Electricity Supplier are connected;

**Electricity Reimbursement Payment** has the meaning given in paragraph 8.2.1(a) of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Electricity Price** or **EP** means, in any given period, the PKR/kWh rate set by the Electricity Supplier for supply of Electricity at the Electricity Connection Point;

**Equity Recovery Charge** or **E\_RC** means the amount (in PKR/Gallons) stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period;

**Fixed O&M Cost Recovery Charge for Water** or **FOMRW** means the amount (in PKR/Gallons) as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period after being adjusted in accordance with paragraph 3 of part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Gallons** means imperial gallons;

**Guaranteed Supply Capacity** means five (5) MGD;

**Input Water Quality Specifications** means: the inlet water quality parameters/specifications for the Net Desalinated Water Input set out in **SCHEDULE A (Technical Specifications)** of this Agreement;

**Input Water Delivery Point** has the meaning given to it in **SCHEDULE A (Technical Specifications)** of this Agreement;

**Insurance Charge** means the amount (in PKR/Gallons) as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period;

**IZP Guarantee Charge** means the amount (in PKR/Gallons) as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period;

**KIBOR** means the six (6) month Karachi Inter-Bank Offer Rate, being the average rate, Offer, for the six (6) months tenor, as published on State Bank of Pakistan page on that date or as published by the Financial Markets Association of Pakistan in case the State Bank of Pakistan page is unavailable;

**MGD** means million Gallons per Day;

**N-CPI** means the National Consumer Price Index as notified from time to time by the Pakistan Bureau of Statistics;

**Net Desalinated Water Input** means the water (in Gallons for any given period) metered at the Input Water Delivery Point;

**Net Desalinated Water Output** or **Wa** means the water (in Gallons for any given period) metered at the Output Water Delivery Point;

**Off-Spec Output Water** means, water that does not meet the Output Water Quality Specifications at the Output Water Delivery Point;

**Output Payment** or **OPW** means the water payment (in PKR) payable for a Billing Period, that covers electricity reimbursement payment and the variable operating and maintenance payment, paid by GoS for the Net Desalinated Water Output delivered to KWSC as defined in paragraph 5 of this **SCHEDULE H (Water Tariff Payment Calculation)**;

**Output Water Delivery Point** has the meaning given to it in **SCHEDULE A (Technical Specifications)** of this Agreement;

**Output Water Quality Specifications** means the quality parameters/specifications for the Net Desalinated Water Output as set out in **SCHEDULE E (Testing)**;

**Planned Downtime** means the removal of the Desalinated Water Supply System (or any part thereof) from service to perform work on specific components that is coordinated with KWSC and scheduled not less than ninety (90) days prior to the Operating Contract Year in which it is to be undertaken and has a predetermined start date and duration, expressed in Gallons;

**Projected Loss of Net Desalinated Water Output** means the loss of Desalinated Water during an Operating Contract Year due to Planned Downtime, which shall not be greater than fifty million (50,000,000) Gallons;

**Reduced Contracted Availability** means (in Gallons) the reduction in the Guaranteed Supply Capacity due to Downtime;

**Reference Inflation Rate** means the inflation rate on the Final Disclosure Date;

**Reference KIBOR Rate** means nineteen percent (19%);

**Taxation Charge** means the amount (in PKR/Gallons) as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Capacity Payment calculation for a Billing Period;

**Unavailable** or **Unavailability** means any period during which the Desalinated Water Supply System (or any part thereof) is undergoing a Downtime;

**Unavailability Notice** means the notice to be delivered by the Concessionaire to KWSC in terms of Section of 10.1.9 of this Agreement, setting out the Downtime as well as the extension of such Downtime and declaring the Reduced Contracted Availability (in Gallons) during such Downtime. Each notice shall supersede all previous notices, notwithstanding that an Unavailability Notice has to specify a duration, finish time or the Reduced Contracted Availability. Each Unavailability Notice shall specify the reason for the Downtime and each component of the Desalinated Water Supply System that is affected;

**Unplanned Downtime** means all downtime that is not Planned Downtime expressed in Gallons;

**Variable O&M Cost Recovery Charge** or **VOMRW** means the amount (in PKR/Gallons) stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and applied for Output Payment calculation for a Billing Period after being adjusted in accordance with paragraph 4 of part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

## 2. **PAYMENT STRUCTURE**

The Water Tariff Payments to be paid for Guaranteed Supply Capacity and Net Desalinated Water Output shall consist of the following two (2) components:

### 2.1 **THE CAPACITY PAYMENT**

This part of the Water Tariff Payments shall constitute payment for Guaranteed Supply Capacity and shall consist of Component AW (as set out in paragraph 8.1.1 of this **SCHEDULE H (Water Tariff Payment Calculation)**) and Component BW (as set out in paragraph 8.1.2 of this **SCHEDULE H (Water Tariff Payment Calculation)**), each such component to be calculated as provided in paragraph 8.1 (*Capacity Payments*) of this **SCHEDULE H (Water Tariff Payment Calculation)**. The Capacity Payments will be subject to the Deductions.

The Capacity Payments will only be applicable after the COD.

### 2.2 **THE OUTPUT PAYMENT**

This part of the Water Tariff Payments shall constitute payment for Net Desalinated Water Output and shall consist of Component CW (as set out in paragraph 8.2.1 of this **SCHEDULE H (Water Tariff Payment Calculation)**) and Component DW (as set out in paragraph 8.2.2 of this **SCHEDULE H (Water Tariff Payment Calculation)**), each such component to be calculated as provided in paragraph 8.2 of this **SCHEDULE H (Water Tariff Payment Calculation)**. The Output Payments will be subject to Deductions.

The Output Payments will only be applicable after the COD.

## 3. **TERM AND STRUCTURE OF CAPACITY PAYMENTS**

The Capacity Payments will be payable in accordance with Articles 11, 12 and 13 of this Agreement and this **SCHEDULE H (Water Tariff Payment Calculation)**.

## 4. **ELECTRICITY REIMBURSEMENT PAYMENT**

Electricity Reimbursement Payments will be billed by the Concessionaire in respect of Net Desalinated Water Output and will be determined in accordance with the procedures set out in paragraph 8.2.2 of this **SCHEDULE H (Water Tariff Payment Calculation)**.

5. **PERFORMANCE CRITERIA**

The formulae for payment set out in paragraph 8 of this **SCHEDULE H (Water Tariff Payment Calculation)** include factors related to the performance of the Desalinated Water Supply System. The derivations of these performance factors are as follows:

ECR<sub>CC</sub>: The Contracted Specific Net Electricity Consumption is Electricity consumption (in kWh/annum) of the Desalinated Water Supply System, as set out in the table under paragraph 1 of part 1 (*Agreed Values for Payment Calculation*) of this **SCHEDULE H (Water Tariff Payment Calculation)**, for each Operating Contract Year;

DRWA: Deduction for Reduced Water Availability will be calculated based on the Actual Loss of Water Output (in Gallons) due to Unavailability being greater than the Projected Loss of Net Desalinated Water Output (in Gallons) due to Unavailability. In case of actual loss of water is higher than the projected loss of water, then deduction is made for actual losses or losses over and above the projected losses;

DOOW: Deduction for Off-Spec Output Water (as set out in paragraphs 8.1.3 of this **SCHEDULE H (Water Tariff Payment Calculation)**) will be calculated based on the deviation between the required and actual output water parameters.

6. **PAYMENT FORMULAE**

The formulae for calculation of the payment components are defined in paragraph 8 of this **SCHEDULE H (Water Tariff Payment Calculation)**.

In applying the payment formulae for each Billing Period, the factors to be used shall be, where applicable, those to be in effect for such Billing Period as specified in or derived from part 1 (*Agreed Values for Payment Calculation*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and shall, where applicable, be adjusted in accordance with part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

7. **ROUNDING OF CALCULATIONS**

In making the calculations required in this **SCHEDULE H (Water Tariff Payment Calculation)**, values shall be calculated to five (5) decimal places of accuracy.

8. **PAYMENT CALCULATION**

8.1 **CAPACITY PAYMENTS**

The Capacity Payment shall be computed as the sum of Component AW and Component BW and it will be subject to (DRWA) and Off-Spec Output Water (DOOW). Capital Cost Recovery Charge will be paid only for the period the Desalinated Water Supply System remains Available.

For each Billing Period m:

$CPW_m = AW_m + BW_m - DRWA_m - DOOW_m$
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- CPW<sub>m</sub> = Capacity Payment (in PKR) for the Billing Period m
- AW<sub>m</sub> = Capital Cost Recovery Payment (in PKR) for the Billing Period m
- BW<sub>m</sub> = Fixed O&M Cost Recovery Payment (in PKR) for the Billing Period m
- DRWA<sub>m</sub> = Deduction for Reduced Water Availability (in PKR) for the Billing Period m
- DRQW<sub>m</sub> = Deduction for Off-Spec Output Water (in PKR) for the Billing Period m
- m = Billing Period

8.1.1 Capacity Payment Equation for Component AW

Component AW (the **Capital Cost Recovery Charge**) of the Capacity Payment for a Billing Period m in an Operating Contract Year n shall be calculated as follows:

$$AW_m = CCRW_m * DCW_m$$

$$CCRW_m = P\_RC_m + I\_RC_m + E\_RC_m + T\_RC_m + IS\_RC_m + F\_RC$$

Where:

- AW<sub>m</sub> = Capital Cost Recovery Payment (in PKR) for the Billing Period m
- CCRW<sub>m</sub> = Capital Cost Recovery Charge for the Billing Period m
- P\_RC<sub>m</sub> = Debt Principal Recovery Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- I\_RC<sub>m</sub> = Debt Interest Recovery Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and subject to indexation as per paragraph 2 of part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- E\_RC<sub>m</sub> = Equity Recovery Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- T\_RC<sub>m</sub> = Taxation Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- IS\_RC<sub>m</sub> = Insurance Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- F\_RC = IZP Guarantee Charge (in PKR/Gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- DCW<sub>m</sub> = Guaranteed Supply Capacity
- m = as previously defined

8.1.2 Capacity Payment Equation for Component BW

Component BW (the **Fixed O&M Cost Recovery Payment**) of the Capacity Payment for a Billing Period m in an Operating Contract Year n shall be calculated as follows:

$$BW_m = FOMRW_m * DCW_m$$

Where:

- BW<sub>m</sub> = Fixed O&M Cost Recovery Payment (in PKR) for the Billing Period m
- FOMRW<sub>m</sub> = Fixed O&M Cost Recovery Charge for water (in PKR/gallon) for Billing Period m as defined and stated in part 3 (*Cost Recovery Charges*) to this **SCHEDULE H (Water Tariff Payment Calculation)** and subject to indexation as per paragraph 3 of part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- DCW<sub>m</sub> = as defined previously
- m = as defined previously

8.1.3 Deduction for Off-Spec Output Water

The Deduction for Off-Spec Output Water (DOOW) shall be calculated as follows:

<b>DOOW<sub>m-1</sub></b>	<b>D</b> $\sum_{d=1} (\text{OSW}_d * (\text{CCRW}_{m-1} + \text{FOMRW}_{m-1} + \text{CW}_m + \text{DW}_m))$
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Where:

- DOOW<sub>m</sub> = as defined previously
- CCRW<sub>m</sub> = as defined previously
- FOMRW<sub>m</sub> = as defined previously
- m = as defined previously
- CW<sub>m</sub> = Electricity Reimbursement Payment (in PKR) for the Billing Period m
- DW<sub>m</sub> = Variable O&M Cost Recovery Payment (in PKR) for the Billing Period m
- OSW<sub>d</sub> = Off-Spec Output Water in Gallons for day d
- D = as previously defined

#### 8.1.4 Deduction for Reduced Water Availability

The Deduction for Reduced Water Availability (DRWA) shall be calculated as follows:

<b>DRWAm-1</b>	<b>D</b> $\sum_{d=1} (\text{RCA}_d * (\text{CCRW}_{m-1} + \text{FOMRW}_{m-1} + \text{CW}_m + \text{DW}_m))$
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where:

- DOOW<sub>m</sub> = as defined previously
- CCRW<sub>m</sub> = as defined previously
- FOMRW<sub>m</sub> = as defined previously
- m = as defined previously
- CW<sub>m</sub> = as defined previously
- DW<sub>m</sub> = as defined previously
- RCA<sub>d</sub> = Reduced Contracted Availability in Gallons for day d
- D = as previously defined

#### 8.1.5 Maximum Deduction

DOOW and DRWA shall only be applicable to the Fixed O&M Cost Recovery Payment and the Equity Recovery Charge. In the event DOOW and/or DRWA (as applicable) is/are not fully recovered from the Fixed O&M Cost Recovery Payment and the Equity Recovery Charge, then the unrecovered amount shall be adjusted from subsequent Fixed O&M Cost Recovery Payment(s) and Equity Recovery Charge(s).

#### 8.2 OUTPUT PAYMENTS

The Output Payment shall be computed as the sum of Component CW and Component DW. For each Billing Period m:

<b>OPW<sub>m</sub> = CW<sub>m</sub> + DW<sub>m</sub></b>
--

where:

- OPW = Output Payment (in PKR) for the Billing Period m

$CW_m$  = as defined previously  
 $DW_m$  = as defined previously  
 $m$  = Billing Period

8.2.1 Component CW of the Output Payment - Electricity Component

(a) Electricity Reimbursement Payment for Water

The Electricity Component CW (the **Electricity Reimbursement Payment**) of the Net Desalinated Water Output for the Billing Period m in an Operating Contract Year n shall be calculated as follows:

$$CW_m = EC_m * EP_m$$

where:

$CW_m$  = Electricity Reimbursement Payment (in PKR) for Billing Period m  
 $EC_m$  = Electricity Consumption (kWh) of the Desalinated Water Supply System in Billing Period m as determined under paragraph 8.2.1(b) below  
 $EP_m$  = Electricity Price (in PKR/kWh) in Billing Period m  
 $m$  = Billing Period

(b) Electricity Consumption

The Electricity Consumption for the Billing Period m in an Operating Contract Year n shall be calculated as follows:

$$EC_m = DCW_m * (\text{lower of } ECR_{CCn} \text{ or } AEC_m) + (DCW_m * (ES * 20\%))$$

where:

$EC_m$  = as defined previously  
 $W_m$  = Net Desalinated Water Output (in Gallons) during Billing Period m  
 $ECR_{CCn}$  = Contracted Specific Net Electricity Consumption (in kWh/Gallon) for each Operating Contract Year n as specified in the table provided in part 1 (*Agreed Values for Payment Calculation*) of this **SCHEDULE H (Water Tariff Payment Calculation)**  
 $AEC_m$  = Actual Electricity Consumption (kWh/Gallon) of the Desalinated Water Supply System in Billing Period m  
 $DCW_m$  = as defined previously  
 $ES$  = Electricity Saving (in kWh/Gallon) for each Billing Period m, being the difference between  $ECR_{CCm}$  and  $AEC_m$

8.2.2 Component DW of Output Payment - Variable O&M Costs

The Variable O&M Component DW (the **Variable O&M Cost Recovery Payment**) of the Output Payment for Net Desalinated Water Output for a Billing Period m in an Operating Contract Year n shall be calculated as follows:

$$DW_m = DCW_m * VOMRW_m$$

where:

$DW_m$  = The Variable O&M Cost Recovery Payment (in PKR) for Billing Period m  
 $DCW_m$  = as defined previously

VOMRW<sub>m</sub> Variable O&M Cost Recovery Charge for Water (in PKR/Gallon) for Billing  
 = Period m as defined and stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and subject to indexation as per paragraph 4 of part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**  
 m = as previously defined

8.3 WATER TARIFF PAYMENT

8.3.1 During the Operations Period

The Water Tariff Payment for Desalinated Water for the Billing Period m in an Operating Contract Year n shall be calculated as follows:

<b><math>WTPW_m = AW_m + BW_m + CW_m + DW_m - DOOW_{m-1} - DRWA_{m-1} - RBW_m</math></b>	
where:	
$WTPW_m =$	Water Tariff Payment (in PKR) for the Billing Period m
$AW_m =$	as defined previously
$BW_m =$	as defined previously
$CW_m =$	as defined previously
$DW_m =$	as defined previously
$DOOW_{m-1} =$	as defined previously
$DRWA_{m-1} =$	as defined previously
$m =$	as defined previously
$RBW_m =$	Bottled Water (Guaranteed GoS Share Payment) (in PKR) for Billing Period m

**PART 1**  
**AGREED VALUES FOR PAYMENT CALCULATION**

1. The Contracted Specific Net Electricity Consumption  $ECR_{CCn}$  is as stated in the table below for each Operating Contract Year n.

**Contracted Specific Net Electricity Consumption<sup>18</sup>**

OPERATING CONTRACT YEAR N	CONTRACTED SPECIFIC NET ELECTRICAL ENERGY CONSUMPTION $ECR_{CCn}$ (KWH/ANNUM)
OCY1	
OCY2	
OCY3	
OCY4	
OCY5	
OCY6	
OCY7	
OCY8	
OCY9	
OCY10	
OCY11	
OCY12	
OCY13	
OCY14	
OCY15	
OCY16	
OCY17	
OCY18	
OCY19	
OCY20	
OCY21	
OCY22	

<sup>18</sup> Insert corresponding figure stated in the Bid Sheet. However, these figures will be finalized and updated after the Detailed Engineering Design.

OCY23	
OCY24	
OCY25	

## 2. CAPITAL COST RECOVERY CHARGE FOR WATER (CCRW)

The Capital Cost Recovery Charge for Water (CCRW) consists of following components:

- 2.1 Debt Principal Recovery Charge or P\_RC;
- 2.2 Debt Interest Recovery Charge or I\_RC;
- 2.3 Equity Recovery Charge or E\_RC;
- 2.4 Tax Charge or T\_RC;
- 2.5 Insurance Charge or IS\_RC;
- 2.6 IZP Guarantee Charge or F\_RC (if applicable).

The CCRW components to be used in the calculation of Payment Component AW as stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** subject to adjustment according to part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

The debt interest component of CCRW, i.e. I\_RC, will be subject to indexation to the floating interest rates as specified in part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

The annual capital costs cover without limitation:

- senior debt service payments (interest paid on outstanding debt and principal repayment);
- returns on Equity, and
- all costs arising out of the total project budget, which includes but is not limited to:
  - construction costs;
  - owner's contingencies;
  - costs for initial inventory;
  - development costs and success fees;
  - owner's costs;
  - insurance costs during Construction Period;
  - initial working capital and any reserve accounts;
  - taxes, levies and duties;
  - financing costs during construction; and
  - fixed operating costs during the Construction Period.

