



Tamil Nadu Water Supply and Drainage Board

Reply to Pre-Bid Queries – Set – 1

Name of Work:-Design, Build 60 MLD Capacity Desalination Plant Based on Sea Water Reverse Osmosis at Koonimedu in Villupuram District, Tamil Nadu and Operation and Maintenance for 20 Years

Tender No. IFB: 15/DSP-VPM Pkg I /DO/CE/ VLR/2021/dt:07.01.2021

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
1	Volume – I, Page No. iii (i.e. Page 3 of 171)	IFB – clause 6 & 7	A complete set of Bid documents may be purchased by remitting an amount of Rs. 1000 +GST from 11.01.2021 to - 10.02.2021 up to 5.00 pm from the office of "The Executive Engineer, Tamilnadu Water supply and Drainage Board, RWS Division, Water tank compound, Emapper, Kallakurichi – 606202". If bid documents are required by post an amount of Rs.500/- (for each work) to be paid additionally. The bidders can also download the document from	<p>We have downloaded the tender documents from www.tenders.tn.gov.in and as per tender documents the last date of tender purchase is 10.02.2021 and the last date of bid submission (offline/hard copy) is 12.02.2021</p> <p>So please confirm, it would be okay if the tender fee is submitted along with the TECHNICAL BID submission.</p> <p>We noted that, the tender fee should be in the form of Demand Draft/ Banker's Cheque/ Pay Order from Nationalized Bank/ Scheduled Bank in India/ Foreign Bank having its Branch in</p>	Bidders who have downloaded a complete set of Bid documents need not pay any amount towards purchase cost of Bid documents. However, they shall furnish a declaration that the downloaded documents have not been altered.

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			www.tenders.tn.gov.in/ www.twadboard.tn.gov.in tenders up to 10.02.2021 5.45 pm. For the downloaded tender document, the Applicant should give a declaration for not having tampered the Tender document downloaded.	Chennai, in favour of the Executive Engineer, TWAD Board, RWS Division, Kallakurichi.	
2	Volume – I, Page No. 29 (i.e. Page 34 of 171)	Section I – ITB 7.1	A pre-bid meeting will take place at the following date, time and place: Date: 27.01.2021 Time: 11.00 AM Place: Mini Conference Hall/TWAD Board Head office, 31, KamarajarSalai, Chepauk,Chennai- 600 005. A site visit will be organized by the Employer 72 hours before the Pre bid meeting.	Regarding the PQ meeting scheduled on 27 th Jan 21, due to COVID19's restriction on Travelling, we request you to kindly provide any online platform to attend the pre-bid meeting.	Request for online pre bid meeting cannot be considered. Bid conditions confirmed
3	Volume – I, Page No. 33 (i.e. Page 38 of 171) AND Page No. 34 (i.e. Page 39 of 171)	Section III - Qualification Criteria / Clause 3.1.3 AND 3.2 Eligibility Criteria: clause (iii)	The bidder / partners of the Joint Venture / Consortium should furnish an undertaking that they have not applied for or are now part of Corporate Debt Restructure (CDR). Bidders should not have	Request to kindly remove this CDR clause.	Bid conditions confirmed.

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			been referred to CDR in the last ten years.		
4	Volume – I, Page No. 36 (i.e. Page 41 of 171)	Section III - Qualification Criteria / 3.2.2. Financial Eligibility Criteria - Clause (B)	If the bidder is a Joint Venture or a Consortium, maximum of two members are allowed in the Joint venture/consortium and the lead partner should meet not less than 50 % of the qualifying criteria and the other member shall meet minimum 25%. However, both the members should collectively meet 100% of qualifying criteria.	We assume that, the said percentage (50%) is applicable only to fulfil the Financial Qualifying Criteria by the lead partner as referred clause 4, 4.1 (page. No. 5 of Volume I)	Please refer ITB Clause 4.1 (b) wherein it has been clearly mentioned that "In case a consortium bid, the Lead Member of the JV/Consortium shall maintain a minimum share of interest of 50% and the other member(s) shall have atleast 25% share of interest each in case of JV/Consortium".
5	Volume – I, Page No. 31 (i.e. Page 36 of 171)	D.Submission and Opening of Bids ITB 24.1	General	We request to please extend the bid submission date by at least 2 months from the present date of submission i.e. 12/02/2021	Now extended upto 26.02.2021.
6	Volume – I, Page No. 36 (i.e. Page 41 of 171)	3.2.2. Financial Eligibility Criteria: (B)-1 (i)	(i) The lead partner of the JV/Consortium should have average Annual Financial Turnover of INR 257 crores in the last three financial years ending 31st March 2020 (2017-18 to 2019-20) and the minimum annual turnover in each of the last three financial years shall be INR 103	Request Authority to modify clause as under – (i) The lead partner of the JV/Consortium should have average Annual Financial Turnover of INR 257 crores in the last three financial years ending 31st March 2020 (2017-18 to 2019-20) and the minimum annual turnover in each of the last three financial years shall be INR	Request not considered. Bid conditions confirmed.

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			crores.(The turnover shall be derived from construction works only)	103 crores. (The turnover shall be derived from construction works only)	
7	Volume – I, Page No. 36 (i.e. Page 41 of 171)	3.2.2. Financial Eligibility Criteria: (B)-1 (iii)	The Lead Partner of the JV/Consortium should have completed single work in SWRO/ TTRO/WTP of cost not less than Rs.206 crores during last 5 years (i.e., Financial year 2015-16 to 31st December 2020) on DBO/EPC/Turnkey basis.	Request Authority to modify clause as under – Lead Partner Any one member of the JV/Consortium should have completed single work in SWRO/ TTRO/WTP of cost not less than Rs.206 crores during last 5 years (i.e., Financial year 2015-16 to 31st December 2020) on DBO/EPC/Turnkey basis.	Request not considered. Bid conditions confirmed.
8	Volume – I, Page No. 37 (i.e. Page 42 of 171)	3.2.2. Financial Eligibility Criteria:(B)-2 (i)	(i) the other member of the JV/Consortium should have Average Annual Financial Turnover of INR 129 crores in the last three financial years ending 31st March 2020 (2017-18 to 2019-20) and the minimum annual turnover in each of the last three financial years shall be INR 52 crores.(The turnover shall be derived from construction works only)	Request Authority to modify clause as under – (i) the other member of the JV/Consortium should have Average Annual Financial Turnover of INR 129 crores in the last three financial years ending 31st March 2020 (2017-18 to 2019-20) and the minimum annual turnover in each of the last three financial years shall be INR 52 crores. (The turnover shall be derived from construction works only)	Request not considered. Bid conditions confirmed.
9	Volume – I, Page No. 34 (i.e. Page	3.2 Eligibility Criteria - General (iii)	Bidder should not have been referred to CDR in last ten years.	Request Authority to modify clause as under – Bidder should not have been	Request not considered. Bid conditions confirmed.

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	39 of 171)			referred to currently in the process of CDR in last ten years.i.e. at the time of Bid Submission.	
10	Volume – I, Page No. 31 (i.e. Page 36 of 171)	ITB / Clause No. ITB 44.1	Performance Security: 5 % of Design Build Portion of Accepted contract Price that is inclusive of all taxes and duties.	As per Ministry of Finance Circular issued Dated. 12/11/2020. Performance Security requirement is reduced from 5-10% to 3% in all government tenders. Ref: NHAI, NMCG and other Government department already reduced performance security to 3%. Therefore request authority to reduce Performance Security to 3% from earlier 5%.	Request not considered. Bid conditions confirmed.
11	Volume – I, Page No. 90 (i.e. Page 95 of 171)	Section VIII Particular Conditions / Cl. No. 14.3	Percentage of Retention - 5% in each interim payment	We request Authority to delete retention provision from Payment Certificates. Since contractor already submitting 5% PBG against Contractor performance which will safeguard interest of Authority. Also it will help Contractor to improve project cash flow.	Request not considered. Bid conditions confirmed.
12	Volume – I, Page No. 86 (i.e. Page 91 of 171)	Section VIII Particular Conditions / Cl. No. 1.1.24	Where the Contract allows for Cost Plus profit, percentage of profit to be added to the cost shall not exceed 0%	We request Authority to consider the percentage profit as 5%	Request not considered. Bid conditions confirmed.