## 3. FIXED O&M PAYMENT CALCULATION

### FIXED O&M COST RECOVERY CHARGE FOR WATER

The Fixed O&M Cost Recovery Charge for Water (**FOMRW**) is expressed as one level charge rate for any applicable Billing Period. The FOMRW to be used in the calculation of Payment Component BW are as stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**, subject to adjustment according to part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

FOMRW is subject to indexation to the inflation rate as specified in part 2 (*Indexation/ Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

## 4. VARIABLE O&M PAYMENT CALCULATION

### VARIABLE O&M COST RECOVERY CHARGE FOR WATER

The Variable O&M Cost Recovery Charge for Water VOMRW is expressed as one level charge rate for any applicable Billing Period. The VOMRW to be used in the calculation of Payment Component DW as stated in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff**

***Payment Calculation***), subject to adjustment according to part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

VOMRW is subject to indexation to the inflation rate as specified in part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

**PART 2**  
**INDEXATION/ADJUSTMENT OF COST RECOVERY CHARGES**

**1. GENERAL**

The cost recovery charges used in paragraph 8 shall be adjusted in accordance with the provisions of this part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)**.

(a) INDEXATION BASED ON INFLATION RATE NATIONAL CONSUMER PRICE INDEX

The FOMRW and VOMRW, as specified in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**, will be adjusted on the average N-CPI of the prevailing six (6) Months published by the Pakistan Bureau of Statistics or if the index is not available or if the Commercial Parties agree otherwise, then another mutually agreed index, or in the event of a failure to agree then such index or method of calculation as shall be determined in accordance with the provisions of Article 27 of this Agreement.

N-CPI values will be calculated as the average of each of the end of month values for N-CPI in the Billing Period immediately preceding the relevant Billing Period, which shall equal the sum of the month end N-CPI values in the Billing Period immediately preceding the Billing Period divided by the number of such values; provided, that if any such values for any of such Billing Period are not available, then the average of the end of month value for the most recent available six (6) Months shall be used.

In case the N-CPI is changed due to rebasing, the Independent Auditor will notify the new Reference Inflation Rate and the quarterly N-CPI.

(b) INDEXATION BASED ON KARACHI INTERBANK OFFER RATE

Any change between the Reference KIBOR Rate and KIBOR for the Billing Period shall result in an adjustment of the I\_RC on a bi-annual basis. Bi-annual KIBOR values will be calculated based on the KIBOR on the Day prior to the start of each Billing Period.

(c) TAXATION CHARGE

The Taxation Charge shall be paid at actuals. The Concessionaire must provide evidence of the actual Tax paid through challans or fee receipts, which will be verified for purposes of issuance of the Water Tariff Payment Certificate. Any difference between the estimated and actual Tax amounts will be adjusted in the subsequent Water Tariff Payment. Further, any delay or penalty arising from late submission shall be the responsibility of the Concessionaire and shall not be considered part of the adjustment.

(d) INSURANCE CHARGE

The Insurance Charge shall be paid at actuals. The Concessionaire must provide evidence of the actual insurance premiums paid, which will be verified for purposes of issuance of the Water Tariff Payment Certificate. Any difference between the estimated and actual insurance premia will be adjusted in the subsequent Water Tariff Payment. Further, any delay or penalty arising from late submission shall be the responsibility of the Concessionaire and shall not be considered part of the adjustment.

The cost recovery charges subject to indexation are:

**Capacity Payment for Water:**

- AW: Capital Cost Recovery Payment. Following component of Capital Cost Recovery Payment shall be indexed:
  - Availability Component I\_RC: Debt Interest Recovery Charge
- Availability Component BW: Fixed O&M Cost Recovery Payment

**Output Payment for Water:**

- Water Component DW: Variable O&M Cost Recovery Payment

**2. ADJUSTMENT OF THE CAPITAL COST RECOVERY CHARGE**

The Capital Cost Recovery Charge or CCRW components to be used for any Billing Period m shall be calculated based on agreed values in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** after adjustment in accordance with this part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**.

To determine CCRW for any Billing Period m, the value of CCRW components will be calculated and adjusted in accordance with part 2 (*Indexation/Adjustment of Cost Recovery Charges*) and part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** as follows:

Debt Interest Recovery Charge

$I\_RC_m = (I\_RC * (LIR_m / LIR_r))$
---------------------------------------

Where:

- I\_RC<sub>m</sub>** = Debt Interest Recovery Charge in Billing Period m (PKR/Gallon)
- I\_RC** = Debt Interest Recovery Charge as specified in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** (PKR/Gallon)
- LIR<sub>m</sub>** = The KIBOR to be applied for the Billing Period m calculated as per paragraph 1 part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**,
- LIR<sub>r</sub>** = The Reference KIBOR Rate

**3. ADJUSTMENT OF THE FIXED O&M COST RECOVERY CHARGE FOR WATER**

The FOMRW to be used for any Billing Period m shall be calculated based on agreed values in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** after adjustment in accordance with this part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)**.

To determine FOMRW for any Billing Period m, the value of FOMRW will be calculated and adjusted in accordance with this part 3 (*Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)** and part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** as follows:

$FOMRW_m = FOMRW * (IR_m / IR_r)$
-----------------------------------

Where:

- FOMRW<sub>m</sub>** = Fixed O&M Cost Recovery Charge for Water in Billing Period m (PKR/Gallon)
- FOMRW** = Fixed O&M Cost Recovery Charge for Water as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and adjusted in accordance with paragraph 3 of part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**;
- IR<sub>m</sub>** = N-CPI as applicable for Billing Period m calculated as per paragraph 1 of this part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)**
- IR<sub>r</sub>** = Reference Inflation Rate

#### 4. ADJUSTMENT OF THE VARIABLE O&M COST RECOVERY CHARGE

The VOMRW to be used for any Billing Period m shall be calculated based on agreed values in part 3 (*Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)** after adjustment in accordance with part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)**.

To determine VOMRW for any Billing Period m, the value of VOMRW will be calculated and adjusted in accordance with part 2 (*Indexation/Adjustment of Cost Recovery Charges*) and part 3 (*Cost Recovery Charges*) of **SCHEDULE H (Water Tariff Payment Calculation)** as follows:

$$\text{VOMRW}_m = \text{VOMRW} * (\text{IR}_m / \text{IR}_r)$$

Where:

- VOMRW<sub>m</sub>** = Variable O&M Cost Recovery Charge in Billing Period m (PKR/Gallon)
- VOMRW** = Variable O&M Cost Recovery Charge as set out in part 3 (*Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)** and adjusted in accordance with paragraph 4 of part 2 (*Indexation/Adjustment of Cost Recovery Charges*) of this **SCHEDULE H (Water Tariff Payment Calculation)**
- IR<sub>m</sub>** = as previously defined
- IR<sub>r</sub>** = as previously defined

**PART 3<sup>19</sup>**  
**COST RECOVERY CHARGES**

**DURING OPERATIONS PERIOD**

YEAR	P_RC PKR/ Gallon	I_RC PKR/ Gallon	E_RC** PKR/ Gallon	FOMRW PKR/ Gallon	VOMRW PKR/ Gallon	Taxation Charge PKR/ Gallon	Insurance Charge PKR/ Gallon	IZP Guarantee Charge PKR/ Gallon
OCY1	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY2	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY3	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY4	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY5	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY6	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY7	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY8	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY9	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY1 0	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]
OCY1 1	[●]	[●]	[●]	[●]	[●]	[●]	[●]	[●]

<sup>19</sup> To be developed based on the Base Case Financial Model approved by the Independent Experts (based on the Bid Sheet).

OCY1 2	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 3	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 4	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 5	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 6	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 7	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 8	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY1 9	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 0	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 1	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 2	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 3	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 4	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]
OCY2 5	[•]	[•]	[•]	[•]	[•]	[•]	[•]	[•]





**SCHEDULE I<sup>21</sup>**  
**ACCOUNTS STANDING INSTRUCTIONS**

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**PART 1 - WATER TARIFF PAYMENT ACCOUNT (GoS) STANDING INSTRUCTIONS**

[ON THE LETTERHEAD OF THE GoS]

DATE: [●]  
REFERENCE: [●]

To,  
[Water Tariff Payment Account (GoS) Bank]

.....  
.....

CC:  
.....

**RE: STANDING INSTRUCTIONS IN RESPECT OF WATER TARIFF PAYMENT ACCOUNT (GoS)**

Dear Sir/Madam:

**1. WATER TARIFF PAYMENT ACCOUNT (GoS) & ISSUANCE OF STANDING INSTRUCTIONS NOTICE**

1.1 We, [●] (through [●]) (the **Account Holder**) refer you, [INSERT BANK NAME] (a banking company established under the laws of Pakistan having its registered office located at [●]) (the **Account Bank**) to the following bank account established and maintained in the name of the Account Holder at the Account Bank's branch, located at [●]:

Account Number [●], Account Title [●] (the **Water Tariff Payment Account (GoS)**);

**AND**, We, the Account Holder, hereby issue this notice (the **Standing Instructions Notice**) containing the Standing Instructions for the maintenance and operation of the Water Tariff Payment Account (GoS) and for matters relating to the same.

**2. DEFINITIONS**

2.1 In this Standing Instructions Notice, the following capitalized words shall bear the meaning ascribed to the same as below:

- (a) **Account Bank** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (b) **Account Holder** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (c) **Certified WTP Amount** means the amount payable by the GoS to the Concessionaire as set out in the Water Tariff Payment Certificate;

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<sup>21</sup> The standing instructions set out in this **SCHEDULE I (Accounts Standing Instructions)** may be amended based on comments and feedback of proposed Financing Parties in light of standard project finance/banking industry practices and precedent PPP transactions.

- (d) **Concession Agreement** means the concession agreement dated [●] between the Governor of Sindh (acting through Secretary, Local Government & Housing Town Planning Department, Government of Sindh), the Karachi Water and Sewerage Corporation, and the Concessionaire in respect of the Project;
- (e) **Concessionaire** means [●], a company incorporated under the laws of Pakistan, having its registered office located at [●];
- (f) **Water Tariff Payment Account (Concessionaire)** means the account to be established and maintained by the Concessionaire, in which the Concessionaire shall receive the amounts payable by the Account Holder in accordance with the Water Tariff Payment Certificates;
- (g) **Water Tariff Payment Account (GoS)** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (h) **Water Tariff Payment Date** means the date of payment of the Certified WTP Amount set out in the Water Tariff Payment Certificate;
- (i) **Independent Auditor** means [●];
- (j) **Independent Engineer** means [●];
- (k) **Project** means the design, finance, build, operate, maintain and transfer of a five (5) MGD Seawater Desalination Plant to be undertaken in public-private partnership mode by the Concessionaire in terms of the Agreement;
- (l) **Revocation Notice** has the meaning given to it in paragraph 5.1(b) of the Standing Instructions Notice;
- (m) **Sponsors** means [●];
- (n) **Standing Instructions** means these standing instructions for the operations of the Water Tariff Payment Account (GoS);
- (o) **Standing Instructions Notice** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (p) **Termination Payment Amount (Unpaid Amounts) Certificate** means the certificate issued by the Independent Auditor setting out the Termination Payment Amount (Unpaid Total), the Termination Payment Amount (Unpaid Financing Due) and the Termination Payment Amount (Unpaid Other Amount);
- (q) **Termination Payment Amount (Unpaid Financing Due)** means the unpaid Financing Due (or part thereof) set out in the Termination Payment Amount (Unpaid Amounts) Certificate;
- (r) **Termination Payment Amount (Unpaid Other Amount)** means the unpaid Termination Payments (or part thereof) other than the Financing Due set out in the Termination Payment Amount (Unpaid Amounts) Certificate; and

- (s) **Water Tariff Payment Certificate** means the certificate jointly issued and duly signed by the Independent Auditor and the Independent Engineer, setting out the Certified WTP Amount.

### **3. INTERPRETATION**

3.1 Save where the contrary is indicated, any reference in this Standing Instructions Notice to:

- (a) a paragraph or an annexure shall be construed as a reference to a paragraph of or an annexure to this Standing Instructions Notice;
- (b) any instrument, memorandum, agreement, contract or document shall be construed as a reference to that instrument, memorandum, agreement, contract or document (together with any recitals or sections thereto) all as amended, varied, restated, novated or supplemented from time to time;
- (c) any person shall be construed so as to include their respective administrators, successors in interest and permitted assigns from time to time;
- (d) a statute, enactment or order shall be construed as a reference to such statute, enactment or order as the same may have been, or may from time to time be, amended or re-enacted and all subsidiary legislation and other instrument made under or deriving validity therefrom;
- (e) the singular shall include the plural and vice versa, where appropriate;
- (f) the words '*including*' and '*includes*' and any grammatical variants of those words, will be read as if followed by the words '*without limitation*;'
- (g) a reference to a person shall be construed to include a juridical person;
- (h) a time of Day shall be construed as a reference to Pakistan Standard Time; and
- (i) headings in this Standing Instructions Notice are for ease of reference only and shall be ignored in construing this Standing Instructions Notice.

3.2 The annexures to this Standing Instructions Notice shall form an integral part of this Standing Instructions Notice.

### **4. THE INSTRUCTIONS IN RESPECT OF MATTERS RELATING TO THE CERTIFIED WTP AMOUNT AND THE TERMINATION PAYMENT AMOUNT**

4.1 The Account Holder instructs and authorizes the Account Bank to act as follows:

**THAT**, upon receipt of a Water Tariff Payment Certificate by the Account Bank from time to time, the Account Bank shall, on the Water Tariff Payment Date, debit the Water Tariff Payment Account (GoS) in an amount equal to the Certified WTP Amount and credit the same to the Water Tariff Payment Account (Concessionaire).

**THAT**, upon receipt of a Termination Payment Amount (Unpaid Amounts) Certificate by the Account Bank, the Account Bank shall, within one (1) Business Day of receipt of the Termination

Payment Amount (Unpaid Amounts) Certificate<sup>22</sup> (a) first debit the Water Tariff Payment Account (GoS) in an amount equal to the Termination Payment Amount (Unpaid Financing Due), and (ii) second debit the Water Tariff Payment Account (GoS) in an amount equal to the Termination Payment Amount (Unpaid Other Amount) and, in each case, credit the same to the **insert details of relevant Concessionaire account**.

## **5. REVOCATION AND AMENDMENT OF STANDING INSTRUCTIONS**

- 5.1 The Standing Instructions shall remain effective until such date which is the earlier of:
- (a) the date on which a written certificate, duly issued by the Independent Auditor, is received by the Account Bank from the Independent Auditor certifying that the Account Holder has fully complied with and has satisfied its payment obligations for the Project;
  - (b) the date on which the Standing Instructions are revoked pursuant a written revocation notice (the **Revocation Notice**) duly executed and confirmed by the authorized representatives of each of the Account Holder and the Concessionaire and subsequently duly issued by the Account Holder to the Account Bank instructing revocation of the Standing Instructions;
  - (c) the date on which a written certificate, duly issued jointly by the Independent Engineer and the Independent Auditor, is received by the Account Bank from the Account Holder certifying that the Agreement has (i) expired, or (ii) been terminated in accordance with the terms thereof and the Termination Payments have been made; and
  - (d) the date on which a written certificate, duly issued by the Account Holder, is received by the Account Bank from the Account Holder certifying that the 'IZP Guarantee Instrument' has been established or issued in accordance with the Agreement.
- 5.2 The Standing Instructions Notice may be amended pursuant a written notice duly executed and confirmed by the authorized representatives of the Account Holder and the Concessionaire and subsequently duly issued by the Account Holder to the Account Bank instructing amendment to this Standing Instructions Notice.

## **6. SEVERABILITY**

- 6.1 If for any reason whatsoever any provision of this Standing Instruction Notice is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Account Bank and the Account Holder will negotiate in good faith with a view to agreeing upon one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable.

## **7. GOVERNING LAW & DISPUTE RESOLUTION**

- 7.1 These Standing Instructions Notice shall be governed by and construed in accordance with the laws of Pakistan and the courts of law at Karachi, Pakistan with competent jurisdiction shall entertain all disputes arising hereunder.

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<sup>22</sup> This date will be subject to the terms of the Concession Direct Agreement.

**PART 2 - BOTTLED WATER REVENUE ACCOUNT STANDING INSTRUCTIONS**

[ON THE LETTERHEAD OF THE CONCESSIONAIRE]

DATE: [●]

REFERENCE: [●]

To,

[Bottled Water Revenue Account Bank]

.....  
.....

CC:

.....

**RE: STANDING INSTRUCTIONS IN RESPECT OF BOTTLED WATER REVENUE ACCOUNT**

Dear Sir/Madam:

**1. BOTTLED WATER REVENUE ACCOUNT & ISSUANCE OF STANDING INSTRUCTIONS NOTICE**

1.1 We, [●] (through [●]) (the **Account Holder**) refer you, [INSERT BANK NAME] (a banking company established under the laws of Pakistan having its registered office located at [●]) (the **Account Bank**) to the following bank account established and maintained in the name of the Account Holder at the Account Bank's branch, located at [●]:

Account Number [●], Account Title [●] (the **Bottled Water Revenue Account**);

**AND**, We, the Account Holder, hereby issue this notice (the **Standing Instructions Notice**) containing the Standing Instructions for the maintenance and operation of the Bottled Water Revenue Account and for matters relating to the same.

**2. DEFINITIONS**

2.1 In this Standing Instructions Notice, the following capitalized words shall bear the meaning ascribed to the same as below:

- (a) **Account Bank** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (b) **Account Holder** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (c) **Bottled Water Revenue Account** has the meaning given to it in paragraph 1 of the Standing Instructions Notice;
- (d) **Bottled Water Revenue Share Payment Certificate** means the certificate jointly issued and duly signed by the Independent Auditor and the Independent Engineer, setting out the Certified Bottled Water Revenue (PBGSP-GGSP);
- (e) **Certified Bottled Water Revenue (PBGSP-GGSP)** means the amount payable by the Concessionaire to the GoS as set out in the Bottled Water Revenue Share Payment Certificate;

- (f) **Concession Agreement** means the concession agreement dated [●] between the Governor of Sindh (acting through Secretary, Local Government & Housing Town Planning Department, Government of Sindh), the Karachi Water and Sewerage Corporation, and the Concessionaire in respect of the Project;
- (g) **Concessionaire** means [●], a company incorporated under the laws of Pakistan, having its registered office located at [●];
- (h) **GoS Designated Account** means the account to be established and maintained by the GoS, in which the GoS shall receive the amounts payable by the Account Holder in accordance with the Bottled Water Revenue Share Payment Certificate;
- (i) **Independent Auditor** means [●];
- (j) **Independent Engineer** means [●];
- (k) **Project** means the design, finance, build, operate, maintain and transfer of a 5 MGD Seawater Desalination Plant to be undertaken in public-private partnership mode by the Concessionaire in terms of the Agreement;
- (l) **Revocation Notice** has the meaning given to it in paragraph 5.1(b) of the Standing Instructions Notice;
- (m) **Sponsors** means [●];
- (n) **Standing Instructions** means these standing instructions for the operations of the Bottled Water Revenue Account; and
- (o) **Standing Instructions Notice** has the meaning given to it in paragraph 1 of the Standing Instructions Notice.

### 3. **INTERPRETATION**

3.1 Save where the contrary is indicated, any reference in this Standing Instructions Notice to:

- (a) a paragraph or an annexure shall be construed as a reference to a paragraph of or an annexure to this Standing Instructions Notice;
- (b) any instrument, memorandum, agreement, contract or document shall be construed as a reference to that instrument, memorandum, agreement, contract or document (together with any recitals or sections thereto) all as amended, varied, restated, novated or supplemented from time to time;
- (c) any person shall be construed so as to include their respective administrators, successors in interest and permitted assigns from time to time;
- (d) a statute, enactment or order shall be construed as a reference to such statute, enactment or order as the same may have been, or may from time to time be, amended or re-enacted and all subsidiary legislation and other instrument made under or deriving validity therefrom;
- (e) the singular shall include the plural and vice versa, where appropriate;

- (f) the words ‘*including*’ and ‘*includes*’ and any grammatical variants of those words, will be read as if followed by the words ‘*without limitation*.’;
  - (g) a reference to a person shall be construed to include a juridical person;
  - (h) a time of Day shall be construed as a reference to Pakistan Standard Time; and
  - (i) headings in this Standing Instructions Notice are for ease of reference only and shall be ignored in construing this Standing Instructions Notice.
- 3.2 The annexures to this Standing Instructions Notice shall form an integral part of this Standing Instructions Notice.

**4. THE INSTRUCTIONS IN RESPECT OF MATTERS RELATING TO THE CERTIFIED BOTTLED WATER REVENUE (PBGSP-GGSP)**

- 4.1 The Account Holder instructs and authorizes the Account Bank to act as follows:

**THAT**, upon receipt of a Bottled Water Revenue Share Payment Certificate by the Account Bank from time to time, the Account Bank shall, within one (1) Business Day of receipt of the Bottled Water Revenue Share Payment Certificate, debit the Bottled Water Revenue Account in an amount equal to the Certified Bottled Water Revenue (PBGSP-GGSP) and credit the same to the Designated GoS Account.

**5. REVOCATION AND AMENDMENT OF STANDING INSTRUCTIONS**

- 5.1 The Standing Instructions shall remain effective until such date which is the earlier of:

- (a) the date on which a written certificate, duly issued by the Independent Auditor, is received by the Account Bank from the Independent Auditor certifying that the Account Holder has fully complied with and has satisfied its payment obligations for the Project;
- (b) the date on which the Standing Instructions are revoked pursuant a written revocation notice (the **Revocation Notice**) duly executed and confirmed by the authorized representatives of each of the Account Holder and the Concessionaire and subsequently duly issued by the Account Holder to the Account Bank instructing revocation of the Standing Instructions; and
- (c) the date on which a written certificate, duly issued jointly by the Independent Engineer and the Independent Auditor, is received by the Account Bank from the Account Holder certifying that the Agreement has (i) expired, or (ii) been terminated in accordance with the terms thereof and the Termination Payments have been made.

- 5.2 The Standing Instructions Notice may be amended pursuant a written notice duly executed and confirmed by the authorized representatives of the Account Holder and the Concessionaire and subsequently duly issued by the Account Holder to the Account Bank instructing amendment to this Standing Instructions Notice.

**6. SEVERABILITY**

- 6.1 If for any reason whatsoever any provision of this Standing Instruction Notice is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Account Bank and the Account

Holder will negotiate in good faith with a view to agreeing upon one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable.

**7. GOVERNING LAW & DISPUTE RESOLUTION**

- 7.1 These Standing Instructions Notice shall be governed by and construed in accordance with the laws of Pakistan and the courts of law at Karachi, Pakistan with competent jurisdiction shall entertain all disputes arising hereunder.

**SCHEDULE J**  
**INDEPENDENT EXPERTS TERMS OF REFERENCE**

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**PART 1 - INDICATIVE INDEPENDENT AUDITOR TERMS OF REFERENCE**

The scope of work of the Independent Auditor for the Project shall include the following:

- (a) perform all actions and services set out in the GoS Project Documents to be performed by the Independent Auditor diligently and within the timelines set out therein (the **IA Services**);
- (b) exercise, in the performance of the IA Services, all skill, care and diligence to be expected of a properly qualified and competent professional experienced in each of the disciplines to which the IA Services relate;
- (c) cooperate with the parties to the GoS Project Documents in respect of matters relating to the Independent Auditor for the purposes of, *inter alia*, facilitating of the Project and the Project Activities;
- (d) the IA Services include:
  - monitoring financial aspects;
  - certification and approvals;
  - issuing monthly progress reports;
  - cost certification;
  - expert adjudicator on financial matters relating to force majeure, terminations, project delays or other project issues as and when they arise of the Project's issues, funding mechanisms, project risks and intimate the party concerned of their responsibility as laid down in the GoS Project Documents; and
  - other matters detailed in GoS Project Documents;
- (e) to work in close coordination with the Independent Engineer and exchange information as required for the performance of their respective tasks;
- (f) to give presentations to various GoS tiers on the Financial Model and explain the impact of tariff indexations, Deduction, payments related to an Intervening Event, Force Majeure Event and termination events, on the value for money and also attend meetings of the KWSC/GoS at during various approvals (if and as required);
- (g) on intimation from the Concessionaire, the Financing Parties or GoS Parties, establish the occurrence of a material adverse effect on the Project and recommend based on the terms of the GoS Project Documents, a mechanism to overcome the same;
- (h) follow a system of periodic reports in such frequency and formats as determined by the Concessionaire and the GoS Parties;
- (i) during the Construction Period, monitor financial progress against the Implementation Schedule;
- (j) determine, *inter alia*, the Capacity Payment and Output Payment to be paid in accordance with this Agreement (including the Deduction);

- (k) determine, *inter alia*, the Relief Costs to be paid by the GoS in accordance with Article 20 of this Agreement. In case the Relief Costs are funded by the Concessionaire, the Independent Auditor will be required to propose necessary adjustments to the Capacity Payments and Output Payments (if and as applicable) in accordance with this Agreement;
- (l) upon receipt of a notice of Change in Law from the Concessionaire pursuant to this Agreement, as and when requested or required, confirm occurrence of the Change in Law and certify the consequent financial impact, in accordance with this Agreement;
- (m) if applicable, issue certifications to facilitate disbursement of funding from stakeholders (including equity) with respect to construction and other expenditures in accordance with the GoS Project Documents;
- (n) in respect of the occurrence of an Intervening Event or Force Majeure Event in accordance with the provisions of this Agreement, consult with the Concessionaire and the GoS Parties in order to determine the amount of resultant compensations, if any, in accordance with the provisions of this Agreement and issue necessary certifications in this respect;
- (o) in respect of Termination Payments, determine the amount of resultant compensations, if any, in accordance with the provisions of this Agreement and issue necessary certifications in this respect;
- (p) certify the Financing Termination Date as defined in this Agreement;
- (q) issue the Termination Payment Amount Certificate (together with the Independent Engineer) and/or the Termination Payment Amount (Unpaid Amounts) Certificate (together with the Independent Engineer) (as applicable), in accordance with Article 12 of this Agreement;
- (r) issue, together with the Independent Engineer, the Water Tariff Payment Certificate determining the Water Tariff Payment Account (GoS) Funding Amount in accordance with Article 12 of this Agreement;
- (s) issue, together with the Independent Engineer, the Water Tariff Payment Certificate and the Bottled Water Revenue Share Payment Certificate in accordance with Article 13 of this Agreement;
- (t) monitor the debt-to-equity ratio of the Concessionaire and ensure it does not exceed 70:30;
- (u) monitor the shareholding percentage of each Shareholder on a quarterly basis from the Commencement Date;
- (v) endorse calculations prepared by the Concessionaire of any amounts in respect of Refinancing Gains described in Section 16.3.8 of this Agreement;
- (w) issue various certificates together with the Independent Engineer (where applicable) including the Commencement Certificate, the Handover Certificate, relevant payment certificates and COD Certificate as more particularly described in this Agreement. The Independent Auditor will rely on reports, studies, surveys, and other documents provided by the Concessionaire or its appointed consultants;
- (x) in case of a failure to achieve the scheduled project milestones, issue delay notices, in consultation with the Independent Engineer, as described in this Agreement;
- (y) together with the Independent Engineer, act to resolve any disputes arising due to a conflict between the clauses and appendices of this Agreement;

- (z) together with the Independent Engineer, advise GoS on the financial implications of a Change in Scope requested by the Concessionaire;
- (aa) together with the Independent Engineer, advise GoS on any changes, modifications, amendments, supplements or waivers to the Financing Documents, the EPC Contract, the O&M Contract or in respect of any Refinancing. The Independent Auditor will rely on the timely provision of relevant documents by the Concessionaire and will make its recommendations in accordance with Section 16.4 of this Agreement;
- (bb) together with the Independent Engineer, advise GoS on any changes, modifications, amendments, supplements to the Insurance Policies;
- (cc) comply with the Laws of Pakistan in its performance of the IA Services;
- (dd) perform such other obligations and responsibilities as set out in the GoS Project Documents;
- (ee) perform such other obligations and responsibilities as mutually agreed between the Parties; and
- (ff) perform any other action or services set out in the Independent Auditor Contract.

#### **INDEPENDENT AUDITOR CRITERIA**

An international or local auditing firm (not individuals) appointed as the Independent Auditor shall meet the following criteria:

- have the experience of undertaking a similar role in at least two (2) either (i) project financed infrastructure projects; or (ii) PPP projects;
- have the following permanent employees for at least one (1) year:
  - (i) team leader with at least fifteen (15) years of experience with complete knowledge and understanding of project financed infrastructure projects or PPP projects;
  - (ii) tax expert with at least ten (10) years of experience with complete knowledge of Pakistani tax law and its application to the Project;
  - (iii) auditing expert with at least ten (10) years of experience;
  - (iv) financial modelling expert with at least ten (10) years of experience;
  - (v) other experts required to perform the obligations of the Independent Auditor under the Project as specified herein;
- provide an undertaking that the above staff shall be employed on the Project if the work is awarded to the firm. Relevant staff members must be available to attend all inspections and meetings with the KWSC/GoS officials. Any change in staff for this assignment would need to be replaced with similar experience;
- ensure that its staff are fully familiar with project financed infrastructure projects or PPP projects and the role of the Independent Auditor in such projects. In addition, staff should be familiar with Pakistan Income Tax Ordinance, 2001, GoS public procurement regulatory framework and GoS Project Documents

## PART 2 - INDICATIVE INDEPENDENT ENGINEER TERMS OF REFERENCE

### 1.1 GENERAL

The scope of work of the Independent Engineer for the Project shall include the following:

- (a) perform all actions and services set out in the GoS Project Documents to be performed by the Independent Engineer diligently and within the timelines set out therein (the **IE Services**);
- (b) exercise, in the performance of the IE Services, all skill, care and diligence to be expected of a properly qualified and competent professional experienced in each of the disciplines to which the IE Services relate;
- (c) cooperate with the parties to the GoS Project Documents in respect of matters relating to the Independent Engineer for the purposes of, *inter alia*, facilitating implementation of the Project and the Project Activities;
- (d) review the GoS Project Documents delivered by the Parties and all documents that are provided to it pursuant to the GoS Project Documents;
- (e) coordinate and liaise with the Parties in respect of matters that require the Independent Engineer's inputs for performance of the IE Services;
- (f) as and when requested or required, consult with the parties to the GoS Project Documents and/or any other relevant stakeholders of the Project for the performance of IE Services and request (where available and applicable) any documents that are required by the Independent Engineer to perform the IE Services;
- (g) as and when requested or required pursuant to this Agreement and other GoS Project Documents, review and comment on any documents provided to it pursuant to the GoS Project Documents and request further documents as may be required for performance of the IE Services;
- (h) prepare, issue, deliver, review and/or approve (as applicable) all documents contemplated to be prepared, issued, delivered, reviewed and/or approved (as applicable) by the Independent Engineer under this Agreement or the other GoS Project Documents;
- (i) visit any of the offices of the Concessionaire or any other location where relevant personnel or records of the Concessionaire are located;
- (j) comply with the Laws of Pakistan in its performance of the IE Services;
- (k) in performing the IE Services, not in any way materially adversely interfere with the performance of the Concessionaire's, the Contractors' and the GoS' obligations and with the conduct of their business.
- (l) report to the Parties in case the quality standards and quality control provisions are not maintained on the Project Site;
- (m) perform all such duties and obligations that are to be performed by the Independent Engineer under the GoS Project Documents;

- (n) perform functions, including issuance of directions to the Concessionaire or its Contractors, in respect of the Emergency Decommissioning of Desalinated Water Supply System, as may be required by the GoS Project Documents;
- (o) perform its duties in respect of insurance claims and proceeds, as set out in this Agreement;
- (p) perform functions in respect of a Change in Scope, as set out in this Agreement;
- (q) perform the respective roles and duties that are to be performed by the Independent Engineer upon termination of this Agreement or upon expiry of the Concession Period;
- (r) as and when requested or required, attend/visit, during normal working hours, any place where work is being carried out in respect of any equipment or material to be incorporated into the Desalinated Water Supply System, with full opportunity to inspect, examine, measure or test any such works, equipment or material;
- (s) as and when requested or required, certify any delays in the achievement of the COD (including identifying the party responsible for such delay) and coordinate with the Independent Auditor in respect of matters relating to the same;
- (t) consult with the Parties in respect to the sufficiency and/or insufficiency of the insurance proceeds required to repair, replace, reinstate or rectify the relevant loss or damage to Desalinated Water Supply System in accordance with this Agreement;
- (u) be present at and observe performance of all Test Procedures under **SCHEDULE E (Testing)** of this Agreement or provide for authorized representatives to perform the foregoing functions;
- (v) provide operational recommendations in risk management reports to the Parties, from time to time, during the Concession Period;
- (w) upon receipt of a notice of Change in Law from the Concessionaire pursuant to this Agreement, as and when requested or required, confirm occurrence of the Change in Law and certify the consequent financial impact, in accordance with this Agreement;
- (x) inspect Desalinated Water Supply System at the time of handing over thereof by the Concessionaire to the GoS and perform functions in respect of such handing over as provided in this Agreement;
- (y) present to the Parties as and when required on the progress of the Project and other milestones specified in the Implementation Schedule;
- (z) pursuant to the terms of the License Agreement, review and approve the status report submitted by the Concessionaire, on an annual basis, on the occurrence and status of occupations, thefts, encroachments and Encumbrances arising from time to time on the Project Site to ensure compliance by the Concessionaire of its obligations to protect the Project Site from such encroachments under the GoS Project Documents;
- (aa) issue various certificates together with the Independent Auditor, including the Commencement Certificate, the Handover Certificate, relevant payment certificates and COD Certificate as more particularly described in this Agreement. The Independent Engineer will rely on reports, studies, surveys, and other documents provided by the Concessionaire or its appointed consultants;

- (bb) in case of a failure to achieve the scheduled project milestones, issue delay notices, in consultation with the Independent Auditor as described in this Agreement;
- (cc) together with the Independent Auditor, act to resolve any disputes arising due to a conflict between the clauses and appendices of this Agreement;
- (dd) together with the Independent Auditor, advise the GoS on the technical implications of a Change in Scope requested by the Concessionaire;
- (ee) together with the Independent Auditor, advise the GoS on any changes, modifications, amendments, supplements or waivers to the Financing Documents, EPC Contract, O&M Contract or in respect of any Refinancing. The Independent Engineer will rely on the timely provision of relevant documents by the Concessionaire and will make its recommendations in accordance with Section 16.4 of this Agreement;
- (ff) together with the Independent Auditor, advise GoS on any changes, modifications, amendments, or supplements to the Insurance Policies;
- (gg) issue, together with the Auditor, the Termination Payment Amount Certificate in accordance with Article 12 of this Agreement;
- (hh) issue, together with the Auditor, the Water Tariff Payment Certificate determining the Water Tariff Payment Account (GoS) Funding Amount in accordance with Article 12 of this Agreement;
- (ii) issue, together with the Auditor, the Water Tariff Payment Certificate and the Bottled Water Revenue Share Payment Certificate in accordance with Article 13 of this Agreement;
- (jj) monitor the debt-to-equity ratio of the Concessionaire and ensure it does not exceed 70:30;
- (kk) monitor the shareholding percentage of each Shareholder on a quarterly basis from the Commencement Date;
- (ll) endorse calculations prepared by the Concessionaire of any amounts in respect of Refinancing Gains described in Section 16.3.8 of this Agreement;
- (mm) issue various certificates together with the Independent Engineer (where applicable) including the Commencement Certificate, the Handover Certificate, relevant payment certificates and COD Certificate as more particularly described in this Agreement. The Independent Auditor will rely on reports, studies, surveys, and other documents provided by the Concessionaire or its appointed consultants;
- (nn) in case of a failure to achieve the scheduled project milestones, issue delay notices, in consultation with the Independent Engineer, as described in this Agreement;
- (oo) together with the Independent Engineer, act to resolve any disputes arising due to a conflict between the clauses and appendices of this Agreement;
- (pp) together with the Independent Engineer, advise GoS on the financial implications of a Change in Scope requested by the Concessionaire;
- (qq) together with the Independent Engineer, advise GoS on any changes, modifications, amendments, supplements or waivers to the Financing Documents, the EPC Contract, the O&M Contract or in respect of any Refinancing. The Independent Auditor will rely

on the timely provision of relevant documents by the Concessionaire and will make its recommendations in accordance with Section 16.4 of this Agreement;

- (rr) together with the Independent Engineer, advise GoS on any changes, modifications, amendments, supplements to the Insurance Policies;
- (ss) perform such other obligations and responsibilities as set out in the GoS Project Documents;
- (tt) perform such other obligations and responsibilities as mutually agreed between the Parties; and
- (uu) perform any other action or services set out in the Independent Engineer Contract.