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13	Volume – I, Page No. 90 (i.e. Page 95 of 171)	Section VIII Particular Conditions / Cl. No. 14.2	Interest rate for Advance payment 13.3%	We request Authority to provide INTEREST FREE Advance Payment against submission of Advance Bank Guarantee.	As per Tamilnadu Transparency in Tenders Act, 1998 & Rules 2000 request cannot be considered. Bid conditions confirmed.
14	Volume – I, Page No. 147 (i.e. Page 152 of 171)	Appendix 2 • Price Adjustment	Prices payable to the Contractor for the Design-Build of the Works shall not be adjusted for inflation. Prices payable to the Contractor for the Operation Service and Asset Replacement Fund, in accordance with the Contract, shall be subject to adjustment during performance of the Contract to reflect changes in the cost of labour and material components,	Request Authority to allow price variations / inflation for Design Build work.	Request cannot be considered. Bid conditions confirmed.
15	Volume – I, Page No. 29 (i.e. Page 34 of 171)	ITB / Clause No. 7.1	A pre-bid meeting will take place at the following date, time and place: Date: 27.01.2021 Time: 11.00 AM Place: Mini Conference Hall/TWAD Board Head office,31,KamarajarSalai, Chepauk,Chennai-600 005.	Regarding the Pre-bid meeting scheduled on 27/01/2021, Due to prevailing Covid-19 situation, domestic travel is not properly functional and would remain uncertain. People are also avoiding travel to avoid exposure to the virus. Therefore requesting authority to	Request for online pre bid meeting not considered. Bid conditions confirmed

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			A site visit will be organized by the Employer 72 hours before the Pre bid meeting.	conduct online pre-bid meeting (via. Zoom/Webex) along with Physical meeting.	
16	Volume – I, Page No. 31 (i.e. Page 36 of 171)	ITB / Clause No. 24.1	The deadline for Bid submission is: Date:12.02.2021 up to 3.30 PM	Considering the volume and complexity of work involved in this project, request Authority to extend bid submission due date by 4-6 Weeks.	Now extended upto 26.02.2021
17	Volume – I, Page No. 98 (i.e. Page 103 of 171)	Sub-Clause 4.4 Sub-contractors	Add the following at end of Sub-Clause 4.4 to read: "The consent of the Employer shall not be required for values of work less than 0.5(zero point five) % of the Design-Build price with a maximum limit of Rs.50 lakhs and the cumulative of such unapproved sub-contractors shall not exceed Rs.100 Lakhs. However, the Contractor shall intimate the Employer's representative in writing the list of unapproved sub-contractors working at site	We request you to please remove the limit of Sub-contracting, as the job requires specialized agencies to execute certain jobs like pilling and earth fill, Kindly accept our request.	Request not considered. Bid conditions confirmed.
18	Volume – I, Page No. 51 (i.e. Page 56 of 171)	Technical Proposal 1. Site Organization	1. SITE ORGANISATION b) The Bidder shall also identify other specialist construction sub-	As per the said clause we understand the specialist construction sub-contractor(s) does not govern by the criteria	No. Limit is applicable to all the sub-contract works.

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			contractor(s), their key resources;	and limit as defined in sub-clause 4.4 Sub-contractors - page no 98, kindly confirm if our understanding is correct.	
19	Volume II, Part I, A. Process Description and Design Basis Page No. 13 (i.e. Page 14 of 814)	Section 2, Clause 2.6 - Reject and other waste Discharge arrangements	Dewatered sludge has to be disposed off safely into the landfill.	We understand that, disposal of dewatered sludge & other solid wastes from plant shall be in Employer's scope, not in bidder's scope. If the same is in contractor's scope, please furnish details of landfill site i.e. exact distance from plant, available area at landfill site, etc.	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, Cl 19.2.12, page 84 of 814. Bid conditions confirmed.
20	Volume II, Part I, A. Process Description and Design Basis Page No. 34 (i.e. Page 35 of 814)	Section 6, Clause 6.8 - Chlorination System, Page No. 34	Type of the Chlorination shall preferably be Sodium Hypo Chlorite with minimum of 12% concentration	Type of chlorination system mentioned as 12% NaOCl Dosing which is preferable by employer, however; we understand that, bidder can select other type of chlorination system (Gas Chlorination) based on his past experience. Kindly confirm.	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
21	Volume II, Part I, A. Process Description and Design Basis Page No. 36 (i.e. Page	Section 7, Clause 7.4 - Flocculation	Min 15.0 minutes of flocculation shall be proposed Table 11.0 - Detention Time (minimum) - 30 min	There is mismatch between 2 statements, where detention time is mentioned as 15 min in description & 30 min in table. We understand that, minimum 15 min of detention time shall be proposed. Kindly confirm.	30 minutes flocculation time shall be considered. Please refer Addendum.

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22	Volume II, Part I, A. Process Description and Design Basis Page No. 37 (i.e. Page 38 of 814)	Section 7, Clause 7.5 - Lamella Settlers	Nos. of Lamella Settlers Tanks - 4 Nos	4 Nos. Lamella Tanks are preferred by employer, however, we understand that, quantity of lamella settler tanks can be selected as per bidder's own design. Kindly confirm.	The Bidder is requested to follow Contract conditions Volume I, Cl 4.1, page 101 of 171 and Volume – II Part I A Process Description & Design basis, Cl 2.1, page 11 of 814. Bid conditions confirmed.
23	Volume III, Drawings Page No. 17 of 38	TWAD-MKM-SWRO-014	Filtrate Storage (UF Feed) Tank after DGMF Shape-Circular (as per Plant Layout)Size-48.5 m Dia.X 4.2 m LD (as per Plant Layout)	We understand that, bidder can select MOC (RCC/Metallic/Other) of this tank as per his suitability.	RCC tank shall be provided. Bid conditions confirmed.
24	Volume II, Part I, A. Process Description and Design Basis Page No. 39 (i.e. Page 40 of 814) Volume III, Drawings Page No. 17 of 38	Section 7, Clause 7.8 - Ultrafiltration Filtrate Storage Tank TWAD-MKM-SWRO-014	Capacity - 7596 m3 Shape - Circular (as per Plant Layout) Size - 48 m Dia. X 4 m LD	We understand that, bidder can select MOC (RCC/Metallic/Other) of this tank as per his suitability.	RCC tank shall be provided. Bid conditions confirmed.

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25	Volume II, Part I, A. Process Description and Design Basis Page No. 38 (i.e. Page 39 of 814)	Section 7, Clause 7.7 - Ultrafiltration	Ultrafiltration Recovery rate - 92%	92% recovery rate for UF System may be on lower side. We understand that, bidder can select suitable UF Recovery as per his own design. Kindly confirm.	For designing of UF system maximum net recovery rate of 92% alone be considered. Bid conditions confirmed.
26	Volume II, Part I, A. Process Description and Design Basis Page No. 46 (i.e. Page 47 of 814) Volume III, Drawings Page No. 17 of 38	Section 8, Clause 8.10 - SWRO Permeate Storage Tank, Page No. 46 TWAD-MKM-SWRO-014	RO Permeate tank Shape - Circular (as per Plant Layout) Size - 18 m Dia X 3.9 m LD (as per Plant Layout)	We understand that, bidder can select MOC (RCC/Metallic/Other) of this tank as per his suitability.	RCC tank shall be provided. Bid conditions confirmed.
27	Volume II, Part I, A. Process Description and Design Basis Page No. 13 (i.e. Page	2.6 Reject and Other waste Discharge arrangement TWAD-MKM-SWRO-014	RO Reject tank Shape - Rectangular (as per Plant Layout) Size-31 m L X 30.5 m W X 4.2 m LD (as per Plant Layout)	We understand that, bidder can select Shape as circular & MOC (RCC/Metallic/Other) of this tank as per his suitability.	RCC tank of circular shape is also acceptable. Bid conditions confirmed.