## **1.2 PROPOSED CONSTRUCTION DOCUMENTS REVIEW PHASE**

With respect to the review and approval of Proposed Construction Documents, the IE Services shall include the following:

- (a) review and approve the adequacy of primary data collected for the Project, including topographical surveys, geo-technical and sub-soil investigations, hydrological investigation and any other surveys, investigations and analyses conducted to prepare the Proposed Construction Documents;
- (b) review and approve the condition survey of existing utilities and their relocation design, and Proposed Construction Documents prepared and submitted by the Concessionaire to the Independent Engineer for the construction of various components of the Project, including the intake structure, the pre-treatment facility, the reverse osmosis seawater desalination plant, the product water tank, the pumping station, the outlet structure and all associated facilities and infrastructure, estimates, reports and other deliverables with regard to adequacy, completeness, optimality and capability of design to perform as required in anticipated operating conditions and to meet the technical requirements specified in this Agreement;
- (c) identification of Project design features or any major equipment component that does not appear to meet the design or performance requirements or fails to adhere to the technical specifications provided in this Agreement;
- (d) provide an opinion on the quality of the designs with respect to their effect on the anticipated service life of the Desalinated Water Supply System, the degree of maintenance needed to meet performance requirements and long-term availability over the Concession Period;
- (e) comply with the design parameters set out in **SCHEDULE A (*Technical Specifications*)** of this Agreement;
- (f) review and approve the reports prepared and submitted by the Concessionaire or its Contractors, with respect to the Implementation Schedule, the Operating and Maintenance Procedures, safety and management plan etc.;
- (g) determine that adequate provisions have been made for the following in the Proposed Construction Documents:
  - (i) design;

- (ii) material sourcing;
  - (iii) material transportation equipment;
  - (iv) utilities;
  - (v) equipment procurement;
  - (vi) construction; and
  - (vii) testing;
- (h) review and comment on the consistency of all GoS Project Documents;
  - (i) review the available Approvals or applications for Approvals;
  - (j) review and comment on the utilities' arrangements for the Project, including (without limitation) the water supply and Electricity supply;
  - (k) review and approve the adequacy and reasonableness of the Project coordination and monitoring systems;
  - (l) review the safety measures proposed for the construction of the facilities and their compliance with the safety regulations;
  - (m) review, audit, comment and approve the working methodology submitted by the Concessionaire regarding the construction of Project infrastructure in densely populated areas to avoid disturbance to traffic and public; and
  - (r) report to the GoS Parties in case the quality standards and quality control provisions are not maintained on the Project Site.

### **1.3 ENVIRONMENTAL AND SOCIAL MATTERS**

Concerning the environmental and social matters under the Project, the IE Services to be performed by the Independent Engineer shall include the following:

- 1.3.1 before the start of operations: review for compliance with the Legal Requirements, including the E&S Standards:
  - (a) the ESIA to be prepared by the Concessionaire in accordance with this Agreement (and drafts and revisions of the same); and
  - (b) the ESMS and associated programs to be prepared by the Concessionaire in accordance with this Agreement (and drafts and revisions of any of the same) and, where any such assessment or plan is not compliant, recommend changes to address any shortcomings;
- 1.3.2 during the Construction Activities, at least visit the Project Site monthly to:
  - (a) review environmental and social management, monitoring and reporting undertaken by the Concessionaire, including implementation of mitigation measures, which shall include but not be limited to:
    - (i) labour and working conditions,

- (ii) access to water and any grievances in relation to water availability, made by the Settlements;
  - (iii) potential impacts to agriculture and livestock from changes in soil moisture;
  - (iv) solid and hazardous waste management, storage, treatment and disposal, including sub-contractor practices;
  - (v) noise level compliance at nearby sensitive receptors;
  - (vi) treated effluent quality and receiving water quality;
  - (vii) emergency response procedures;
  - (viii) other required environmental, health, and safety management practices;
  - (ix) Stakeholder Engagement Plan and Grievance Redress Mechanism; and
  - (x) health and safety procedures;
- (b) undertake independent verification field monitoring of the Concessionaire's compliance with its environmental and OHS requirements; and
  - (c) inspect the Project Site, review grievance logs and interview representatives of Affected Communities,

in each case, as needed to ascertain whether the Concessionaire's activities are in compliance with the Legal Requirements, including the E&S Standards.

1.3.3 on a semi-annual basis during the first two (2) years of the Operations Period, and on an annual basis for another three (3) years thereafter:

- (a) review environmental and social management, monitoring and reporting undertaken by the Concessionaire;
- (b) undertake independent verification field monitoring of the Concessionaire's compliance with its environmental and OHS requirement; and
- (c) inspect the Project Site, review grievance logs and interview representatives of affected communities,

in each case, as needed to ascertain whether the Concessionaire's activities are in compliance with the Legal Requirements, including the E&S Standards.

1.3.4 within sixty (60) Days following the end of the first three (3) years of the Operations Period, the Independent Engineer shall issue a report indicating whether:

- (a) the Concessionaire has performed the Construction Activities and is conducting the O&M Activities in accordance with the Legal Requirements, including the E&S Standards, and has in place adequate procedures and practices to manage environmental and social risks and impacts; and

- (b) the GoS and any relevant Government Authority is adequately equipped to monitor and enforce, and is effectively monitoring and enforcing, the Parties' environmental and social obligations under this Agreement.

If both the foregoing conditions are met, there will be no need for further annual review. If at least one of the two foregoing conditions is not met, the Parties will in good faith agree on a supplementary scope of work to be carried out by the Independent Engineer for a period up to the duration of the Project.

#### 1.4 SUPERVISION SERVICES DURING THE CONSTRUCTION PERIOD

During the Construction Period, the IE Services to be performed by the Independent Engineer shall include the following:

- (a) supervise the Construction Activities in detail and to approve the materials, formworks, and workmanship of the Construction Activities on a daily and fulltime basis. As stated in this Agreement, the Independent Engineer shall have no authority to relieve the Concessionaire of any of its duties or to impose additional obligations;
- (b) review and approve the construction manuals and operation and maintenance manuals prepared and submitted by the Concessionaire. The Water Tariff Payments will be made upon Independent Engineer's certification, with final approval of the Independent Auditor;
- (c) supervise/approve the Construction Activities, including material testing, water sampling, water quality testing, equipment installation, facility integration, treatment process testing, and review the water quality and treatment testing results and to order special tests of water quality and/or completed works, and/or order removal and substitution of substandard material, equipment and/or work as required.
- (d) review and approve work methodology of each component of the Construction Activities;
- (e) review quality assurance and quality control during the Construction Period;
- (f) identify construction delays, if any and recommend to the GoS the remedial measures to expedite the progress of the Construction Activities;
- (g) review and approve shop drawings for each component of the Project Activities prepared and submitted to Independent Engineer by the Concessionaire;
- (h) review the "*Construction Drawings*" and "*as-built*" drawings for each component of the Project Activities prepared and submitted to Independent Engineer by the Concessionaire;
- (i) review the safety measures provided for the Project workers;
- (j) determine any extension of the Implementation Schedule, to which the Concessionaire is entitled and notify the GoS in writing accordingly;
- (k) review compliance by the Concessionaire of its obligations under this Agreement;
- (l) have a review period not exceeding twenty-one (21) Days, or as otherwise stated in this Agreement, calculated from the date on which the Independent Engineer receives a document or a notice from the Concessionaire (the **Review Period**);

- (m) within the Review Period, give a notice to the Concessionaire:
  - (i) of ‘*no-objection*’ which may include comments concerning minor matters which will not substantially affect the Project Activities; or
  - (ii) that the Concessionaire fails, to the extent stated, to comply with the requirements of the Independent Engineer or as otherwise stated in this Agreement, with reasons.

If the Independent Engineer gives no notice within the Review Period, it shall be deemed to have given a notice of no-objection to the Concessionaire.

If the Independent Engineer instructs that further documents are reasonably required from the Concessionaire to demonstrate that the Project Activities or design comply with this Agreement, the Concessionaire shall prepare and submit the same promptly to the Independent Engineer at the Concessionaire’s cost.

If the Independent Engineer gives a notice that the Concessionaire fails to comply with the requirements of the Independent Engineer or those stated in this Agreement, the Concessionaire shall revise the documents, resubmit them to the Independent Engineer in accordance with this clause, and the review period shall be calculated from the date that the Independent Engineer receives the documents.

For performance testing, the Independent Engineer shall:

- (a) review test procedures developed by the O&M Contractor and confirm compliance with applicable test codes and standards and with testing criteria specified in this Agreement and **SCHEDULE E (*Testing*)**;
- (b) review the quality control reports, water testing results and testing reports and results in accordance with **SCHEDULE E (*Testing*)** of this Agreement.
- (c) review test reports prepared by the Concessionaire or the Concessionaire’s testing consultant; and
- (d) make visits to the Project Site to verify that the Construction Activities, including testing requirements, have been completed and thereafter sign and issue the COD Certificate.

## **1.5 COMMISSIONING SUPERVISION SERVICES**

During the commissioning phase, the IE Services to be performed by the Independent Engineer shall include the following:

- (a) supervise and approve ‘*as-built records*’ of the execution of the Construction Activities, as prepared by the Concessionaire, showing the exact as-built locations, sizes and details of the Construction Activities. As stated in this Agreement, the Independent Engineer shall have no authority to relieve the Concessionaire of any of its duties or to impose additional obligations;
- (b) require as-built records before the beginning of the testing on completion of the Construction Activities, but also updated as-built records to the extent that any construction and/or rehabilitation activities are executed by the Concessionaire during and/or after the testing;

- (c) review and approve the Operating and Maintenance Procedures prepared by the Concessionaire. The Operating and Maintenance Procedures shall include enough detail to ensure the operation, maintenance and performance of Desalinated Water Supply System to comply with the key performance indicators included in this Agreement and **SCHEDULE E (Testing)** of this Agreement. The Operating and Maintenance Procedures shall also allow to operate, maintain, dismantle, reassemble, adjust and repair Desalinated Water Supply System as necessary, including an inventory of spare parts;
- (d) detect errors, omissions, ambiguities, inconsistencies, inadequacies or other defects in the Construction Activities and issue the necessary notices of no-objection;
- (e) review the test programmes submitted by the Concessionaire to carry out the tests on completion, as specified in **SCHEDULE E (Testing)** of this Agreement;
- (f) give a notice to the Concessionaire stating the extent to which the testing programme does not comply with this Agreement or the Independent Engineer's requirements. Within fourteen (14) Days after receiving this notice, the Concessionaire shall review the test programme to rectify any non-compliance. If the Independent Engineer gives no such notice within fourteen (14) Days after receiving the test programme (or the revised programme), the Independent Engineer shall be deemed to have given a notice of no-objection. The Concessionaire shall not commence the tests until a notice of no-objection is given, or is deemed to have been given, by the Independent Engineer; and
- (g) issue the COD Certificate after checking the results and workability of Desalinated Water Supply System after the prescribed tests.

#### **INDEPENDENT ENGINEER CRITERIA**

An international or local engineering firm (not individuals) appointed as the Independent Engineer shall meet the following criteria:

- have the experience of undertaking a similar role in at least two (2) either (i) project financed infrastructure projects; or (ii) PPP projects;
- have the experience of supervising at least two (2) bulk water supply projects which included the construction of a pipeline or canal;
- have the experience of supervising at least two (2) water sector projects involving the construction of pumping stations and desalination/water treatment plants;
- have the following permanent employees for at least one (1) year:
  - (i) team leader with at least twenty (20) years of experience with complete knowledge and understanding of water projects, project financed infrastructure projects and PPP projects;
  - (ii) hydraulic expert with at least twenty (20) years of experience;
  - (iii) civil engineering expert with at least fifteen (15) years of experience;
  - (iv) water treatment expert with at least fifteen (15) years of experience;
  - (v) mechanical expert with at least fifteen (15) years of experience;
  - (vi) contract management expert with at least ten (10) years of experience; and

- (vii) other experts required to perform the obligations of the Independent Engineer under the Project as specified herein;
- provide an undertaking that the above staff shall be employed on the Project if the work is awarded to the engineering firm. Relevant staff members must be available to attend all inspections and meetings with the KWSC/GoS officials. Any change in staff for this assignment would need to be replaced with similar experience;
  - ensure that its staff are fully familiar with project financed infrastructure projects or PPP projects and the role of the Independent Engineer in such projects. In addition, the staff should be familiar with FIDIC conditions of contract, GoS public procurement regulatory framework, and the Project Agreements;
  - ensure that its staff have at least a minimum bachelor's degree in the relevant engineering field with a specialization in water sector projects.

**SCHEDULE K  
LICENSE AGREEMENT**

---

**LICENSE AGREEMENT**

**BETWEEN**

**KARACHI WATER AND SEWERAGE CORPORATION  
(AS KWSC)**

**AND**

**[•]  
(AS THE CONCESSIONAIRE)**

**IN RESPECT OF**

**THE CONCESSION TO DESIGN, FINANCE, BUILD, OPERATE, MAINTAIN AND  
TRANSFER**

**5 MGD SEAWATER DESALINATION PLANT PROJECT**

**DATED [•]**

**AT KARACHI, PAKISTAN**

**THIS LICENSE AGREEMENT** (this **Agreement**) is made on [●] at Karachi, Pakistan by and between:

1. **KARACHI WATER AND SEWERAGE CORPORATION**, a statutory body constituted pursuant to section 3 of the Karachi Water and Sewerage Corporation Act, 2023, with its office located at [●] (**KWSC** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns);

**AND**

2. [●], a company incorporated under the Laws of Pakistan, with its registered office at [●] (the **Concessionaire** which expression shall, unless excluded by or repugnant to the context, be deemed to include its successors in interest, administrators and permitted assigns).

(KWSC and the Concessionaire are hereinafter collectively referred to as the **Parties** and each individually as a **Party**).

## **RECITALS**

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WHEREAS:

- A. the Governor of Sindh, acting through the Local Government & Housing Town Planning Department, Government of Sindh (the **GoS**) and the Parties have entered into a concession agreement dated [●] (the **Concession Agreement**);
- B. in terms of the Concession Agreement, KWSC has agreed to grant a license to the Concessionaire in respect of the Project Site for the purposes of carrying out the Project Activities;
- C. the Parties are now entering into this Agreement to set out the terms and conditions relating to the use of the Project Site by the Concessionaire and the rights and obligations of the Parties with respect thereto.

**NOW THEREFORE**, in consideration of the mutual covenants contained herein, the Parties agree as follows:

## **1. DEFINITIONS AND INTERPRETATION**

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### **1.1 DEFINITIONS**

Unless specified otherwise herein in this Agreement (including the Recitals), all capitalized terms shall have the meanings assigned to them under the Concession Agreement. In addition, the following terms shall have the following meanings, unless the context otherwise requires:

**Agreement** means this license agreement, as amended, and supplemented from time to time;

**Commencement Date** has the meaning given to it in the Concession Agreement;

**Concession Agreement** has the meaning given to it in Recital A;

**Concessionaire** has the meaning given to it in the Preamble;

**Encumbrance** means any encumbrance on the Project Site (or part thereof), including but not restricted to mortgage, charge, pledge, lien, hypothecation and/or any security interest, assignment, privilege, or priority of any kind having the effect of security or other such obligations and shall include without limitation physical encumbrances and encroachments thereon;

**GoS** has the meaning given to it in Recital A;

**KWSC** has the meaning given to it in the Preamble;

**License** has the meaning given to it in Section 2.1.1 of this Agreement;

**License Period** has the meaning given to it in Section 2.1.1 of this Agreement;

**Parties** has the meaning given to it in the Preamble;

**Party** has the meaning given to it in the Preamble;

**Preamble** means the preamble of this Agreement;

**Project Site** means the site on which the Project is to be implemented, comprising of the immovable property, including the rights-of-way, on which the Desalinated Water Supply System is to be designed, financed, built, operated, maintained and transferred in accordance with the terms of the Concession Agreement, as demarcated in the map attached in **SCHEDULE A (Technical Specifications)** of the Concession Agreement.

**Recitals** means the recitals of this Agreement; and

**Signing Date** has the meaning given to it in the Preamble.

## 1.2 **INTERPRETATION**

The rules of construction and interpretation set forth in section 1.2 of the Concession Agreement shall apply, *mutatis mutandis*, to this Agreement.

## 2. **RIGHT TO ACCESS, LICENSE AND RELATED MATTERS**

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### 2.1 **RIGHT TO ACCESS AND LICENSE OF THE SITE**

- 2.1.1 KWSC grants to the Concessionaire, commencing from the Commencement Date (upon the physical handing over of the possession of the Project Site by KWSC to the Concessionaire) and until the issuance of the Handover Certificate (the **License Period**), a license in respect of the Project Site for the purposes of carrying out the Project Activities in accordance with the Concession Agreement (the **License**).
- 2.1.2 Subject to Section 3, the License granted in terms of Section 2.1.1 shall terminate without the need for any action to be taken by the Parties on expiry of the License Period.
- 2.1.3 KWSC shall provide the Concessionaire such assistance as may be reasonably requested by the Concessionaire to enjoy the License, provided always that the Concessionaire is in compliance with all Legal Requirements and the provision of any assistance by KWSC (including delay or omission to provide such assistance) shall not relieve or absolve the Concessionaire of its obligations under this Agreement or the Concession Agreement.
- 2.1.4 The Concessionaire shall ensure that, during the License Period, KWSC, any relevant Government Authority, the Independent Experts and each of their representatives, officers, employees, and agents shall have the right to access the Project Site to exercise their rights under the Law and perform their obligations under the Concession Agreement; provided, however, such access shall

be subject to any reasonable requirements of the Concessionaire regarding safety and security of the Desalinated Water Supply System.

- 2.1.5 This Agreement shall be duly executed by the Parties and all costs, fees, expenses, duties, charges, and taxes relating to the same shall be borne by the Concessionaire. Notwithstanding anything contained herein or the Concession Agreement, the Parties hereby acknowledge and confirm that no right, title, interest, benefit or otherwise is granted to the Concessionaire under this Agreement which may attract the registration requirement under the Laws. However, in the event it is envisaged that this Agreement is a registrable instrument with the relevant Government Authority under the Laws, all costs, fees, expenses, duties, charges, and taxes relating to the registration of this Agreement shall be borne by the Concessionaire.

## **2.2 TITLE AND USE OF PROJECT SITE**

- 2.2.1 KWSC represents and warrants that it has the power and authority to grant the License to the Concessionaire for the Project Activities during the License Period, provided the title to the Project Site shall always vest with KWSC.
- 2.2.2 The Concessionaire undertakes, covenants and agrees that it shall only use the Project Site solely for the purposes of undertaking the relevant Project Activities in accordance with the requirements of the Concession Agreement.

## **2.3 NO SALE OR CREATION OF ENCUMBRANCE**

The Concessionaire shall not part with, dispose of, sell, lease, sub-lease, license or sub-license or create any Encumbrance of any nature whatsoever on the whole or any part of the Project Site and shall not place or create nor permit any Contractor or other person claiming through or under the Concessionaire to place or create any Encumbrance over all or any part of the Project Site, or on any rights of the Concessionaire therein or under this Agreement.

## **2.4 PROTECTION OF PROJECT SITE FROM ENCROACHMENTS**

- 2.4.1 For the duration of the License Period, the Concessionaire shall:
- (a) be fully responsible for and shall protect the Site from, in each case, any and all occupations, thefts, encroachments and Encumbrances;
  - (b) develop a security protocol for security of the Project Site and arrange for (at its own cost and expense) appropriately trained and qualified security personnel to undertake the security of the Project Site;
  - (c) immediately upon becoming aware, notify KWSC and the Independent Engineer, of any occupations, thefts, encroachments and Encumbrances on the Project Site, and KWSC shall, upon receipt of such notification, provide reasonable assistance to the Concessionaire in procuring police assistance for removal of trespassers and/or encroachments on the Project Site; provided however, the provision of any assistance by KWSC (including delay or omission to provide such assistance) shall not relieve or absolve the Concessionaire of its obligations under this Agreement or the Concession Agreement; and
  - (d) submit an annual report intimating to KWSC and the Independent Engineer either: (i) occurrence and status of occupations, thefts, encroachments, and Encumbrances on the Project Site in the relevant year (if any); or (ii) confirming that the Project Site is free from any occupations, thefts, encroachments and Encumbrances in the relevant year of the License Period.

- 2.4.2 The Concessionaire undertakes, covenants and agrees that it shall, throughout the License Period, remain liable for any Claims and/or damage to the Project Site or the Desalinated Water Supply System.

### **3. BREACH AND TERMINATION**

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Any breach or default by a Party of its obligations under this Agreement shall be dealt with in accordance with the terms of the Concession Agreement. This Agreement shall stand automatically terminated on the expiry of the License Period.

### **4. REPRESENTATIONS AND WARRANTIES**

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#### **4.1 KWSC'S REPRESENTATIONS AND WARRANTIES**

KWSC hereby represents and warrants to the Concessionaire that it has the power and authority to:

- 4.1.1 grant the License to the Concessionaire;
- 4.1.2 it has the power and authority to enter into and deliver this Agreement, and that this Agreement forms the valid, binding, and enforceable obligations of KWSC; and
- 4.1.3 at the time of grant of License, the Project Site shall be free of Encumbrances.

#### **4.2 CONCESSIONAIRE'S REPRESENTATIONS & WARRANTIES**

The Concessionaire hereby represents and warrants to KWSC that:

- 4.2.1 it has the power and authority to enter into and deliver this Agreement and that this Agreement forms the valid, binding, and enforceable obligations of the Concessionaire; and
- 4.2.2 the execution and performance of this Agreement by the Concessionaire does not violate any Law or any other obligations to which the Concessionaire is subject.

### **5. NOTICES**

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#### **5.1 NOTICES**

The provisions of article 30 of the Concession Agreement shall be incorporated by reference into this Agreement and apply, *mutatis mutandis*, hereto.

### **6. GOVERNING LAW AND DISPUTE RESOLUTION**

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#### **6.1 GOVERNING LAW**

This Agreement and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with the Laws of Pakistan.

#### **6.2 DISPUTE RESOLUTION**

The provisions of article 27 of the Concession Agreement shall be incorporated by reference into this Agreement and apply, *mutatis mutandis*, hereto.

**7. MISCELLANEOUS**

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**7.1 PARTIAL INVALIDITY AND SEVERABILITY**

If for any reason whatsoever, any provision of this Agreement is, or becomes invalid, illegal or unenforceable, or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions of this Agreement shall not be affected in any manner, and the Parties shall negotiate in good faith with a view to agreeing upon one or more provisions which may be substituted for such invalid, unenforceable or illegal provision(s), as nearly as is practicable.

**7.2 AMENDMENT**

No amendment or modification of this Agreement shall be valid and effective unless agreed to by the Parties, confirmed by the GoS, and evidenced in writing.

**8. ORIGINALS**

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**8.1 NUMBER OF ORIGINALS**

This Agreement shall be executed in two (2) originals.

**SIGNATURE PAGES**

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**IN WITNESS WHEREOF**, the Parties, intending to be legally bound, have caused this Agreement to be executed by their duly authorised representatives as of the date first written above.

KARACHI WATER AND SEWERAGE CORPORATION

Signature .....

Name  
(block capitals) .....

Title .....

In the presence of:

Witness signature .....

Witness name  
(block capitals) .....

Witness signature .....

Witness name  
(block capitals) .....

THE CONCESSIONAIRE

Signature .....

Name  
(block capitals) .....

Title .....

In the presence of:

Witness signature .....

Witness name  
(block capitals) .....

Witness signature .....

Witness name  
(block capitals) .....

**SCHEDULE L**  
**ENVIRONMENT, HEALTH AND SAFETY REQUIREMENTS**

**PART I - E&S IMPACT ASSESSMENT**

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The E&S Impact Assessment shall be prepared by the Concessionaire in accordance with the following minimum criteria:

- (a) the E&S Impact Assessment shall address all E&S risk and impacts of the Project, including ancillary and associated facilities, as presented in the terms of reference specified in part 3 (*Environmental and Social Impact Assessment Terms of Reference*) of this **SCHEDULE L (Environment, Health and Safety Requirements)**. The E&S Impact Assessment must comply with the Legal Requirements, including E&S Standards, and be prepared by a competent professional with experience in similar projects in the region and the application of E&S Standards.

**PART II - E&S MANAGEMENT SYSTEM**

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The E&S Management System shall be established by the Concessionaire and provide for the following:

- (a) an overarching policy that states the E&S principles, including reference to applicable aspects of E&S Standards, to effectively manage risks and impacts during the Concession Period;
- (b) organizational capacity and competency to implement the E&S Management System, defining key E&S roles and responsibilities, assigning staff with appropriate skills and expertise, and training staff in the management of E&S risks and impacts;
- (c) a risk assessment procedure to identify potential negative E&S risks and impacts, and the appropriate strategies to address these issues;
- (d) a management program defining mitigation and performance improvement measures and actions that address the E&S risks and impacts, including monitoring activities, and the timelines and responsibility for each task. The management program shall consist of a documented combination of operational procedures, practices, plans and relevant supporting documents that further develop and detail the plans and measures defined in the E&S Impact Assessment (not all plans/procedures would be needed as a Condition Precedent if not necessary at the start of Construction Activities (as the case may be); definition of plans must be at least thirty (30) Days before needed). The program shall comply with the E&S Requirements, and cover at minimum:
  - (i) Waste Management: standard operating procedures to manage construction and operation solid and hazardous waste through handling, sorting, recycling and/or disposal of different materials, including (a) materials suitable for combustion, (b) hazardous and toxic substances, (c) other materials unsuitable for combustion, and (d) recyclable materials, whether undertaken by the Concessionaire, its contractors or sub-contractors. Where companies are to be contracted for the management, treatment and disposal of solid and hazardous wastes, the Concessionaire shall only contract such companies that have the required legal and valid permits;
  - (ii) Energy conservation and resource management to minimize impacts of the Project Activities on resources and promote efficient use of water and other resources;
  - (iii) Wastewater Management to manage effluents from the treatment Desalinated Water Supply System according to Good International Industry Practices and based on the type

and characteristics of wastewater, including maximization of recycling and treatment and disposal to meet the Legal Requirements;

- (iv) Soil Management Plan: including measures to manage excavated soils such as separation and storage, minimizing vegetation clearance, working strip rehabilitation and soil re-use;
- (v) Pollution Prevention and Spill Response and Hazardous Materials Management, including plans and procedures for the handling and storage of hazardous chemicals (including those used for disinfection) and for the mitigation of excessive dust, air emissions and of noise pollution, including reduction measures, monitoring, and corrective actions to achieve compliance with the E&S Standards;
- (vi) Water Management: develop a plan to monitor water quality delivered to communities, released to the city of Karachi from the water treatment Desalinated Water Supply System of the Desalinated Water Supply System and used for PV panel cleaning. Water quality to meet the required national and international standards, with management measures to be developed in the event of noncompliance;
- (vii) Occupational Health and Safety (OHS): the Concessionaire, Contractors and subcontractors shall ensure safe working conditions for their employees, including staff training, job safety instructions and measures to ensure workplace safety and mitigate OHS risks. Such requirements, at a minimum, shall include:
  - A. job-and task-specific hazard analysis and controls for all activities;
  - B. safety training for all personnel in their language, covering hazards and safety protocols of their jobs;
  - C. special training for specific hazards: handling of hazardous chemical, exposure to pathogens and vectors, in excavations, with electricity, in water, in enclosed space, alongside the open water canal, fire and explosion etc.;
  - D. provision of personal protection equipment (PPE), requirements for use of PPE, and enforcement of PPE use;
  - E. OHS monitoring implemented by accredited professionals. Arrangements in place to manage OHS incidents, including first aid arrangements, emergency response plans, including provision for emergency medical treatments, and system for reporting and acting on ‘near misses’;
  - F. recording incident statistics, including total work hours, lost time incidents, major injuries, fatalities, etc.;
- (viii) Safety management including health and safety for the community around all Project facilities at the Project Site, with specific measures to monitor access to the open section of the Desalinated Water Supply System and protect against accidental slips and falls, and unauthorized entry. Safety management shall also include emergency preparedness and response, and life and fire safety. Emergency preparedness and response plan shall specify responsibilities of the parties and the relevant authorities, procedures to minimize the harm of any potential accident and ensure that appropriate response equipment and materials are in place. The plan shall also include provisions for continual updates, including drills to test the effectiveness;

- (ix) Contractor/sub-contractor management: to manage EHS planning and performance of Contractors/sub-contractors, including at a minimum:
  - A. inclusion of relevant E&S Management Program requirements in contracts/subcontracts (OHS requirements shall be adopted by all Contractors/subcontractors as applicable);
  - B. clear assignment of EHS responsibilities for the Concessionaire, Contractors and subcontractor;
  - C. Contractor/sub-contractors reporting adequate information to allow the Concessionaire to evaluate the need for corrective actions and provide relevant data and information to the required authorities;
  - D. verification of training and/or proper credentials for Contractor/sub-contractor managers and staff responsible for EHS management;
- (x) External communication protocol, Stakeholder Engagement Plan and the Grievance Redress Mechanism: to receive and address Stakeholders' grievances. The Grievance Redressal Mechanism shall be easily accessible, understandable, and sufficiently advertised to the Stakeholders, and ensure the confidentiality of a person raising a complaint;
- (xi) Code of conduct to avoid gender-based violence among the workforce, including Contractors and subcontractors, and towards the Affected Communities, and definition of differentiated training to workers' supervisors and managers on its implementation;
- (xii) Traffic and Pedestrian Safety Plan: setting out construction and operation management measures, including safe movement of traffic during construction, operation and decommissioning, and allowing safe access to communities and crossing of the Project Site;
- (xiii) Security personnel management plan: a common plan for personnel hired or contracted by the Concessionaire or KWSC, including Contractors/sub-contractors. The plan shall be based on the Concessionaire's assessment of the risks posed by its security arrangements for workers, the public and Affected Communities, and shall include a code of conduct for security personnel in line with applicable E&S Standards. The code of conduct shall: aim to ensure that security personnel are screened for implication in past abuses and adequately trained in the use of force and appropriate conduct toward communities, the public, and workers; include a mechanism to raise grievances related to the conduct of security personnel, an assurance that any incidents will be properly investigated, and that the Concessionaire does not sanction use of force in relation to the Project, except when used for preventive and defensive purposes and in proportion to the nature and extent of the threat.

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### **PART III - ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT TERMS OF REFERENCE**

#### **1. INTRODUCTION**

KWSC aims to engage the private sector on a PPP basis for the DFBOMT of the Desalinated Water Supply System at Ibrahim Hyderi, Karachi. The Desalinated Water Supply System shall supply water to users in the southern regions of Karachi and the adjoining areas. This initiative aims to address the acute water shortage in the city, which currently experiences a substantial gap between water supply and demand. The proposed Desalinated Water Supply System will be located

in Ibrahim Hyderi, Korangi Creek, approximately one and a half kilometres (1 ½ km) from Dhari Island, covering an area of ten (10) acres.

The Project entails the following:

- construction of the Desalinated Water Supply System;
- installation of related facilities including intake structures, pre-treatment facilities, high-pressure pumps, reverse osmosis membranes, energy recovery devices, post-treatment facilities, water storage tanks and brine disposal systems;
- implementation of a SCADA and metering system for monitoring and control; and
- E&S mitigation measures.

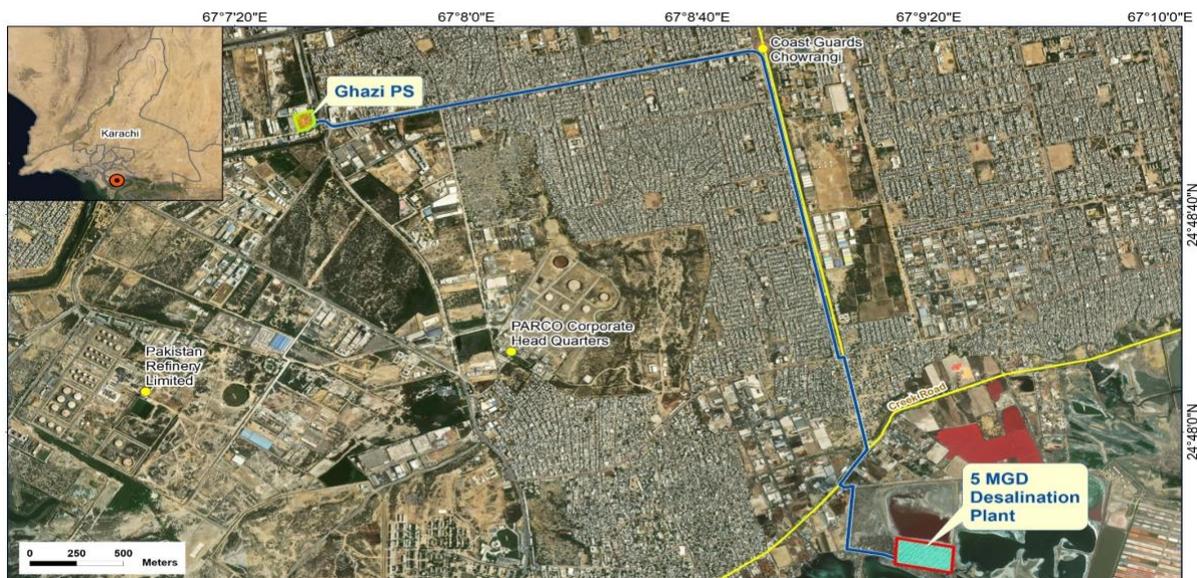


Figure 1. Project location of Desalinated Water Supply System.

The proposed route for the water pipeline from the Desalinated Water Supply System to Ghazi Pumping Station spans approximately six (6) kilometres, passing through Creek Road, Coast Guard Chowrangi, and Korangi Qabristan Road.

Detailed outline of the project components will be shared with successful Consultant.

## 2. **OVERVIEW**

KWSC is seeking to appoint an environmental and social consultant (the **Consultant**) to provide and undertake the ESIA for the Project to meet IFC Performance Standards, Good International Industry Practices (GIIP), Asian Development Bank's Safeguard Policy Statement (2009), and other relevant standards.<sup>23</sup>

The aim is to gather all relevant data concerning the environmental and social baselines, evaluate the impacts of the Project, to assess the impacts as per the relevant national and international requirements and guidelines, and develop mitigation, and management plans to enable these impacts to be avoided or minimized to an acceptable level.

<sup>23</sup> When referring to E&S, this includes also assessment and management of labour and working conditions including workers' rights and occupational health and safety (OHS) risks and impacts.

These ToRs describe the minimum requirements for the development of the ESIA under the Project. The applicable provincial legislation in Sindh, applicable national legislation, Asian Development Bank's Safeguard Policy Statement (2009), and the IFC Performance Standards should be used to establish minimally acceptable conditions for satisfying the requirements of the ESIA for the Project.

The Concessionaire will be required to complete an ESIA and detailed ESMP that is fully compliant with IFC's sustainability framework and Performance Standards, World Bank Group General EHS Guidelines, World Bank Group EHS (sector specific) Guidelines for Water and Sanitation, ADB's environmental and social safeguard standards i.e. SPS 2009, local environmental and other relevant legislation notified by provincial and federal governments in order to obtain environmental approvals from the Sindh Environmental Protection Agency, Government of Sindh and other relevant agencies, as described herein and the E&S Scoping Report.

The basic format for the ESIA document that should be followed is:

- Table of Contents;
- Acronyms and Abbreviations;
- Executive Summary;
- Project Description and Justification;
- Regulatory Framework;
- Environmental and Social Setting (baseline);
- Assessment of Impact, including cumulative impacts;
- Stakeholder Engagement and Public Consultation;
- Mitigation and Monitoring Measures;
- Environmental and Social Management Plan;
- Appendices.

The tasks and responsibilities described in the ToRs are indicative only and cannot be considered as a complete and comprehensive description of the expected consultancy services. It is rather the Consultant's responsibility to critically review the outlined ToRs and propose a complete scope of work, detailed and thorough enough in the Consultant's own professional judgment to achieve KWSC's objectives and meet national and international standards, requirements and good practices.

In general, the ESIA must identify and address:

- applicable environmental standards, norms, and international requirements set forth in national, local and international law, along with the IFC Performance Standards and ADB standards;
- identification of Project Stakeholders and undertake broad Stakeholder engagement, including dissemination of relevant Project information and gathering of feedback. Develop a Stakeholder Engagement Plan (SEP), which will systematically assess and map Stakeholders, develop engagement methods for each, record all interactions and plan ongoing engagement throughout the Project lifecycle. A Grievance Redress Mechanism will also be developed as part of the SEP to track, respond and monitor all complaints and grievances;
- detailed description of all phases of the Project from feasibility studies to the Project Site preparation, construction, operations to closure. This should also include an assessment of alternatives including the technically feasible alternatives as well as the proposed Project;

- develop a baseline of all E&S aspects within the relevant project Area of Influence (the pAoI), which will include primary data collection, along with the use of relevant secondary data sources;
- describe the methodology used to assess impacts, and identify all direct, indirect and cumulative impacts and their significance level. Detail all mitigation measures to be implemented to address unavoidable impacts and include details of how mitigation can reduce impact levels, with a final residual impact rating provided;
- a detailed description of all relevant plans related to the proposed project Area of Influence, for example, engineering and Site preparation plans, operations and decommissioning or closure, environmental management, and mitigation in whatever form these may take;
- uncertainty and how that uncertainty will be addressed through monitoring and contingency plans as may be needed to reduce risk of adverse impacts in the future;
- specific commitments, including who is responsible, what will be done, when and how it will be monitored, reported, and audited to confirm that commitments are met.