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	14 of 814) Volume III, Drawings Page No. 17 of 38				
28	Volume II, Part I, A. Process Description and Design Basis Page No. 55 (i.e. Page 56 of 814)	Section 11, Clause 11.1 - Potable Water Storage, Page No. 55	Treated potable water shall have to be stored on site prior to being transferred to the consumers for consumption	We understand that, transfer of potable water is not in bidder's scope of work. Battery limit for the bidder's work will be at Final Product (Potable) Water Storage Tank. All electro-mechanical, civil & C&I items related to transfer of final product (potable) water will be in employer's scope. Please confirm.	Battery limit for the bidder's work will be at Final Product (Potable) Water Storage Tank. Product (Potable) Water Pump House with pump sets is not in the scope of the present Contract. However, the Contractor has to consider additional electrical load of 570 kW (220 kW pumps with 2W +1S and 65 kW pumps with 2W+1S) for the product water pumps during the design of electrical system. Please refer Addendum.
29	Volume II, Part I, A. Process Description and Design Basis Page No. 55 (i.e. Page 56 of 814)	Section 11, Clause 11.1 - Potable Water Storage, Page No. 55	Tank MOC - RCC with epoxy coating	RCC with epoxy coating have many disadvantages for pure quality of RO treated water, hence, kindly allow bidder to select MOC of Final Product Water Tank as per his own design.	RCC water tank with epoxy linings on the surface of the concrete (Internal & External) shall be used. The epoxy shall be food grade and shall comply with the requirements of IS:9833 - 1981 with minimum three coats over one coat of primer wherein each coat shall be 125 microns

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30	Volume III – Drawings Page No. 17 of 38	General Arrangement Layout of Plant TWAD-MKM-SWRO-014	-	We understand that, All units & their locations provided in layout plan are tentative. Bidder can accommodate / change location/size of any of the unit as per his own design. Kindly Confirm.	The Bidder is requested to follow Contract conditions Volume I, Cl 4.1, page 101 of 171 and Volume – II Part I A Process Description & Design basis, Cl 2.1, page 11 of 814. The Bidder can accommodate / change location of any of the unit as per his own design. Bid conditions confirmed.
31	Volume I Volume II, Part I, A. Process Description and Design Basis Page No. 108 (i.e. Page 113 of 171) Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work	Subclause 4.19 Electricity, Water & Gas: 2.8 Power Factor Improvement :	In the event during plant operation in any operating month the Contractor maintains a power factor which is lower than a power factor of 0.95, penalty @ 1.25 times the penalty, as charged by TANGEDCO to the Employer during the said month shall be charged to the Contractor. And in addition to the above 1.25 times of excess power consumption charges will be levied as penalty. The power factor of all equipment shall be around 0.9 power factor	Both the clauses are contradictory. Kindly confirm whether PF of 0.9 or 0.95 is to be maintained.	Please refer Addendum.

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	Page No. 17 (i.e. Page 470 of 814)				
32	Volume- III – Drawings Page No. 19 / 38	Single Line Diagram TWAD-MKM-SWRO-016	Dist. Transformer Rating: 2 MVA, Feeder Details shown	It is assumed that the rating of Transformer & Feeder Details provided is tentative and may vary as per actual load list.	Bidder understanding is correct. It is the responsibility of the bidder to ensure the actual load as per design.
33	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 19 (i.e. Page 472 of 814)	3.0 Plant Power Supply and Distribution:	A dedicated 110 KV Power supply connection at Site has to be obtained through TANGEDCO. It is contractor's responsibility to assess the cable routing and exact length. The Over-Head /underground Lines shall terminate in the metering facility established by TANGEDCO inside the periphery of plant boundary. The 110 kV feeder line shall be brought to the site as per TANGEDCO norms.	Details for source of Permanent Power are provided. Please provide details about the nearest source for construction Power, its location, Voltage level, and distance from site including sub-station, road crossings, feeders, poles etc. Also the authority is requested to provide assistance in obtaining the clearances /approvals required for incoming power supply for construction power and permanent power. Please confirm.	Bidders are expected to visit the site for his own assessment and consultation with TANGEDCO to get required data on availability of Permanent Power Supply. The cost of Power supply extension as carried out as deposit work by TANGEDCO is inclusive in the bidders cost.
34	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and	3.0 Plant Power Supply and Distribution:	The 110 kV feeder line shall be brought to the site as per TANGEDCO norms. At the site land has to be allocated to enable TANGEDCO to install their sub-station if any, pole	Please confirm whether sufficient space for 2 Nos. Bay extension is available at site to install Sub-station.	Adequate land is allotted for 110 KV/11 KV Substation yard. Please ref. drawing No. TWAD-MKM-SWRO-014 - GA layout - given in Sl. No. 15 of Volume III of bid document.

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	Automation Work Page No. 19 (i.e. Page 472 of 814)		switch, required incomer meter, inter trip load break switch etc. Area around the pole structure shall be fenced with a lockable gate and warning signs.		
35	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 22 (i.e. Page 475 of 814)	4.0 Outdoor Switchyard:	All Power cables shall be of Aluminium, XLPE insulated, armored and FRLS outer sheath and all control and instrument cables shall be of Copper, PVC insulated, armored and FRLS outer sheath.	Kindly allow usage of copper cables having size 4 sq.mm and 2.5 sq.mm for receptacle and lighting purpose only.	Please refer Addendum.
36	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 32 (i.e. Page 485 of 814)	4.2 Outdoor Type SF6 Gas Operated Circuit Breakers: Table: Sl. No. 33	Rating of auxiliary contacts, 10 A at 220V DC	Please confirm, DC Voltage is 110V or 220 V.	Please refer Addendum.

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37	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 94 (i.e. Page 547 of 814)	7.0 11 KV Indoor Substation:	The busduct shall serve as interconnection between secondary terminal of the power transformer and the 11kV HV Panel in the MRSS building.	Kindly allow option for usage of 11kV HT cable for connection between Transformer secondary and 11kV panel Incomer.	Please refer Addendum.
38	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 96 & 97 (i.e. Page 549 & 550 of 814)	8.0 Low Voltage Switch Gear: Construction features: Basic Data sheet:	The enclosure shall be IP 54. Protection Class IP 52	Both the clauses are contradictory. Kindly confirm IP 52 or IP 54 Protection class	Please refer Addendum.
39	Volume II, Part II, B. Electrical, SCADA, Instrumenta	Basic Data sheet:	Control Voltage: 110V AC	Kindly allow usage of 230V AC as control voltage.	Bid specification confirmed.

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	tion, Control and Automation Work Page No. 97 (i.e. Page 550 of 814)				
40	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 100 (i.e. Page 553 of 814)	10.0 Electric Moto:	Efficiency Class	Kindly provide efficiency class of Motor.	The bid price is evaluated considering Electricity Charges, hence Bidders are advised to consider premium or super premium efficiency motors for power conservation.
41	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)	List of Approved Major vendors	General	It is assumed that the List provided is indicative and other vendors having required credentials will be considered after award of contract.	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be

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					obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
42	General		General	Apart from area provided for Desalination plant, will any additional land for the installation of non-conventional power generation be provided for free of cost or on lease for the Concession Period of by the authority? Please clarify.	For power Volume I, page 112 of 171, Sub clause 4.19 is applicable. Further, the Employer encourages the use of non- conventional power such as solar power and wind power etc. for the purpose of this project. To achieve this objective the bidders are requested to examine all policies announced by Government (State/Central) for promotion of generation, distribution and consumption of nonconventional power available in the vicinity of the project site. If there are any nonconventional power such as Solar Power and Wind Power is made available in future, the contractor shall utilize the maximum power made available from these resources through a long term Power Purchase agreement with the Solar/Wind

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					Power developer in consultation with the Employer.
43	General		General	We request that drawings/documents submission & approval may please be in soft format instead of hard copy to speed up the drawings/documents approval process. Please confirm.	The contractor has to submit both soft copy and hard copy (6 sets) for BEP and all detailed design engineering documents /drawing Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
44	General		General	Employer is requested to clarify the scope outside the plant e.g. Bay extension & Land requirement at TANGEDCO end, Right of Way (ROW) scope for transmission line outside the plant.	Bay extension & Land requirement at TANGEDCO end is not under scope of the Contractor. However obtaining right of way is responsibility of contractor. Bid conditions confirmed.
45	General		General	Employer is requested to please mention / add the electrical load list of pumping station.	The contractor has to consider additional electrical load of 570 kW (220 kW pumps with 2W +1S and 65 KW pumps with 2W +1S)x 3 Nos. (2 Working and 1 Standby) for the product water pumps during the design of electrical system. Please Refer Addendum.
46	General		General	Employer is requested to provide Resistivity value for designing of underground earthing system. Please confirm.	Generally, value of resistance required shall be based on soil resistivity, fault current capacity of earth electrode. The

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					resistance should not greater than that required to operate safety mechanisms to isolate the electricity supply from a fault situation. Hence Contractor has to carryout detailed Engineering considering all the parameters based fault current of Electrical Equipment, soil resistivity based on site condition, size and shape of the earth conductor etc., to arrive ERT value.
47	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 7 (i.e. Page 588 of 814)	Instrumentation, Control and Automation Local Instrument Panel	LIPs for transmitters should be provided both in indoor and outdoor areas.	Please mention the IP protection for Indoor LIPs	It is confirmed that Local Instrumentation Panels (LIPs) for Indoor shall IP 52 protection class. Please refer Addendum.
48	General		General	Owner is requested to provide list of C&I laboratory equipment's.	The Contractor has to make his own assessment based on the requirement of water quality analysis as stipulated in the bid document and list of laboratory equipment approved by

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49	Volume II, Part II, B. Electrical, SCADA, Instrumentation, Control and Automation Work Page No. 58 (i.e. Page 639 of 814)	Instrumentation, Control and Automation System Architecture	General	Owner is requested to provide Control system Architecture for Desal Plant PLC/SCADA.	As per clause 1.3 design requirements of control and instrumentation. The Contractor shall furnish set of drawings and documents including PLC/SCADA Architecture Drawing and also as per Clause No. 5.2 System Architecture; It is vendor responsibility to carryout detailed design and submit fool proof architecture drawing with design concept for approval by Employer. Hence it is under scope of Contractor.
Conditions of Contract					
50	Volume-I Page No. 139 (i.e. Page 144 of 171)	Schedule No.1	Terms of payment for Plant and machinery from abroad: 80% against receipt of material at site against BG for 50% value of the invoice amount	95% against receipt without BG as there is 5% retention	Request not considered. Bid conditions confirmed
51	Volume-I Page No. 140 (i.e. Page 144 of 171)	Schedule No.1	Terms of payment for Plant and machinery from India: 80% against receipt of material at site against BG for 50% value of the invoice amount	95% against receipt without BG as there is 5% retention	Request not considered. Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
52	Volume-I Page No. 97 (i.e. Page 102 of 171)	Sub Clause 4.2	Performance security: DLP is 1 year after the date of commissioning	To clarify if this is 1 or 2 years	Two years. Please refer Addendum
53	Volume-I Page No. 90 (i.e. Page 95 of 199)	14.7 (b)	Minimum amount of interim payment certificate @ 2% of the contract price	Please allow invoicing and payment on monthly basis	Request not considered. Bid conditions confirmed
	PQ Requirement				
	Financial				
54	Volume-I Page No. 36 (i.e. Page 41 of 199)	3.2.2 (B) – 1 (i). Financial Eligibility Criteria	Lead Partner of the JV should have a annual turnover of Rs. 257 cr	JV of 3 / 4 Partners may be allowed	Bid conditions confirmed
55	Volume-I Page No. 36 (i.e. Page 41 of 199)	3.2.2 (A) (ii). Financial Eligibility Criteria	Should have completed a single work in the SWRO/ TTRO/ WTP of cost not less than Rs. 206 Crores during last 5years (i.e. Financial Year 2015-16 to 31 st December 2020) on DBO/ EPC/ Turnkey basis.	Water Supply System with a WTP of at least 30 MLD capacity in the last 10 years may be considered. A WTP with a conventional clarifier will cost lesser than Rs.206 cr. Even for a 500 MLD Plant. <u>Bidder's experience as an official Sub Contractor, as certified by the end client who is a state govt. department may be accepted.</u>	Bid conditions confirmed.
	Technical				

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
56	Volume-I Page No. 35 (i.e. Page 40 of 199)	3.2.1(i). Technical Eligibility Criteria	The bidder or any one partner of the Joint Venture / Consortium should have Designed, Constructed, Erected, Tested and Commissioned at least on one number of Sea Water Desalination Plant based on Reverse Osmosis (SWRO) process with a single SWRO plant production capacity of minimum plant capacity i.e. 30 MLD and the same plant/s should have been in successful operation for minimum of two years during the last five years as on the date of bid submission.	During the last 10 years instead of 5 years as the number of desalination plants of this capacity are few.	Request not considered. Bid conditions confirmed
57	Volume-I Page No. 35 (i.e. Page 40 of 199)	3.2.1(ii) Technical Eligibility Criteria	The bidder or any one member of Joint Venture / Consortium should have Operated & Maintained at least one number of Sea Water Desalination Plant, based on Reverse Osmosis process with a production capacity of minimum 30 MLD for a minimum period of two years during last	# 20 MLD instead of 30 MLD as the capacity of the plant is developed on the basis of skids and number of skids. Hence O&M does not differ if it is 20 MLD. # Alternatively TWAD may consider 30 MLD as combined capacity with minimum of 2 plants. # During the last 10 years instead of 5 years.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			five years as on the date of Bid submission.		
58	Volume-I Page No. 35 (i.e. Page 39 of 199)	3.2.1(iv). Technical Eligibility Criteria	Intake and Outfall system and O&M for this system	<p># During the last 10 years instead of 5 years.</p> <p># As this is a specialized work, sub contractor's experience may be accepted. In the past, the tender were floated <u>separately</u> for the Desalination plant and Intake Outfall system.</p> <p># There are several examples such as tenders finalised by CPCL/ MRL, Chennai. The tender for Intake and Outfall system was finalised separately with Navayuga, Vizag for their desalination plant of < 30 MLD capacity.</p> <p># Similarly NTPL (JV of NLC and TANGEDCO), Tuticorin finalised the Desalination plant separately.</p> <p># Likewise examples are in Krishnapatnam.</p> <p># Alternatively TWAD may increase the number of JV Partners to 3</p>	Bid conditions confirmed
	Others				
	Mechanical				
59	Volume II,	Section 6:	Intake and Outfall System	Please provide Pipe invert level	The available details already

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part I, A. Process Description and Design basis Page No. 25 and 57 (i.e. Page 26 and 58 of 814)	Sea Water Intake Section 13: Sea Water Outfall		and sea bed level for intake system at the landfall	furnished with the Bid, the Bidder has to collect himself any further details.
60	Volume II, Part I, A. Process Description and Design basis Page No. 25 and 57 (i.e. Page 26 and 58 of 814)	Section 6: Sea Water Intake Section 13: Sea Water Outfall	Intake and Outfall System	Please provide Cross-Sectional for Alignment Drawing for Intake and Outfall System	Please refer DRG.No. TWAD-MKM-SWRO-007 in Volume III, page 9 of 38 for the pipeline alignment. This being a DBO contract it is the responsibility of the contractor to design.
61	Volume II, Part I, A. Process Description and Design basis Page No. 25 and 57 (i.e. Page 26 and 58 of 814)	Section 6: Sea Water Intake Section 13: Sea Water Outfall	Intake and Outfall System	Please provide GA Drawing for Intake Structure and Diffuser Assembly	This being a DBO contract it is the responsibility of the contractor to design.
62	Volume II,	Section 6:	Intake and Outfall System	Please provide Anchor Blocks	This being a DBO contract it is