Throughout the life of the Project, other consultants and professional advisors will be providing services to the KWSC and the Project, and the Consultant shall be expected to refer the work product of these other parties where relevant. The Consultant while submitting the proposal agrees to cooperate and coordinate its activities with those other parties (e.g., technical, legal, financial consultants and contractors involved in the Project) so as to provide support in case of any queries in future and not to interfere with the overall smooth progress of the Project.

### **3. TABLE OF CONTENTS OF THE ESIA**

A general table of contents for the ESIA shall be provided in the report. The table of contents shall be organized in such a manner as to facilitate the use of the ESIA by reviewers and project implementers. At a minimum, the table of contents shall include the following:

- Executive Summary;
- General Information/Introduction;
  - Overview of the Project
  - Project Proponents;
  - Objectives of ESIA;
- Legal and Regulatory Framework;
  - National Legislation;
  - Provincial and Local Legislation;
  - International Requirements and Conventions; Institutional Arrangements;
- Project Description and Alternatives Description;
- Environmental and Social Setting/Baseline;
  - Physical Environment;
    - Geology;
    - Soils;
    - Water Resources and Quality;
    - Air Quality;
    - Climate and Meteorology;
    - Noise and Vibration;
    - Landscape and Visual Amenity;
  - Biological Environment;

- Protected Areas;
  - Vegetation/Flora;
  - Terrestrial Wildlife/Fauna and Habitat;
  - Marine Wildlife / Fauna and Habitat
  - Endangered or Threatened Species and Habitat;
- Social-Economic-Cultural Environment;
  - Demographics;
  - Livelihoods and Income;
  - Land Use and Ownership;
  - Health and Education;
  - Infrastructure and Utilities;
  - Archaeology and Cultural Heritage Ecosystem Services;
  - Ecosystem Services
- Assessment of Impacts;
  - Methodology
  - Direct, Indirect & Cumulative Impact
  - Impact Significance Levels
- Mitigation and Monitoring Measures;
  - Monitoring Plans
  - Key Performance Indicators
- Environmental and Social Management Plan;
- Stakeholder Engagement;
  - Stakeholder Identification and Analysis
  - Stakeholder Engagement Plan (SEP)
- Grievance Redress Mechanism
- Roles and Responsibilities;
  - Project Proponents
  - Consultants and Contractors
  - Regulatory Authorities
- References;
- Appendices;
  - Stakeholder Engagement and Public Consultation;
  - Technical Support Studies (Bathymetric Survey, Geotechnical and Topographic Survey);
  - Maps and Plans;
  - Other Special Studies if needed.

#### 4. **SCOPE OF WORK**

The Consultant shall undertake the following work:

- propose a specialized team of experts required to undertake the ESIA study;
- review all available existing information on environmental and social baseline conditions and potential impacts related to the Project, and ancillary and associated facilities, including the E&S Scoping Report and technical studies related to the Project that will be made available to the Consultant;
- review, analyse and provide the policy, legal, and administrative framework for this Project as part of the ESIA report;
- undertake an E&S desk-based, and early review of available primary and secondary data, to focus on key issues/impacts;

- clearly define the Project’s area of influence, including ancillary and supporting facilities that are part of the Project, and the area of influence related to ‘associated facilities;’
- design E&S relevant field based social and environmental baseline studies;
- conduct Project Site visits, with the team of specialized experts, and baseline studies, covering the whole spectrum of analysis and modelling relevant to the construction and operation of the Project. Such studies should also include formal and informal discussions/meetings with local communities, government entities and other key stakeholders, in each project affected area/influence area (municipality level and district level). Consultations will enable both verification of the information reviewed from existing sources about the Project’s social and environmental context, an initial screening of likely environmental and social impacts and sensitivities, and for all relevant stakeholders to be informed about the Project. Any contact or interviews for preparation of baselines or social assessment should be planned and carried out in a culturally appropriate manner, in a language acceptable and used by the communities. Consultations shall be held in the national and/or relevant local language (or with translation). During the COVID pandemic, close consideration should be given to prevention of infection to stakeholders and the Project teams.
- based on the above, prepare an ESIA report consistent with the applicable national and international standards (see following sub-sections);
- design, carry out, and document the public/Stakeholder consultations and engagement throughout the ESIA process. This will lead to preparation of: (i) the Project’s grievance redress mechanisms and channels; and (ii) a Stakeholder Engagement Plan (SEP). Men, women and vulnerable groups/persons <sup>24</sup> should be included in the Stakeholder identification and analysis. This will ensure the impacts and mitigation measures are properly consulted with affected communities and any received feedback incorporated into the design, mitigation and management measures.
- the ESIA should include Environmental and Social Management Plans (ESMPs) in compliance with the applicable requirements, which may include but not limited to:
  - Project E&S standards based on applicable local, Asian Development Bank’s, and the World Bank’s requirements;
  - Environmental and Social Monitoring Program and Key Performance Indicators (KPI);
  - Waste Management Plan;
  - Biodiversity Action Plan;
  - Energy Conservation and Resource Management Plan;
  - Wastewater Management Plan;
  - Soil Management Plan;
  - Pollution Prevention and Spill Response and Hazardous Materials Management Plan;
  - Water Management Plan;
  - Occupation Health and Safety Plan and procedures;
  - Safety Management Plan;
  - Contractor / Sub-Contractor Management Plan;
  - External Communication Protocol, Stakeholder Engagement and Grievance Mechanism;
  - Code of Conduct to Avoid Gender Based Violence;

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<sup>24</sup> This disadvantaged or vulnerable status may stem from an individual’s or group’s race, color, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status. KWSC should also consider factors such as gender, age, ethnicity, culture, literacy, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

- Traffic and Pedestrian Safety Plan;
- Security Personnel Management Plan; and
- Emergency Preparedness and Response Plan (EPRP).

Issue all disclosure documents in (include local languages) and English for web disclosure and hard copy distribution to the public (add any detailed of distribution requirements).

The Consultant shall comply at any time with the relevant national and international data protection law and regulations.

## 5. **ACRONYMS AND ABBREVIATIONS**

All acronyms and abbreviations used in the ESIA must be clearly and succinctly defined and described in this section.

## 6. **EXECUTIVE SUMMARY**

A general summary of the ESIA shall be provided in this section. The summary shall be written using a vocabulary that can be easily understood by the public. It shall include at a minimum the following information about the project from the ESIA:

- Objectives and Justification;
- Location;
- Project Proponents;
- Project Description;
- Project Alternatives;
- Environmental and Social Setting/Baseline;
- Evaluation of Impacts;
- Mitigation and Monitoring Measures;
- Environmental and Social Management Plan;
- Issues raised by stakeholders and any outstanding issues.

## 7. **GENERAL INFORMATION**

### 7.1 **INTRODUCTION**

A brief overview of the Project, including who is developing the Project, where it is located and the current stage of development. Further information to include who is developing the ESIA and the purpose of the document.

### 7.2 **PROJECT OBJECTIVES AND JUSTIFICATION**

#### 7.2.1 **OBJECTIVES:**

A statement of the general and specific objectives (purpose) of the proposed Project.

#### 7.2.2 **PROJECT JUSTIFICATION:**

Provide a justification for the proposed Project (need) highlighting the benefits of the Project, including to surrounding communities and the economic development of the region and country.

## 8. **LEGAL AND REGULATORY FRAMEWORK**

This section of the ESIA shall define the legal framework under which the ESIA is being completed

and international safeguards or standards used, including the IFC Performance Standards (2012), World Bank Group's general and industry specific EHS Guidelines to be used a benchmark, and ADB's standards. This section should include:

- information that demonstrates rights and access such as land ownership and rights-of-way, etc., with written authorization and mapping across all identified population settlements;
- applicable environmental standards, norms and requirements set forth at the international, national, regional and/or local levels;
- required regulatory approvals and/or permits for all stages and their status;
- applicable land use requirements;
- institutional arrangements including relevant government agencies and key players in the ESIA approval process, along with those that will be responsible for monitoring oversight;

It is recommended to use Good International Industrial Practices as well as the following good practice guidance:

- Stakeholder Engagement: A Good Practice Handbook for Companies doing Business in Emerging Markets (IFC, 2007);
- IFC's Good Practice Note on Managing Contractor's Environmental and Social Performance (2017);
- Workers' accommodation: processes and standards: A guidance note by IFC and the EBRD" (IFC and EBRD, 2009);
- IFC's Good Practice Handbook: Use of Security Forces: Assessing and Managing Risks and Impacts (2017); and
- UN Voluntary Principles on Security and Human Rights.

## **9. PROJECT DESCRIPTION**

This section shall include the following: a full description and location of the proposed Project and associated infrastructure and reasonable alternatives, including ancillary facilities and operations such as the camp/housing for construction (if applicable) and operation phases, borrow and disposal areas, sanitary services, waste disposal and transportation infrastructure. It shall include at a minimum:

### **9.1 PROJECT LOCATION**

- The general location of the Project and associated activities in terms of:
  - Political-administrative location (region, district, town and other relevant political administrative units) with accompanying location map;
  - Means of Site access;
  - Latitude and longitude of Project area;
  - Maps of Project area at a scale of no less than 1:50,000;
  - All drawings should present scale and key coordinates.

## 9.2 PROJECT DESCRIPTION

### 9.2.1 GENERAL

#### 9.2.1.1 Type and nature of the Project:

- Type, Desalinated Water Supply System;
- capacity, MGD and m<sup>3</sup>/s for Desalinated Water Supply System;
- diagrams and drawings of plant components (intake, pre-treatment, treatment, post-treatment and brine disposal);
- project operations: Description of how the Project would operate (monthly, daily, hourly, as appropriate);
- design details for each component of the Project, dimensions, materials of construction and configuration;
- other works: bathymetric surveys;
- design drawings for Project facilities: Plan (overhead view), Elevations (front view), Profiles (side view), Sections.

### 9.2.2 SITE ACCESS

Identify all new and existing roads to be used (including closed roads that will be reopened, and temporary roads if applicable), traffic volume, operating speeds and trip times, detailed information on any roads to be constructed or upgraded (including on-Site roads).

### 9.2.3 CONSTRUCTION PHASE AND SCHEDULE

- Indicative schedule for each phase of construction for all Project and ancillary facilities including, but not limited to: mobilisation, road construction and improvements, land clearing, drilling, blasting (if required), borrow and spoil disposal, erosion and sediment control, excavation and subgrade preparation, foundation preparation, concrete work, construction or installation of each Project facility and stabilization of disturbed areas.
- Waste management for each Project component (demolition and spoil material etc.). Outline procedures for handling, storing, recycling, and disposing of waste materials.
- Labour during construction: Number and type of employees (local and non-local) by field of expertise (days per week, hours per day, shifts per day). Include a plan for work force accommodation, if applicable, ensuring compliance with applicable standards.
- Raw materials to be used for construction: indicate the amounts per day, month, storage and disposal, include an inventory of chemical, toxic or hazardous substances and their storage, safety aspects regarding transportation and handling of hazardous substances and materials (including sourcing of aggregates from nearby quarries, water for construction etc.).
- Construction camp (if applicable): description of the camp including but not limited to: a map showing all facilities at a legible scale appropriate to the size of the Project and in

compliance with “Workers’ accommodation: processes and standards: A guidance note by IFC and the EBRD” (IFC and EBRD, 2009).

#### 9.2.4 OPERATIONS PERIOD

##### 9.2.4.1 Operation information:

- activities and equipment and machinery to be used during operations, including preventive and corrective maintenance). Specify the operational parameters and schedules for equipment and machinery;
- labour during operations (number and type of employees (local and non-local) by field of expertise (days per week, hours per day, shifts per day). Include training and capacity Building programs for employees to ensure efficient operation and maintenance;
- overall energy requirements and sources (renewable and non-renewable), measures to optimise energy use and enhance energy efficiency;
- inventory of chemical, toxic or hazardous substances used during operations and storage safety aspects regarding transportation and handling to ensure compliance with safety regulations and any other relevant information;
- waste management, i.e., screened debris, plant sludge, solid, liquid, and hazardous waste streams, brine disposal area and monthly monitoring as relevant;
- environmental monitoring, implement a monitoring plan to track environmental parameters and ensure compliance with regulatory requirements, including regular reporting and review of environmental performance, and develop corrective actions for any non-compliance issues identified during monitoring; and
- community engagement, maintain ongoing communication and engagement with local communities during the operation phase, address any community concerns and provide updates on operational activities, and ensure that a grievance redress mechanism is in place to manage and resolve any complaints from community members.

#### 9.2.5 CLOSURE AND DECOMMISSIONING PHASE

- Describe activities that will be required when the Project nears the end of its service life, including contact with regulatory agency(ies) to obtain the environmental guidelines to carry out the closure or decommissioning. Closure and decommissioning (or rehabilitation) shall include at least a general ‘Restoration and Closure Plan,’ recognizing that terms of closure may be very different when this phase approaches. The description of restoration measures should include the size of the area to be restored as well as potential restoration measures.
- Plans for the decommission of system components, including disposal of potentially hazardous wastes incorporated into components.

#### 9.2.6 PROJECT ALTERNATIVES

- All Project alternatives that are reasonable and feasible and meet the purpose and need for the proposed Project shall be identified and summarized in this section (and evaluated in the ESIA, as appropriate).

- In addition to the proposed Project, such alternatives include alternative water supply sources, alternative routing or configuration of elements of the Project, alternative size and output capacity, and alternative plans for construction, operation and decommissioning of the facilities, including best practices that may avoid and / or reduce the adverse impacts to the physical, biological or social-economic-cultural environments.
- The ESIA should also describe alternative ways to clean PV panels to minimize water usage for this purpose.

## **10. ENVIRONMENTAL AND SOCIAL SETTING/BASELINE CONDITIONS**

Based on information available from secondary data sources such as existing literature and government data, along with primary data collection conducted specifically for the feasibility studies of the ESIA. Indicate the direct and indirect and cumulative impact areas of influence for physical, biological, and social-economic-cultural impacts and basis for defining area. This section shall include at a minimum, the following information:

### **PHYSICAL ENVIRONMENT**

#### **10.1 GEOLOGY AND SOILS**

- Description of the geology, surficial geology and soils and characteristics at all Project component locations and in the area of influence, including a geological map of the Project area and area of influence of the Project.
- Topography and slope conditions and geomorphology.
- Seismicity and stability characteristics.
- Describe geologic hazards within the Project area.
- The ESIA shall describe baseline soil resources, project geotechnical and geophysics reports and make use of maps, tables and accompanying narrative text to describe the soils within the project Area of Influence.

#### **10.2 WATER RESOURCES**

##### **10.2.1 SURFACE WATER**

- Marine Environment Mapping, include maps of the coastal and marine environment within the area of influence of the Project, detailing the locations of the seawater intake and brine discharge points.
- Marine Water Flow and Tidal Patterns, describe the tidal patterns and water flows in the marine environment around the Project site, including seasonal variations and any data on extreme tidal events.
- Watershed and Drainage Patterns, delineate the watershed and drainage patterns in the Project area using remote sensing satellite imagery, focusing on how surface runoff might affect the coastal zone.

- Hydrological Impact Assessment, assess potential impacts on the marine environment, such as changes in water quality and marine life due to the intake and discharge operations, and develop mitigation measures to address these impacts.

#### 10.2.2 GROUNDWATER

Provide a map of groundwater wells in the area, identifying and describing aquifers and underground water sources. Include the hydrogeologic characteristics of these aquifers, detailing their potential yield if groundwater might be required for the Project. Present data on water table levels during both dry and rainy seasons, sourced from secondary data. Assess groundwater quality, and if no data is available for nearby wells that might be impacted by construction and operational activities, collect baseline groundwater quality data to ensure accurate monitoring and mitigation of potential impacts.

#### 10.2.3 SURFACE WATER AND GROUNDWATER STANDARDS

Describe the surface water and groundwater standards applicable to the Project (including national /provincial standards and international standards (e.g., World Bank/IFC General Environmental Health and Safety Guidelines).

#### 10.3 AIR QUALITY

Air quality monitoring baseline should be undertaken for the Site, and any sensitive off-Site locations which may be impacted by the Project. The minimum suite of air quality parameters that will be monitored are those that are expected to be affected by the Project's development. The ESIA Report is expected to provide a classification of Site environment (e.g., degraded or non-degraded airshed), establish present background air pollutants, applicable ambient air quality limits for the area.

#### 10.4 CLIMATE AND METEOROLOGY

Available baseline information for weather and climate related data shall be collected and shall include at a minimum the following:

- source of data (meteorological station(s) from which climatological data have been obtained, information should include data from the Pakistan Meteorological Department;
- temperature variations;
- relative humidity;
- solar radiation and evaporation rates;
- rainfall (total precipitation, rainfall intensity and duration by month);
- wind rose (Wind direction and speed, twenty-four (24) hourly data);
- climate change impact scenarios to be analysed in three (3) time frames (short-term, medium-term and long-term) while keeping in view the design life of the Project components.

#### 10.5 NOISE AND VIBRATION

Noise, and if applicable vibration, monitoring baseline should be undertaken at the Project Site,

and any sensitive off-Site locations which may be impacted by the Project. Provide a classification of the Project Site environment, establish existing background noise levels, and identify applicable noise limits and location of boundary to a level sufficient for the development of mitigation measures envisaged and to assess the future expected noise, and if applicable vibration, levels during operations, especially from the Desalinated Water Supply System. The ESIA shall include location of monitoring stations, daytime, and night-time noise levels (measured in decibels) and an inventory of existing noise sources.

#### **10.6 SOLID, LIQUID AND HAZARDOUS WASTE**

Determine the expected types and amounts of waste streams from Project related activities. Map local disposal options and associated quality requirements, including the permitting status of local landfills and their compliance with international standards and guidelines. Assess local recycling capacity for wastes generated by the Project (including the potential for old canal demolition waste), and any needs, longer term, for building local capacity (including wastes from the Treatment Plant, canal cleaning, etc.).

#### **10.7 LANDSCAPE AND VISUAL AMENITY**

Based on the Site visit, identify general landscape and topography conditions within the area of influence. In addition, based on Site assessment and consultations with relevant entities, identify any key visual receptors which could be impacted (touristic sites, villages, key archaeological/cultural sites, etc.) by the Project.

### **BIOLOGICAL ENVIRONMENT**

The ESIA shall provide detailed information on the location and condition of species, ecosystems and habitats in the Project area and the Area of Influence, considering the following:

Identify relevant conservation stakeholders and consult with them in the identification of priority biodiversity values (refer to the E&S Scoping and include others as appropriate). Include a section in the ESIA that describes which conservation stakeholders were contacted, how they were contacted and how their views were considered in the identification of priority values.

Identify a set of priority biodiversity values (species and habitats) based on the criteria of Irreplaceability and Vulnerability (see IFC Performance Standards Guidance Note GN6 para. GN13). The following factors should be considered:

- Map all KBAs, IBAs, other recognized areas of high biodiversity value (e.g., Ramsar sites, World Heritage Sites, protected areas etc.) within the Area of Influence of the Project.
- For each priority biodiversity value, identify a discrete management unit (DMU), if one could be identified (e.g., Area of Occupancy – AOO). Otherwise, indicate the Extent of Occupancy (EOO).
- Ensure that birds, mammals, reptiles/amphibians, fish, and plants are surveyed and sampled using best practices and considering any seasonal survey requirements.

#### **10.8 VEGETATION/FLORA**

- Map marine and coastal habitats, including seagrass beds, mangroves, coral reefs, and other significant marine vegetation areas within the Project's area of influence.

- Vegetation mapping of terrestrial and wetland habitats (as applicable) for the Project areas, and any other area affected by the Project.
- Identify and map any endangered and threatened species according to the IUCN Red List (International and National) and species of local conservation concern (refer to the E&S Scoping Report) Document marine plant species present, including their abundance, density, status, plant communities, and presence of invasive species.
- Conduct a survey and identify and map areas that are at high risk for invasive marine species encroachment. These areas will be subject to specialized mitigation measures if required.

#### **10.9 WILDLIFE/FAUNA**

- Fauna, including Avifauna (including status, i.e., resident, endemic, migratory, endangered, and threatened species according to the IUCN Red List (International and National) and local species of conservation concern, life history, and seasonal use, mating and/or breeding areas.
- Conduct surveys of aquatic fauna in marine environment, streams, and ponds, as relevant, ensure surveys cover areas that may be seasonally affected by the project such as tidal pools and wetlands.
- The extent of the above will not be limited to the Project footprint, and will include its pAoI, based on the ecological requirements of the species potentially to occur. This pAoI will be clearly defined prior to the fieldwork and agreed together with IFC, ADB, and relevant stakeholders (Sindh Wildlife Department and others as relevant).
- It will provide a description on the times of surveys, providing a justification for the methods (sampling) undertaken using relevant literature, and the species groups targeted. Any limitations to the survey are to be described. The ESIA must include the raw data in Annexes.

#### **10.10 ENDANGERED OR THREATENED SPECIES AND HABITATS**

- The previous sections should identify all species in the Project area. This section should include the endangered and threatened range-restricted and migratory species occurring in /or the vicinity of the Project (pAoI) and determine the extent of any Critical Habitat (refer to the E&S Scoping report for Critical Habitat discussion).
- The ESIA will confirm the presence natural and modified habitats as per IFC PS6 and its Guidance Note (GN). As a minimum, descriptions of the different habitat types identified (including photographs) are to be included as well as justification of the classification of the habitat types as being either natural or modified. A map should also be produced for the Project area and pAoI defining the areas of natural and modified habitats. A table is also to be included that defines the areas of habitats and total areas (in hectares) of natural and modified habitats within the Project area and pAoI.
- Evaluate the priority biodiversity values (species and habitats) for Critical Habitat per IFC's PS6 criteria (see GN6 paragraphs 69-97).

- For Critical Habitat Species, prepare a Biodiversity Action Plan in collaboration with Sindh Forest and Wildlife Department, Government of Sindh that complies with IFC Performance Standard 6.

### **HABITATS**

- Through mapping, identify the extent of the study area that is either Modified, Natural or Critical Habitat per IFC PS6 definitions. Calculate the amount of Modified or Natural Habitat to be removed (in hectares) and identify this figure in the ESIA. Through mapping, identify habitat types and calculate the amount (in hectares) of each habitat type to be removed by direct and indirect impacts.

### **SOCIO-ECONOMIC-CULTURAL ENVIRONMENT**

#### **10.11 DEMOGRAPHICS**

Ibrahim Hyderi is approximately a four hundred (400) years old settlement of fishermen. It is one of the neighborhoods of Bin Qasim Town in Karachi, Pakistan. Ibrahim Hyderi is located on the Arabian Sea coast and has a large community of fishermen. There are several ethnic groups in the area of Rehri and Ibrahim Hyderi, including Sindhi, Baloch, Urdu, Punjabi, Kashmiris, Seraikis, Pakhtuns, Memons, Bohras, Ismailis, and Bangali. Over ninety nine percent (99%) of the population is Muslim. The population of Bin Qasim Town is estimated to be nearly one million.

#### **10.12 LIVELIHOODS AND INCOME**

Description of all income generating activities performed by PAP household members, including detailed account of the following aspects:

- activities performed by PAP household members by basic demographic characteristics in all identified settlements, including both formal and informal sources;
- qualitative description of the most common income generating activities in the identified settlements, including the analysis of recent changes in the structure of livelihood resources in the areas, as well as prospective analysis and likely projected evolution based on stakeholder consultation;
- estimated average income per household and provision of relative poverty measurement indicators (e.g., percentage over average national, regional and local income levels);
- description of commuting and travelling habits by PAP associated to livelihood and income generating activities.

#### **10.13 LAND USE AND OWNERSHIP**

Actual and potential land use showing location, size, and proximity within and surrounding the Project area, including land use maps, and to extent possible, integrated into one map. Population centres, including information and locations of schools, cemeteries, religious buildings, other public buildings, housing (including housing density), commercial areas, agricultural lands, forested lands, protected areas and environmentally sensitive areas, tourism and recreation areas, recreation facilities, eco-cultural-tourist locations, culturally sensitive areas, food plains and water bodies, and other land uses as appropriate. Consultations with relevant local entities should be undertaken as applicable to determine any additional land uses not recorded onsite (e.g., land uses for other utilities maintenance) as well as to verify above information.

#### **10.14 HEALTH AND EDUCATION**

Identify all public health infrastructure elements available and accessible by PAP and provide survey-based indicators on current health status, including the identification of communicable diseases, as well as disabilities present in the area. The Project developer shall collect specific information on current and past incidence levels of COVID-19 in the Project area, including mortality rates. Identify all available education facilities accessible in the area and those attended by PAP, by level of education (primary, secondary, etc.). Provide survey-based indicators on the level of education of PAP, as well as schooling rates for all household members. This shall also include detailed account, broken down by basic demographic characteristics of literacy rates,

#### **10.15 INFRASTRUCTURE AND UTILITIES**

For each human settlement identified in the previous section, describe the infrastructure in or serving the settlement, including the following information: transportation infrastructure, roads, airports, railways and ports, pipelines, public, drinking water supplies and treatment, wastewater treatment, locations of transmission and distribution lines (if applicable), locations of microwave towers and/or antennae (if applicable), energy infrastructure, fuel storage facilities etc.

#### **10.16 ARCHAEOLOGICAL AND CULTURAL HERITAGE**

Identify all cultural, archaeological, ceremonial, and historic resources within the area of influence, and including the following information: site survey and review of secondary data by an archaeology and cultural heritage expert to ascertain the presence of any archaeological and historical remains within the Project site, as well as tangible and intangible cultural heritage items. Any sites of importance should be recorded and delineated appropriately and their implications for the Project assessed. In addition, consultation should be undertaken with relevant authorities as applicable to determine if there any additional requirements which the Project is required to consider.

#### **10.17 ECOSYSTEM SERVICES**

Ecosystem services are the benefits that people, including businesses, derive from ecosystems. Based on the framework used for the Millennium Ecosystem Assessment (2006), ecosystem services are organized into four types:

- provisioning services, which are the products people obtain from ecosystems (for example these may include food, freshwater, timber, fibres, medicinal plants). The KWSC provides a source of fresh water to the communities living in the Project Affected Area that are not connected to the Karachi or other water distribution networks. These communities are highly dependent on the KWSC water. The KWSC water is used for drinking (both human and for livestock), domestic use (washing and bathing, etc.). There are significant differences across settlements in the specific ways in which the KWSC water is accessed and used;
- regulating services, which are the benefits people obtain from the regulation of ecosystem processes (for example, regulating services can be surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards). Regulating services provided by the KWSC and seepage include a source of water for communities and crops during periods of prolonged drought. Water losses through seepage in the KWSC and aqueduct structures constantly contribute streamflow to the seasonal streams flowing under the aqueducts and moisture and water to the surrounding areas;

- cultural services, which are the non-material benefits people obtain from ecosystems (for example, these could be natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment). In particular, the use of green recreational areas around the site shall be investigated in detail (camping and picnics and for recreational and leisure activities);
- supporting services, which are the natural processes that maintain the other services (such as soil formation, nutrient cycling, and primary production). Particularly, the Company shall investigate the potential ecosystem services stemming from seepage from the KWSC, in terms of soil moisture levels, vegetation supporting grazing and fodder for livestock and possible agricultural benefits (cropland) in the surrounding areas.

Carry out an ecosystem's services review for the Project area and area of influence and assess which ecosystem services will be impacted by the Project, as per the methodology presented in the World Resources Institute's Weaving Ecosystem Services into Impact Assessment, A Step-by-Step Method (2013).

#### **10.18 DEVELOPMENT OF E&S CONSTRAINTS AND RED FLAG MAPPING**

Based on the outcomes of the scoping and baseline studies above, constraint analysis mapping should be undertaken, and which will need to be considered by the KWSC and the Concessionaire during the development of the Detailed Engineer Design phase of the Project (including the Alternatives Analysis). This constraint analysis could include for example, biodiversity or socio-economic related aspects within the Site to be avoided, sensitive receptors which need to be avoided, or require buffer or set-back zones, etc.

#### **11. ASSESSMENT OF IMPACTS**

The ESIA shall provide information on potential impacts (direct, indirect, induced and cumulative) and the magnitude and frequency of potential impacts on the physical, biological, socio-economic, and cultural environments resulting from construction, operation and closure of the proposed Project and alternatives.

The assessment shall use standardized predictive methods, such as models for example, to determine the specific range of impacts on environmental and socio-economic resources. A methodology section will describe the methods used to determine the impacts and their significance. The ESIA shall identify which impacts are significant and the criteria used to make this judgment. Critical data input from Project description and environmental setting analysis projecting the conditions in the environmental setting in the absence of the proposed Project shall be used as the baseline upon which potential impacts are predicted.

The ESIA shall also identify sources of data used in the analysis and the uncertainties associated with the outputs of each method used.

The assessment of impacts will be carried out for all Project phases (pre-construction, construction, operations, closure, and decommissioning, as applicable).

#### **PHYSICAL ENVIRONMENT IMPACTS**

Potential impacts to the physical environment shall be described, including but not limited to the following:

### 11.1 GEOLOGY AND SOILS

Potential impacts to geologic resources and potential effects on the Project facilities shall be described including but not limited to the following:

- geologic hazards and potential effects on facility;
- changes in topography and drainage patterns;
- soils: potential impacts to soil resources shall be described including but not limited to the following: soil quality, structure and moisture (from eliminating seepage, from trenching excavations and placement of pipeline, from compaction due to heavy machinery and construction activities), contamination (accidental spills of fuel, oil or other hazardous substances), disposal of component parts of photovoltaic cells, Impacts on use Erosion, slope alteration, vegetation removal and drainage patterns, sediment accumulation and transport, sediment and hazardous waste removal and disposal;
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in context.

### 11.2 WATER QUALITY AND RESOURCES

Potential impacts to surface water and groundwater resources shall be described, including but not limited to the following:

- location of all stream crossings by rights-of-way and access roads;
- bank erosion (surface water discharges, stream crossings and dredging);
- quality: Effects of Project construction and operation on water quality parameters in surface water and groundwater, including the results of any water quality modelling (if appropriate);
- description of effects due to runoff, erosion, and sedimentation from roads, disturbed areas, including sources, receiving waters, and effects on physical, chemical, and biological parameters;
- description of impact from brine discharges;
- spills and accidents (chemical, hazardous waste and fuel spills, containment failures);
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope, and duration in the context of the Project.

### 11.3 AIR QUALITY

Potential impacts to air shall be described including but not limited to the following:

- impacts on ambient air quality and air modelling (if required);
- sensitive receptors (e.g., communities, schools, water bodies, ecosystems etc.);

- greenhouse gas generation (GHG);
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope, and duration in the context of the Project.

#### **11.4 CLIMATE AND METEOROLOGY**

This section should include the potential effects of severe weather events on the Project (floods, prolonged periods of drought etc.) as well as the projected impacts of climate change on the Project.

This section should also describe the potential impacts of the Project on climate change.

#### **11.5 NOISE AND VIBRATION**

Potential impacts from noise shall be described, including but not limited to the following:

- noise modelling (if required), potential noise levels at different representative sites in the Project area and in communities near the Project area;
- potential vibration due to blasting (if applicable) and movement of heavy equipment, and related damage to materials and structures;
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

#### **11.6 SOLID, LIQUID AND HAZARDOUS WASTE**

Provide a description of impacts from solid, liquid and hazardous waste discharges, accidental spills and accidents or impacts on capacity of local land fill facilities.

#### **11.7 LANDSCAPE AND VISUAL AMENITY**

Potential impacts to Visual Amenity or Aesthetic Resources, including light pollution, shall be described as including but not limited to the following:

- impacts on visual resources and landscapes (viewsheds, historically and/or culturally significant landscapes etc.);
- increases in light contamination;
- overall assessment of significance of direct, indirect and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

### **BIOLOGICAL ENVIRONMENT IMPACTS**

Potential impacts to biological resources shall be described, including but not limited to the following:

## **11.8 VEGETATION/FLORA AND ASSOCIATED HABITATS**

- Describe and quantify alterations in vegetative cover due to deforestation, permanent or temporary, other vegetative type conversions, direct vegetative removal, indirect vegetation impacts (e.g., by dust and air contaminants), increased road access leading to destruction of existing vegetative cover (land use changes), spread of noxious or invasive species.
- Overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope, and duration in the context of the Project.

## **11.9 WILDLIFE/FAUNA AND ASSOCIATED HABITATS**

Describe and quantify alterations in terrestrial wildlife populations due to the following (aquatic fauna, not considered applicable to the Project):

### **11.9.1 WILDLIFE/TERRESTRIAL FAUNA**

- Loss of habitat and breeding areas due to changes in vegetation cover/wetlands loss (as applicable).
- Disturbance of breeding areas due to Project construction, operation, and maintenance, recreational use, and human settlement associated with the Project (e.g., noise, vibration, illumination, vehicular movement).
- Loss or contamination of drinking water for wildlife species.
- Poisoning (e.g., air emissions, direct contact with toxic waste/substances).
- Animals attracted to garbage and food waste at construction camps or onsite facilities.
- Increased hunting (by workers for example).
- Overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project, based upon analysis of magnitude, frequency, scope, and duration in the context of the Project.

### **11.9.2 AQUATIC FAUNA**

- Loss of aquatic habitat and breeding areas when seepage stops (as applicable).

## **11.10 ENDANGERED OR THREATENED SPECIES AND/OR HABITATS**

- Describe and quantify impacts to endangered or threatened species, or critically endangered (CR) or endangered (EN) habitats.
- Individual species (with special emphasis on endemic, rare, threatened, and endangered species).

### 11.11 PROTECTED AREAS

- Describe any impacts to Protected Areas and overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed project based upon analysis of magnitude, frequency, scope and duration in the context of the Project (if applicable).

#### SOCIAL-ECONOMIC-CULTURAL IMPACTS

The ESIA shall assess potential positive and negative impacts to the socio-economic environment and cultural heritage including but not limited to the following:

### 11.12 SOCIO-ECONOMIC IMPACTS

- Building on the existing information gathered in the scoping report, detailed assessment of the limitation of access to canal water for basic consumption and domestic needs for around eight thousand (8,000) inhabitants from six (6) different communities.
- Although no land acquisition or resettlement impacts are expected along the corridor of the Project, some identified narrower areas, in which the existing right of way seems to have been compromised will need to be taken into consideration before the commencement of the work. In case that assets are affected, the Concessionaire shall prepare an assessment of physical and economic displacement impacts in the framework of a simplified Resettlement and Livelihood Restoration Plan (RLRAP), in accordance with the IFC's Performance Standard 5, and ADB's Safeguard Policy Statement (2009).
- Mobility restrictions during the Concession Period for local population (see section 8.10.1)
- Impacts on public health. COVID-19 risks as communicable respiratory diseases will most likely be the most significant concern for potential interactions between the workforce and community members.
- Assessment of other expected impacts over the affected communities:
  - Affected individual incomes.
  - Direct employment at the Project.
  - Indirect employment generated by Project Activities.
  - Employment opportunities for local residents.
  - Other economic activities stimulated in the community because of the Project.
  - Reduction in quality of life for residents from visual and noise impacts.
  - Change in crime rates (substance abuse, prostitution, etc.).
  - Change in character and social cohesion of community because of displacement and other impacts.
  - Overall community acceptance of the Project.
  - Impacts over community recreational facilities and leisure activities.
- Assessment of impacts over the labour force of the Project and the staff engaged in operation of the KWSC:
  - Substitution of part of the current KWSC staff by the Concessionaire's personnel.
  - Impacts on worker health and safety, with particular attention to accommodation conditions and characteristics of workers' camps.
  - Identification of hazardous jobs and number of workers exposed with duration of exposure.
  - Occupational diseases due to exposure to dust and other Project-related activities such as handling of explosives, solvents, petroleum products, (if applicable) etc.

- Identification of physical risks and safety aspects.
- Potential for fires.
- Overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

### **11.13 INFRASTRUCTURE AND UTILITIES**

#### **11.13.1 TRANSPORTATION INFRASTRUCTURE**

This section of the ESIA addresses impacts on transportation and traffic patterns on existing roads. The impacts of new and existing roads and interventions over them on the surrounding environment and land use should be addressed in those respective sections. The ESIA shall assess potential impacts to transportation systems, including but not limited to the following:

- potential changes to traffic patterns, densities, and traffic safety issues in the area affected by the Project;
- a determination of vehicular traffic density in the Project area (before, during, and after the proposed activities);
- potential for traffic accidents;
- congestion;
- noise.