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part I, A. Process Description and Design basis Page No. 25 and 57 (i.e. Page 26 and 58 of 814)	Sea Water Intake Section 13: Sea Water Outfall		Drawing for Intake and Outfall	the responsibility of the contractor to design.
63	Volume II, Part I, A. Process Description and Design basis Page No. 25 (i.e. Page 26 of 814)	Technical Specification – 6.0 Sea Water Intake – 6.1		To cater the flow of 205.3 MLD minimum required size is 2000mm OD at a velocity of 1 m/s. Kindly confirm the pipe line size for Intake system	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, CI 6.1, page 26 of 814 for minimum size of pipe. Bid conditions confirmed. Please refer Addendum for Clause 1.8 of Volume II, Part II, C. Mechanical and Piping Specifications
64	Volume – II Part II C – Mechanical and Piping Specifications Page No. 39 (i.e. Page 713 of 814)	Technical Specification 8.0 -Valves		As the sea water will not be in contact with Casing/Body of Butterfly Valves, kindly confirm whether Bidder can proceed with CI MOC for Valve body.	Technical specification for MOC of Valve Data Sheet is confirmed for design
65	Volume II,	8.6 - Energy	Technical Specification 8.6	Kindly confirm whether Bidder	Refer Page No. 98 (i.e. Page 99

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part I, A. Process Description and Design basis Page No. 41 (i.e. Page 42 of 814)	Recovery System	- Energy Recovery System	can propose Turbo Charger of Fedco/ Energy Recovery Inc. make as Energy Recovery Device.	of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
66	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)		List of Approved Major Vendors	Kindly confirm LG Chem membranes are acceptable for RO	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
					application". Bid conditions confirmed.
67	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)		List of Approved Major Vendors	Kindly confirm Asahi, Toray membranes are acceptable for UF	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
68	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)		List of Approved Major Vendors	Kindly confirm Sam Turbo and Flow more are acceptable for Vertical and Horizontal Centrifugal Pumps	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer /

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
					Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
69	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)		List of Approved Major Vendors	Kindly confirm Mechman, Filter Concept are acceptable for Micron Cartridge Filters	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
70	Volume II, Part I, A. Process Description and Design basis Page No. 98		List of Approved Major Vendors	Kindly confirm Bray Controls, GM Engineering, Delval, AV Valves are acceptable for valves	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	(i.e. Page 99 of 814)				successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
71	Volume III – Drawings TWAD – MKM – SWRO – E3 Page 22 of 38		Process Instrumentation Diagram	Sludge Treatment is shown in the PID with Centrifuge. For Desalination Plants, sludge can be mixed with the reject and discharged into the sea. No separate Sludge Treatment is required. Kindly confirm	Please refer drawing TWAD – MKM – SWRO – E3 for dewatering unit. It is mentioned filter press only. Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
	Civil				
72	Volume – II Part II A. Civil Specifications	General		Please let us know whether Pile foundation is required or not in the proposed plant area. Kindly confirm, in case pile foundation is required, please provide pile vertical capacity and lateral load.	The Bidder has to decide the foundation requirement based on his design requirement.
73	Volume – II Part II A. Civil Specifications	General		Kindly provide grade of concrete and type of cement for anti-buoyancy block	Please refer Volume – II – Part II Civil – Specifications, page 127 of 814, Clause 3.1 b. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Electrical and Instrumentation				
74	Volume II Part II B. Electrical works, SCADA, Instrumentation Control and Automation Page No. 90 (i.e. Page 543 of 814)	5.2 Transformer Bay requirements Table: Power Transformer Specification		Based on electrical load list for ultimate flow of 72 MLD Bidder query: We will design the transformer rating for 60 MLD or 72 MLD. Please confirm	It is confirmed that Capacity of Power Transformer shall be based on electrical load list for ultimate flow of 72 MLD and remaining Electrical unit including distribution transformer shall be sized for 60 MLD only. Please Refer Addendum.
75	Volume II, Part II B Electrical works, SCADA, Instrumentation Control and Automation, Control and Instrumentation Page No. 47 (i.e. Page	11.7 Electric Motors		Motor connections shall be internal by means of plug and socket. Bidder Query: Motor termination is Plug & Socket OR Gland Termination	The specification motor provided in page No. 48 under section 11 is for Valve Actuators. Generally, these motors are fractional capacities, hence plug and socket is most preferable for motor connections. The Contractor may also consider Gland terminal.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	628 of 814)				
76	Volume-II Part-1A Process Description and Design Basis Page No. 57	Section -13	Outfall pipe line	In the referred clause it's mentioned as "The outfall conduit shall be of minimum 1200 mm (OD) diameter and shall be of HDPE (SDR 13.6 PN10 PE100) as per ISO: 4427:2007, at a preferred location at a distance of 800m". Whereas the Outfall distance mentioned as 700m from LFP in drawing no: TWAD-MKM-SWRO-004. Kindly Confirm the length.	Please refer DRG.No. TWAD-MKM-SWRO-007 in Volume III, page 9 of 38 for outfall location. Bid conditions confirmed.
77	Volume-II Part-1A Process Description and Design Basis Page No. 25	Section -06	Sea water Intake location	In the referred clause it's mentioned as "The intake conduit shall be of minimum 1600 mm (OD) diameter and shall be of HDPE (SDR 13.6 PN10 PE100) as per ISO: 4427:2007, at a preferred location at a distance of 800m". Whereas the Intake distance mentioned as 700m from LFP in drawing no: TWAD-MKM-SWRO-004. Kindly Confirm the length.	Please refer DRG.No. TWAD-MKM-SWRO-007 in Volume III, Page 9 of 38 for Inlet location. Bid conditions confirmed.
78	Volume - III - Drawings Page No. 4, 5, 6 7 /38	-	Contour, Bathymetric survey map,satellite Image	Kindly provide the high tide level and we understand that if any shore protection works are required in the future in between plant boundary and sea in order	The available details already furnished with the Bid, the Bidder has to collect himself any further details. All required works if any will be in Bidder's

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				avoid the erosion due to high tide the same will be in the client scope.	scope.
79	Volume-II Part-1A Process Description and Design Basis Page No. 59	Section 15- Clause 15.1.1	Plant Buildings	In the referred clause its mentioned as "Intake Pump house, DMF building, UF Building including UF feed Pumps, RO Plant Building (inclusive of Cartridge Filters pressure vessels, booster and HP pumps and energy recovery), Administration and Control Building, Chemical Dosing Buildings, Electrical Switchgear Buildings / Substation. Buildings shall generally be of concrete foundation slabs, sheet metal clad , insulated and suitable for cyclonic conditions with a design life of 30 years.	The UF and RO building will be of RCC structure with brick cladding. Steel trusses will support the precoated metal sheet roofing. All other building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof. Bid conditions confirmed.
	Volume – II, Part – II A. Civil Works and General Specifications Page No. 120 of 302 (i.e. Page 226 of 814)	10.0 (Point 1 & 9)	Building Works	In the referred clause "All building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof . Kindly confirm the Roof type for all buildings.	
80	Volume-II	15.2	Road Works	In the referred clause it's	All roads shall be of Concrete

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part-1A Process Description and Design Basis Page No. 60 (i.e. Page 61 of 814)			mentioned as "Working areas around the desalination plant will 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 bitumen sealed."	roads. Please refer Addendum.
	Volume – II, Part – II A. Civil Works and General Specifications Page No. 199 of 302 (i.e. Page 305 of 814)	12.1 (d)	Roadways	In the referred clause it's mentioned as "All roads shall be of Cement concrete (as stated below) having 6 m wide carriage way with 1 m wide flanks (shoulder) on either side of it, making a total roadway width of 8 m." We presume that cement concrete road shall be provided as indicated in the layout.	
81	Volume – II, Part – II A. Civil Works and General Specifications Page No. 8 of 302 (i.e.	2.3	Dead Loads	In the referred clause it's mentioned as "Unit weight of Brickwork (exclusive of plaster) and Unit weight of sand (filter media) are given as 22 kN/m ³ and 25 kN/m ³ . Generally the unit weight of	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page 114 of 814)			Materials shall be considered as per IS 875 part 1 . Kindly Confirm	
82	Volume – II, Part – II A. Civil Works and General Specifications Page No. 247 of 302 (i.e. Page 353 of 814)	Clause 23.2	Site preparation	<p>In the referred clause it's mentioned as "Removal of Top Soil, Shrubs and Other Vegetation (wherever applicable). All shrubs, vegetation and other plants shall be removed and cleared from the selected stretch of the site. All debris and unsuitable material up to a depth of 300 mm between ground level and road level shall be removed.</p> <p>We presume that Removing / Clearing the trees & Shrubs belongs to forest department in the plant Boundary, will not be in contractor scope. Kindly confirm. Further, we understand that afforestation if any in compensation for deforestation shall be in client's scope.</p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
83	Volume – II, Part – II A. Civil Works and General Specifications Page No. 7 of 302 (i.e.	2.1	Design Submission	<p>In the referred clause it's mentioned as "The finished level shall be 300 mm above existing ground level.</p> <p>In same clause its mentioned as "The minimum Finished Floor</p>	Yes the minimum finished floor level to be maintained 500 mm above the Finished ground level for all buildings and structures.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page 1136 of 814)			<p>Level should be maintained above the finished ground level at 500 mm for all buildings and structures".</p> <p>We presume that the minimum finished floor level to be maintained 500mm above the Finished ground level for all buildings and structures. Kindly clarify.</p>	
84	Volume – II, Part – II A. Civil Works and General Specifications Page No. 128 of 302 (i.e. Page 234 of 814)	10.1 (Point No:48)	Cinder Filling	<p>In the referred clause it's mentioned as "All the sunk RCC slabs shall be provided with cinder filling comprising of:- (a) Plastering the RCC. slab top, sides etc& (b) Filling with Cinder concrete 1:10</p> <p>In the referred clause it's mentioned as "Bathroom/ W.C. floor slabs shall be sunk and filled with brickbat coba (broken bricks set in lime) We presume that "Any one of the specified filling material shall be used during construction based on the availability"</p>	Yes, the Bidder can use any one of the specified filling materials subject to the approval of the Engineer
	Volume – II, Part – II A. Civil Works and General Specifications Page No. 122 of 302 (i.e. Page 228 of 814)	10.1 (Point No:10)	Brickbat coba Filling		

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
85	Volume – II, Part – II A. Civil Works and General Specifications Page No. 199 of 302 (i.e. Page 305 of 814)	12.1 (d)	Roadways	In the referred clause it's mentioned as "All roads shall be of Cement concrete (as stated below) having 6 m wide carriage way with 1 m wide flanks (shoulder) on either side of it, making a total roadway width of 8 m"	The Bidder is requested to follow Contract conditions Volume-II-Part II Civil – Specifications, CI 12.1, page 305 of 814. Bid conditions confirmed.
	Volume – III - Drawings	TWAD-MKM-SWRO-014	General arrangement layout	In the referred drawing, Internal roads with 6m width is present. We presume that "4m wide carriage way with 1 m wide flanks (shoulder) on either side of it, making a total roadway width of 6 m. Kindly Confirm	
86	Volume – II, Part – II A. Civil Works and General Specifications Page No. 226 of 302 (i.e. Page 332 of 814)	16.3	Security Building	In the referred clause it's mentioned as "A Security building at the entrance of the Plant of minimum 7 sq. m plinth area with 3.3 m height" . In the referred drawing, the area of Security building mentioned as 60 Sq.m with 3.65m height. We presume that "Security building with plan area of 7 sq. m with 3.3m height" to be considered in BOQ. Kindly	The Security building shall have a minimum plinth area of 36 sqm with 3.3 m height. Please refer Addendum.
	Volume – III - Drawings	TWAD-MKM-SWRO-014	General arrangement layout		

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				confirm.	
87	Volume – II, Part – II A. Civil Works and General Specifications Soil Investigation Report Page No. 105 of 302 (i.e. Page 211 of 814)	8.43.1	Reinforcement	In the referred clause it's mentioned as " The Reinforcement shall be CRSD / TMT-HCR / HSCRM Grade Fe 500 confirming to IS: 1786. " Kindly confirm the type of reinforcement to be considered.	The Bidder can choose any of the three for reinforcement. Bid conditions confirmed.
88	Volume – II, Part – II A. Civil Works and General Specifications Soil Investigation Report Page No. 5 (i.e. Page 415 of 814)	2.3, Figure 2.0	Soil Investigation Works	Please provide the coordinates of bore holes or Borehole location plan for deciding the foundation type of various structures.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
89	Volume – II, Part – II A. Civil Works	Table: 2.7	Soil Investigation Works	Please provide the Chemical Test results as mentioned in content but missed in the attached soil	The available details already furnished with the Bid, the Bidder has to collect himself any

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	and General Specifications Page No.1 (i.e. Page 410 of 814)			report.	further details.
90	Volume - III - Drawings	TWAD-MKM-SWRO-003 & TWAD-MKM-SWRO-015	Boundary limit	<p>In the referred survey drawing, ground level (RL) inside the plot varies from 0 to 7m. And in HFD, uniform FGL is mentioned for entire plant as +0.0m. Please confirm the FGL with the clear mentioning of Correspondence with reference to CD / MSL considering HTL which is shown around +3 m in the survey drawing.</p> <p>If cutting is envisaged, kindly clarify the Grading scope and space availability for stable slope formation outside the plant boundary.</p>	Finished Ground level (FGL) at any place inside the Plant shall be at +4.500m w.r.t to MSL or at the Natural ground level whichever is more. The Bidder also has a choice to maintain a uniform FGL of +4.500m w.r.t to MSL for the entire Plant. Please refer Addendum.
91	Volume-II Part-1A Process Description and Design Basis Page No. 29 (i.e. Page 30 of	Section -06	Seawater Intake Under Sub-clause Marine pipeline works	Under Offshore trenching, it is stated as "Based on survey it is evident that layer of rock shall be encountered along the entire intake and outfall pipe alignments" . And as per available soil report it is stated as silty sand (SP/SM). Request you	The available details already furnished with the Bid, the Bidder has to collect himself any further details.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	814)			to confirm the strata all along the pipeline and kindly share the soil report for the same.	
92	Volume - III - Drawings	TWAD-MKM-SWRO-014	Drawings missed	<p>In the referred drawing, it's mentioned as for Approach road details refer drawing number TWAD-MKM-SWRO-025, which is missed in the document.</p> <p>Kindly provide the Missed drawing & Other civil drawings available, if any.</p>	Approach Road drawing is now enclosed. Please refer Addendum.
93	Volume-II Part-1A Process Description and Design Basis Page No. 3 (i.e. Page 4 of 814)	1.4	Approach road	Kindly Share the co-ordinate of Start point, End Point & Route of Approach road from main road.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
94	Volume-II Part-II C: Mechanical and Piping Specifications Page No. 3 (i.e. Page 677 of 814)	1.5	Low pressure valves in contact with sea water shall be rubber lined as per AWWA standard.	We presume that bidder is free to select Rubber Seated or metal seated butterfly valves for all low-pressure applications.	Butterfly Valves in contact with Sea Water for Low Pressure applications shall be Rubber Seated or Metal Seated
		8.2 i) a)	Rubber Seated or metal seated butterfly valves are		