#### **11.13.2 INCREASED PRESSURE ON PUBLIC SERVICES**

- public health infrastructure:
  - Increased need for public health infrastructure;
  - Alterations to public health infrastructure;
- communications infrastructure:
  - Increased need for communications infrastructure;
  - Alterations to communications infrastructure;
- energy infrastructure:
  - Increased need for energy infrastructure;
  - Alterations to energy infrastructure;
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

### **11.14 ARCHAEOLOGY AND CULTURAL HERITAGE**

Impacts over cultural heritage elements are unlikely in the framework of the Project. Nonetheless, the Concessionaire shall assess and provide further details on the following aspects in the ESIA:

- cultural heritage, archaeological, paleontological, religious, historic resources;
- destruction during construction;
- damage and alteration;
- removal from historic location;
- introduction of visual or audible elements that diminish integrity;
- neglect that causes deterioration;
- loss of medicinal plants;
- loss of access to traditional use areas;
- impacts to previously inaccessible resources from development/improvement of roads;
- overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

#### **11.15 ECOSYSTEM SERVICES**

- Impacts to the ecosystem services identified in baseline section.
- Overall assessment of significance of direct, indirect, and cumulative impacts for all phases of the proposed Project based upon analysis of magnitude, frequency, scope and duration in the context of the Project.

#### **11.16 CUMULATIVE IMPACTS**

Cumulative impacts are those that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities.

The cumulative impacts will be assessed by identifying other applicable projects, such as construction and upgrade of electricity generation, and transmission, distribution facilities or other infrastructure projects in the local area (i.e., within twenty kilometres (20 km) of the proposed Project) that have been approved or are currently underway.

Use IFC's Good Practice Handbook: Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets as Guidance (2013).

#### **12. MITIGATION AND MONITORING MEASURES**

Identify mitigation measures as per the Mitigation Hierarchy. Specifically, these should include the following:

- avoidance measures;
- minimization measures;
- restoration measures;
- compensation/offset measures.

This section of the ESIA must include measures designed to mitigate potential adverse impacts to physical, biological, and social-economic-cultural resources from construction, operation and closure of the proposed Project and alternatives. These shall include measures to avoid and prevent, and if needed, to reduce or minimize adverse impacts and, where residual impacts remain, compensate/offset for risks and impacts to workers, Affected Communities, and the environment, according to the mitigation hierarchy shown in the following figure. The Project proponent must include measures considered to be “best practices” in the design of all alternatives.

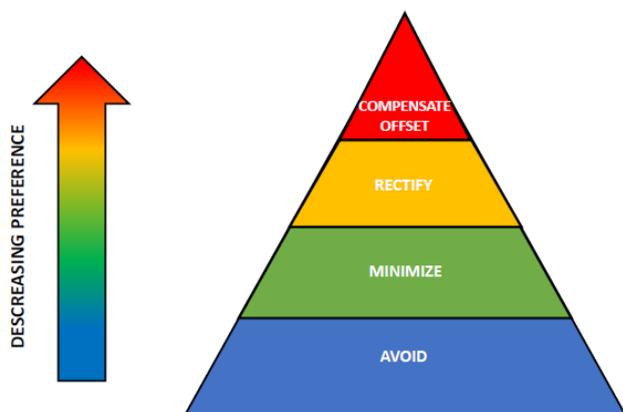


Figure 21. Mitigation hierarchy

Either herein and/or in the Environmental and Social Management Plan (ESMP) section, proposed mitigation shall be described in auditable terms and at a level of detail sufficient to demonstrate its effectiveness in addressing the concern or performance criterion, including its anticipated level of effectiveness and/or measurable performance, and design specifications.

The monitoring plan must include monitoring throughout the life of the Project for each potential mitigation to confirm the effectiveness of the measure and support contingency plans to provide assurance that the Project, at the Site preparation, construction, operation, expansion, and closure stages will meet applicable environmental and legal requirements and fall within the limits of impacts deemed acceptable upon approval of the ESIA. Some important items to address in the mitigation plan and associated monitoring plans include, but are not limited to the following:

### 13. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The ESIA shall include an Environmental and Social Management Plan to prevent, mitigate and monitor each impact identified in the ESIA. Plans will describe actions to be taken in sufficient detail to provide a basis for subsequent auditing of compliance with commitments made in the ESIA process, including who is responsible, how and when it will be implemented, what will be done and what results will be achieved, why it is being done, and how to know whether it is effective in addressing the underlying concerns. The Environmental and Social Management Plan shall have the following elements:

#### 13.1 OVERVIEW OF ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN ORGANIZATION AND POLICY

Describe the Project management and how environmental management and organization relates to overall Project responsibility. Describe the personnel and performance accountability system for design, operation, maintenance and closure for implementation of mitigation and monitoring measures.

Describe the environmental policy that will govern the Project throughout its implementation, including at least the objectives, scope, commitment to continuous improvement, control and environmental monitoring and good relationship with neighbouring populations and countries, as well as the commitment to internal controls such as compliance and environmental monitoring and routine audits.

Identify the persons responsible for the implementation of mitigation measures in each phase.

## 13.2 MITIGATION AND MONITORING PLANS

The Consultant will develop detailed Environmental, Social, Health and Safety Management Plans (**ESMP** or **ESHS MP**) that identify for each impact the mitigation, monitoring and management measures to be taken during the various phases of the Project (construction, operations, decommissioning) to avoid, reduce, mitigate, or compensate for adverse environmental, social, and health and safety impacts.

For each identified impact the Consultant will establish:

- A set of mitigation measures that will include feasible measures to prevent significant adverse impacts or reduce them to acceptable levels. Such measures will involve technical requirements, guidelines or procedures and practices to be implemented during design, construction, operation and decommissioning phase of the Project;
- A set of monitoring requirements that ensure that the identified mitigation measures are considered, implemented properly and are sufficient measures for protecting the environment and environment resources, local communities, and workers.

In addition, as part of the ESMP, the Consultant shall also identify the proposed ESMS structure, as applicable, that will be followed for the project. The ESMS requirements will be included in detail for all the parties involved, including, the Sponsor(s), the EPC Contractor, and the O&M Contractor.

This ESMS shall be aligned with the principles of ISO 14001 and OSHAS 18001/ISO 450001 and include the necessary Elements, Programs and Management Plans and Procedures to manage the identified Project risks. As part of the ESMS, management plans will be developed in line with the applicable requirements for the key aspects identified in the ESIA such as, but not limited to pollution prevention (noise, dust, fuels, hazardous materials), biodiversity management, solid and liquid waste, flora and fauna, water management, occupational health and safety, transportation management, security management, emergency response, labour and supply chain management.

The Consultant will develop an outline management structure which will ensure the implementation of all the required mitigation and/or monitoring activities is achievable. This will include recommended training activities, and any additional management tools, etc.

### 13.2.1 STAKEHOLDER ENGAGEMENT PLAN

The Consultant will develop a Stakeholder Engagement Plan (the **SEP**) as a standalone document in line with the IFC's requirements. The SEP should recognize that Stakeholder engagement is an ongoing process that involves Stakeholder analysis & planning, disclosure and dissemination of information, consultation & participation, grievance mechanism and on-going reporting to affected communities. In line with the requirements of IFC, the SEP must be developed and scaled to the Project risks and impacts and be tailored to the characteristics and interests of the Affected Communities and key Stakeholders.

The Consultant should build the SEP based on the environmental and social impact assessment outcomes considering local settings. The SEP should be developed to include the following:

- introduce the SEP and include information on the purpose and scope;
- include information on legislative and international requirements;
- identify all Project related stakeholders influenced by the Project to include central governmental entities, local governmental entities, NGOs, local communities and CSOs; academic and research institutions; private sector companies; media organizations; and most important any vulnerable groups if applicable;
- evaluate Project related Stakeholders to understand their priorities and relevance to the Project;
- define the Project's approach to stakeholder engagement (post ESIA study, during construction and operations). Priority should be given to identification of engagement mechanisms that are: (i) culturally appropriate, (ii) scaled to the Project risks and impacts, (iii) tailored to the characteristics and interests of the Stakeholder group's language preferences, and decision-making process;
- identify the objective of undertaking such consultation activities for each Stakeholder group;
- identify the phase of involvement of Stakeholders. This will include: (i) summary of Stakeholder consultations and engagement undertaken as part of the ESIA (scoping process, baseline, impact assessment, mitigation, etc.) and (ii) future engagement including both disclosure of the ESIA and post-ESIA phase to be implemented through the project duration to include four distinct phases – planning, construction, operation, and decommissioning;
- include information on monitoring requirements including frequency of all engagement activities and reporting;
- a detailed grievance/project complaints mechanism that is responsive and facilitates establishing and facilitating the resolution of Stakeholders' concerns and grievances.

Within the SEP, the Consultant shall describe the process by which PAPs and interested people can express their grievances for consideration and redress, in accordance with national law and the applicable international standards, and with IFC's Performance Standard 1. The process shall be free of any cost for users, and it will be implemented through an understandable and transparent consultative approach that is culturally appropriate and readily accessible. The GRM should ensure it can receive both external and internal grievances. The GRM should be designed to address complaints of gender-based violence between employees/contractors and members of the community. The Consultant shall describe a least the following elements of the GRM.

- establishment of Grievance Committee, appointment of members and functioning rules;
- eligibility criteria for grievances;
- reception and registration of grievances;

- referral process;
- development, communication, and implementation of proposed responses.

A separate GRM shall be defined and implemented for the engagement of workers regarding possible health and safety occupational risks.

## 14. APPENDICES

These shall be numbered and referenced throughout the text and include, but not be limited to:

### 14.1 TECHNICAL SUPPORTING DOCUMENTS

- Including maps, plans, charts and figures in the sequence mentioned in the ESIA document.
- Zoning maps with resources and results of impacts.
- Special Studies if relevant but not readily accessible.
- Detailed materials on predictive tools/models and assumptions used for the assessment but too detailed for the body of the ESIA.
- Detailed survey reports (e.g., birds and other vegetation/fauna surveys) and the associated raw data.

### 14.2 REFERENCES

Include a section with all references, (books, articles, technical reports, and other information sources) cited in the various chapters of the ESIA study with full biographic references, and the following conventional procedures cited in the literature: author, year, title, source, number of pages, and city of publication or issuance or webpages accessed on [*date*].

## 15. NON-TECHNICAL SUMMARY

The Consultant shall prepare a Non-Technical Summary (NTS) report, which concisely discusses meaningful information on the project, its environmental and social footprint and impacts, significant findings and recommended actions in easily understandable (non-technical) language. The section will include a summary of the ESIA undertaken (project description, baselines, impact analysis and mitigation measures for the environmental, social and health and safety negative and positive impacts) and a summary of the stakeholder engagement process.

## 16. SCHEDULE

The anticipated schedule for the ESIA is as follows:

TASK	DELIVERABLE	PROPOSED DATE
1	Site Survey Priority List; kick-off meeting	
2	ESIA Methodology	
3	Scoping Report, follow-up meeting	

4	Policy, Legal, and Administrative Framework	
5	Project Description	
6	Analysis of Alternatives	
7	Environment and Social Baseline Conditions	
8	E&S Constraints Report	
9	Draft of ESIA Report, follow-up meeting	
10	Environmental, Social, Health and Safety Management Plans	
11	Stakeholder Engagement Plan	
12	Non-Technical Summary	
13	Final ESIA, final meeting	

**17. STAFFING AND KEY PERSONNEL**

The ESIA shall be prepared by an independent Consultant that has no conflict of interest with the Project. The Consultant is expected to appoint a team of specialists that will carry out the necessary investigations to gather, review and compile all relevant data and to consult with stakeholders. The Consultant shall provide and maintain all key experts throughout the assignment; any changes are subject to prior approvals by the KWSC. The Consultant’s team is expected to have experts who are familiar with the local area and have the appropriate language skills and should include local experts wherever possible.

It is expected that the Consultant will undertake field work for all the relevant specialist studies. In addition, collection of baseline data and surveys will be undertaken to enable a robust assessment appropriate to the nature and scale of the Project. The spatial and temporal extent of the baseline surveys will be determined through professional judgment and industry best practice. Data will be relevant to inform decisions about Project location, design, construction, operation, and mitigation measures. This section will indicate the accuracy, reliability, and data sources. Baseline information will be supported with figures and maps where possible.

The Consultant’s team is expected to include the following core staff:

- Project Director: a consultant with experience in undertaking ESIA’s in accordance with IFC’s and ADB’s standard, with excellent communication skills and minimum fifteen (15) years of professional experience;
- Environmental Specialist: with experience of delivering ESIA’s against international standards and best practice, and minimum ten (10) years of professional experience;
- Social Specialist: with minimum ten (10) years’ experience in management of labour, community health and safety, land acquisition, livelihood restoration issues, design and implementation of stakeholder engagement and community development plans, conflict resolution and community relations issues with indigenous peoples, if applicable.

These will be supported by a team of selected specialists appropriate to the Project, and with appropriate language skills, who will cover as a minimum the following areas:

- air quality measurements and modelling;

- soils, geology, hydrogeology and topography/landscape;
- hydrology, hydrogeology and water quality measurements;
- biodiversity (flora & fauna);
- community health, safety and security;
- socio-economic analysis, resettlement/land acquisition, stakeholder engagement;
- gender and GBV;
- archaeological, historical and cultural heritage; and
- resource management including solid and hazardous materials and waste management.

**SCHEDULE M  
TERMINATION PAYMENT**

SR. NO.	TERMINATION PAYMENT AMOUNT	COMPENSATION PAYABLE BY THE GOS
1.	<b>TERMINATION PAYMENT SUM (PRE-COMMENCEMENT DATE)</b>	In the event this Agreement is terminated by the Concessionaire prior to the Commencement Date pursuant to Section 21.3, the GoS shall make payment to the Concessionaire for the actual costs and expenses (as certified by the Independent Experts) incurred by the Shareholders and/or the Concessionaire for obtaining E&S Approvals and/or undertaking the Detailed Engineering Design/Construction Drawings, which shall under no shall exceed the value of the Construction Performance Security
2.	<b>TERMINATION PAYMENT SUM (NPFME)</b>	(a) the Termination Equity; plus  (b) the Financing Due; less  Deductible Termination Amounts
3.	<b>TERMINATION PAYMENT SUM (PFME)</b>	(a) the Termination Equity; plus  (b) the Termination Dividend Amount; plus  (c) the Financing Due; less  Deductible Termination Amounts
4.	<b>TERMINATION PAYMENT SUM (CONCESSIONAIRE DEFAULT)</b>	(a) the Financing Due; less  Deductible Termination Amounts
5.	<b>TERMINATION PAYMENT SUM (GOS DEFAULT)</b>	(a) the Termination Equity; plus  (b) the Termination Dividend Amount, plus  (c) the Financing Due; less  Deductible Termination Amounts

## COMPENSATION ELEMENTS

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Unless specified otherwise or the context requires to the contrary, all capitalized terms used in this **SCHEDULE M (Termination Payment)** shall bear the meaning ascribed thereto in the Main Body. In addition, the following capitalized terms shall bear the meaning ascribed below:

**Deductible Termination Amounts** means, to the extent it is a positive amount, the aggregate, up to the date immediately preceding the Termination Date, of:

- (a) all credit balances on any bank accounts, held by or on behalf of the Concessionaire on the Termination Date (provided, that in the event the Financing Due is outstanding, to the extent the Financing Parties including any agent or trustee for such person, in each case, not objected to by the GoS, have valid security interests over such bank accounts and can recover such credit balances), insurance proceeds actually received (save where such credit balances or insurance proceeds are paid to the GoS/KWSC and/or to be applied in reinstatement), proceeds from the liquidation of any authorized investment, and letters of credit issued in lieu of maintaining credit balance in any account; and
- (b) amounts GoS is entitled to off-set due to deductions/adjustments in terms of this Agreement;

**Financing Due** means the aggregate of the following sums outstanding and payable to the Financing Parties up to the date immediately preceding the Termination Date:

- (a) the Outstanding Principal Amount;
- (b) the interest, mark-up or profit (or any other term connoting the return paid to Financing Parties on debt financing) accruing on the Outstanding Principal Amount; and
- (c) only in the event of Termination due to PFME or a GoS Event of Default (i) penal interest; or (ii) charges payable under the Financing Documents to the Financing Parties;

**Outstanding Principal Amount** means:

- (a) prior to the COD, all actual outstanding principal amount required to be repaid by the Concessionaire pursuant to the Financing Documents in effect as of Financial Close, such amount not to exceed [redacted]<sup>25</sup>; and
- (b) at any time on or after the COD, the actual outstanding principal amount required to be repaid by the Concessionaire pursuant to the Financing Documents in effect as of Financial Close, such amount not exceeding the principal amount stated for the relevant time period in **SCHEDULE H (Water Tariff Payment Calculation)**,

in each case, to the extent such principal amount was actually applied for the purposes of financing the Project;

**Termination Equity** means, as of the Termination Date occurring due to Termination, the aggregate of the Sponsor Funding Amount reduced on a straight-line basis from COD through the term of this Agreement;

**Termination Dividend Amount** means the aggregate return on Termination Equity for each of the three (3) Accounting Years falling immediately after the Termination Date, the same being an amount equal to

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<sup>25</sup> Insert principal amount specified in the Bid of the Successful Bidder.

the aggregate of Termination Equity IRR applied to the Termination Equity for each of the three (3) Accounting Years falling after the Termination Date.

**SIGNATURE PAGES**

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**IN WITNESS WHEREOF**, the Parties, intending to be legally bound, have caused this Agreement to be executed by their duly authorized representatives as of the date first written above.

GOS

Signature \_\_\_\_\_

Name  
(block capitals) \_\_\_\_\_

Title \_\_\_\_\_

In the presence of:

Witness signature \_\_\_\_\_

Witness name  
(block capitals) \_\_\_\_\_

Witness signature \_\_\_\_\_

Witness name  
(block capitals) \_\_\_\_\_

KARACHI WATER AND SEWERAGE CORPORATION

Signature .....

Name  
(block capitals) .....

Title .....

In the presence of:

Witness signature .....

Witness name  
(block capitals) .....

Witness signature .....

Witness name  
(block capitals) .....

THE CONCESSIONAIRE

Signature .....

Name  
(block capitals) .....

Title .....

In the presence of:

Witness signature .....

Witness name  
(block capitals) .....

Witness signature .....

Witness name  
(block capitals) .....