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 39 of 302 (i.e. Page 713 of 814) Page No. 66 (i.e. Page 740 of 814)		preferred for all low-pressure applications for isolation and modulation.		
		Data sheet for Butterfly valve	Valve type – Flanged Body, Disc, Seat & Stem: ASTM A 890 Gr 5A / UNS J 93404/ UNS S 31254 (ALLOY -2507) having PREN > 40	1) Please confirm whether Butterfly valve type shall be Lugged wafer for Size up to 24" and Flanged for Size above 24". 2) We presume that the valve shall be rubber seated or metal seated as per clause 8.2 i) a). Please confirm.	<ul style="list-style-type: none"> Butterfly valve for all sizes shall be considered as Flanged type Rubber Seated or Metal Seated Butterfly valves shall be considered for all Low Pressure application
95	Volume-II Part-1A Process Description and Design Basis Page No. 45 (i.e. Page 46 of 814)	8.9, Table 24	Piping Material: 1) High pressure feed piping - Super duplex 2507, PREN \geq 40 or 254 SMO. 2) High pressure feed and concentrate piping and headers - Super duplex 2507, PREN \geq 40 or 254 SMO. 3) Connecting pipework feed/concentrate headers to pressure vessels - Super duplex 2507, PREN \geq 40 or 254 SMO.	We presume bidder is free to select Super duplex 2507 with PREN \geq 40 or 254 SMO. Please Confirm.	Piping Material: <ul style="list-style-type: none"> 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 pipework feed/concentrate headers to pressure vessels - Super duplex 2507, PREN \geq 40 or 254 SMO.
96	Volume-II	13.3	3D pipe layout	As per the referred clause,	3D Modeling Software Program

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part-II C: Mechanical and Piping Specifications Page No. 105 (i.e. Page 779 of 814)			<p>"Piping layout shall be designed considering ergonomics of the plant with due consideration for access for operation and maintenance of valves, instruments, and equipment. Contractor shall submit a 3D pipe layout to verify this feature".</p> <p>Please confirm which 3D modeling software to be used for the same.</p>	shall be SMART 3D for Plants
97	Volume-II Part-II C: Mechanical and Piping Specifications Page No. 103 (i.e. Page 777 of 814)	13.3	<p>Piping Material:</p> <ol style="list-style-type: none"> 1. Low pressure sea water, brine, permeate product - Super Duplex / High pressure sea water, brine application, membrane connection - ASTM A-312-S31254 2. Ferric, Polymer, SBS, sodium hypochlorite - Poly Vinyl Ester RTR pipe (with anti UV protection for outdoor installations) 3. Chemical cleaning, air scour - RTR epoxy with anti UV protection. 4. Instrument and service air - SS 316 L with epoxy 	<ol style="list-style-type: none"> 1. We Presume that for low pressure piping carrying sea water in the SWRO section shall be GRP (Directly Buried) on the permeate side it shall be SS316 L. and for high-pressure line Super Duplex 2507 or high-grade austenitic SS 254 SMO. We propose to use polyester resin for GRP pipes, as specified in clause 13.6.iii), Volume-II Part-II C, page 109. 2. As per the tender P&ID:TWAD-MKM-SWRO-E1, E15, E16, CPVC material is specified for Ferric, Polymer, SBS, sodium hypochlorite. We presume that piping material as specified in 	<p>1(A) Low pressure piping carrying sea water in the SWRO section shall be GRP (Polyester Resin for GRP pipes, as specified in clause 13.6.iii, Volume-II Part-II C, page 109).</p> <p>1(B) Low Pressure Permeate side it shall be Super Duplex</p> <p>1(C) High-pressure Sea water, Brine application, Membrane connection - Super Duplex 2507 confirming PRN above 42 or ASTM A-312-S31254</p> <p>2. Pipe Material for Ferric, Polymer, SBS, sodium hypochlorite - CPVC as per tender P&ID: TWAD-MKM-SWRO-E1, E15, E16</p> <p>3(A) Pipe Material for Chemical</p>

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			<p>painting.</p> <p>5. Acid piping - PTFE lined carbon steel.</p>	<p>P&ID can be followed. Please confirm.</p> <p>3. As per the tender P&ID:TWAD-MKM-SWRO-E1, CS material is specified for air scouring. We presume that piping material as specified in P&ID can be followed. Please confirm.</p> <p>4. As per the tender P&ID:TWAD-MKM-SWRO-E17, GI material is specified for service air. We presume that piping material as specified in P&ID can be followed. Please confirm.</p> <p>5. As per the tender P&ID:TWAD-MKM-SWRO-E13, CS material is specified for H2SO4 service. We presume that piping material as specified in P&ID can be followed. Please confirm.</p>	<p>Cleaning shall be GRP (Vinyl ester Lined)</p> <p>3(B) Pipe Material for Air Scouring shall be GI (CS piping is not recommended due to its thermal expansion with elevated temperature above 60 deg.C)</p> <p>4. Instrument and service air - SS 316 L or GI with epoxy painting.</p> <p>5. Acid piping - PTFE lined carbon steel.</p>
98	Volume-II Part-II C: Mechanical and Piping Specifications Page No. 51 (i.e. Page 725 of 814)	Data sheet for Check valve	Type of check valve	Please confirm whether Dual plate check valve can be provided for high pressure and low-pressure applications. Owing to its reduced slamming effect, long life and ease in operation & maintenance.	Dual Plate Check Valve (Super Duplex) shall be considered for SW High Pressure Application Swing Plate Check Valve (Super Duplex) shall be considered for SW Low Pressure Application
99	Volume-III -	P&ID:TWAD-	Valves for sludge	As per the referred P&ID,	Knife Gate valve are

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Drawings	MKM-SWRO-E1 & E3	application	Butterfly valves are shown for the sludge lines. Generally, Knife Gate valve are preferred for the sludge lines of Lamella clarifier, Sludge holding tank, thickener & filter press. Please confirm the type of valve to be provided for sludge applications.	recommended for the Sludge Lines of Lamella Clarifier, Sludge Holding Tank, Thickener & Filter Press.
100	Volume-II Part-II C: Mechanical and Piping Specifications Page No. 41 (i.e. Page 715 of 814)	8.3. i)	Plug valves	As per referred clause, Plug valves are required for high pressure applications in flow control of RO feed and reject, energy recovery device bypass and open /close isolation in chemical cleaning applications. However in P&ID: TWAD-MKM-SWRO-E6, Butterfly valves are provided for the above mentioned lines. Please confirm the type of valve to be provided also specify the type of end connection required	Plug Valves are recommended for High Pressure applications in flow control of RO feed and reject, Energy recovery device, By-Pass and Open/Close isolation in chemical cleaning applications
101	Volume-II Part C Mechanical and Piping Specifications Page No. 96 (i.e. Page 770 of 814)	12.1	Codes – Fire Alarm and Protection System.	As per referred clause, complete fire protection system to be designed as per NFPA, OSHA and any local fire codes. The minimum pressure requirement at the remotest hydrant is 3.5 bar, as per local code (IS) and 6.9 bar, as per	Minimum Pressure requirement for remotest hydrant is 6.9 bar as per NFPA

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				NFPA. Kindly confirm the actual minimum pressure requirement at the remotest hydrant.	
102	Volume-II Part C Mechanical and Piping Specifications Page No. 97 (i.e. Page 771 of 814)	12.2.ii)	Spacing of Hydrants.	As per referred clause, Hydrants system shall be designed as per NFPA requirement. Based on NFPA, the hydrant shall be spaced based on the authority having jurisdiction. We will consider local code requirement of 45m spacing between hydrants. Please confirm.	Hydrant system shall be designed as per NFPA requirement. Based on NFPA, the hydrant shall be spaced based in the authority having jurisdiction. Spacing between yard hydrants shall be 45 Meters
103	Volume-II Part C Mechanical and Piping Specifications Page No. 98 (i.e. Page 772 of 814)	12.2.iv)	Deluge Water Spray System for Transformers	As per referred clause, Deluge water spray system shall be adopted for Transformers. Transformers having capacity more than 10 MVA or if oil capacity is more than 2000 litres shall be provided with Deluge water spray system, please confirm.	Deluge water spray system shall be adopted for Transformers having capacity (> or =) greater than or equal to 10 MVA or if oil capacity is more than 2000 liters
104	Volume-II Part C Mechanical and Piping Specifications Page No. 96 (i.e. Page 770 of 814)	12.0	Fire Protection Systems	We understand that there is no requirement of Clean agent system for control room or any other buildings. Please confirm.	No Requirement of Clean Agent system for Control Room or any other Building

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
105	Volume-II Part-II C: Mechanical and Piping Specifications Page No. 103 (i.e. Page 777 of 814)	13.3	Piping Material - Fire system hydrant	As per referred clause, the fire hydrant system piping is Ductile iron /RTR Vinyl Ester. We propose Carbon steel ERW pipes for Fire water Pump House piping and Deluge water spray piping.	Fire Hydrant system piping MOC shall be Carbon steel ERW Pipes
106	Volume-III - Drawings	P&ID:TWAD- MKM-SWRO- E17	Product storage tank	<ol style="list-style-type: none"> 1) Please confirm the scope of interconnecting piping from product storage tank to TWAD tank. 2) Please confirm the location of TWAD tank. 3) We presume that the bidder's scope is limited to service water distribution within the SWRO desalination plant only. 	Battery limit for the bidder's work will be at Final Product (Potable) Water Storage Tank. Product (Potable) Water Pump House with pump sets is not in the scope of the present Contract. However, the Contractor has to consider additional electrical load of 570 kW (220 kW pumps with 2W +1S and 65 kW pumps with 2W+1S) for the product water pumps during the design of electrical system. Please refer Addendum.
107	Volume-II Part-IA - Process Description & Design Basis	1.4	Table 1: Construction of desalination activity can be done as per the applicable CRZ clearance given.	As per the referred table, Please provide the CRZ clearance document obtained from MOEF for the 72 MLD Desalination Plant including Intake and Outfall pipeline system.	All approvals are the responsibilities of the Bidder. TWAD is processing for CRZ clearance and yet to obtain.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 6 (i.e. Page 7 of 814)				
108	General	-	Sluice/ Stop Log Gate Specifications	Kindly provide the detailed specifications of the Sluice/Stop Log Gates, if any.	This being a DBO contract it is the responsibility of the contractor to design.
109	Volume II Part-IIC Mechanical and Piping Specifications Page No. 3 (i.e. Page 677 of 814)	1.5	Intake Pumps Discharge Pipes MOC	As per the referred clause, the MOC of Pipes & Valves in contact with seawater at low pressure shall be taken as GRP. As per the P&ID, Dwg. No. TWAD-MKM-SWRO-E1, Sheet 1 of 1, the MOC of Intake Pumps Discharge Pipes is given as GRP. However, in 13.0 Piping Specification, Clause 13.3 (iii) Piping Material, the MOC for Low Pressure Sea Water, Brine, Permeate, and Product is mentioned as Super Duplex. Please Confirm. Kindly confirm MOC. Kindly confirm if GRP has to be considered as MOC for Intake Pumps Discharge & Header Pipelines.	MOC of Pipes & Valves in contact with Sea Water at Low Pressure shall be considered as GRP MOC for Intake Pumps Discharge & Header Pipelines shall be considered as GRP
110	Volume II Part- IA Process	6.3	Intake Piping	For intake pipe, pigging provision is not possible since velocity cap is provided at other end and no	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Description & Design Basis Page No. 26 (i.e. Page 27 of 814)			backwash flow is envisaged in the Intake Pipe from Pump House side. Kindly clarify.	
111	Volume II, Part IIA Civil Works and General Specifications Page No. 7 of 302 (i.e. Page 113 of 814)	2.1	FGL	As per the referred clause, the Finished Ground Level shall be taken as 300 mm above the existing ground level. The FGL mentioned in the HFD, Dwg. No. TWAD-MKM-SWRO-015, the FGL for the entire plant is considered as 0 m. Kindly confirm the FGL to be considered for Plant Design.	Finished Ground level (FGL) at any place inside the Plant shall be at +3.500m w.r.t to MSL or at the Natural ground level whichever is more. The Bidder also has a choice to maintain a uniform FGL of +3.500m w.r.t to MSL for the entire Plant. Please refer addendum.
112	Volume II, Part IIA Civil Works and General Specifications Page No. 7 of 302 (i.e. Page 113 of 814)	2.1	Free Board Requirement at Intake Well & Pumping Station	As per the referred clause, a Free Board of min. 500 mm shall be considered for all water retaining structures. Kindly confirm if this FB of 500 mm is already included in the 13.1 m depth of the Intake Well.	Yes, FB of 500 mm is already included in the 13.1 m depth of the Intake Well.
113	Volume II Part- IA Process Description & Design	17.1.2.1	Sea Bed Depth at Velocity Cap/ Intake Facilities	As per the referred clause, the Sea Bed Depth at Velocity Cap/ Intake Facilities is given as 4 m. However, in Bathymetry Map, Dwg. No. TWAD-MKM-SWRO-004,	Bidder is requested to follow the details given in the drawing.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Basis Page No. 64 (i.e. Page 65 of 814)			the Sea Bed Depth at Velocity Cap/ Intake Facilities is mentioned as 9.6 m w.r.t Chart Datum. Kindly confirm if the Sea Bed Depth at Velocity Cap/ Intake Facilities shall be considered as 9.6 m w.r.t Chart Datum.	
114	Volume II Part- IA Process Description & Design Basis Page No. 25 (i.e. Page 26 of 814)	6.1	Intake Pipe SDR	As per the referred clause, the Intake Pipe shall be of HDPE (SDR 13.6 PN 10 PE 100) as per ISO 4427-2007. However, as per ISO 4427-2007, the SDR corresponding to HDPE Pipe PN 10 PE 100 is SDR 17. Kindly confirm if HDPE (SDR 17 PN 10 PE 100) as per ISO 4427-2007 shall be considered for Intake Pipeline Design.	Intake Pipe shall be of HDPE (SDR 17 PN 10 PE 100) as per ISO 4427-2007. Please refer Addendum.
115	Volume II Part IA Process Description & Design Basis Page No. 25 (i.e. Page 26 of 814) Volume II,	6.1 1.8	Intake Pipeline Size Piping System	As per referred clause, the minimum OD of Intake HDPE Pipeline is mentioned as 1600 mm to be sized for a flow of 205.3 MLD. As per Volume II, Part IIC, 1.8 Piping System, the velocity criteria for Pipelines under gravity flow is mentioned as 1 m/s. However, if 1600 mm is considered as the Pipeline OD (As	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, Cl 6.1, page 26 of 814 for minimum size of pipe. Bid conditions confirmed. Please refer Addendum for Clause 1.8 of Volume II, Part II, C. Mechanical and Piping Specifications

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part II, C. Mechanical and Piping Specifications			per ISO 4427-2007, for HDPE Pipe PE 100/PN 10 Rating, max. thickness of 103.7 mm is considered), the flow velocity comes out to be around 1.56 m/s, which does not satisfy the velocity criteria mentioned above. Kindly confirm if 1600 mm or Velocity criteria has to be considered for sizing of Intake Pipeline OD.	
116	Volume II Part- IA Process Description & Design Basis Page No. 64 (i.e. Page 65 of 814)	17.1.2.1	Sea Bed Depth at Outfall Diffuser.	As per the referred clause, the Sea Bed Depth at Outfall Diffuser is given as 9.6 m. However, in Bathymetry Map, Dwg.No.TWAD-MKM-SWRO-004, the Sea Bed Depth at Outfall Diffuser is mentioned as 9.4 m w.r.t Chart Datum. Kindly confirm if the Sea Bed Depth at Outfall Diffuser shall be considered as 9.4 m w.r.t Chart Datum.	Bidder is requested to follow the details given in the drawing.
117	Volume II Part- IA Process Description & Design Basis Page No. 64	17.1.2.1	Outfall Pipe Length between the Outfall Diffuser and the LFP	As per the referred clause, the length of the Outfall Pipe is given as 800 m. However, in Bathymetry Map, Dwg. No. TWAD-MKM-SWRO-004, the distance of the Outfall Diffuser from the LFP is	Please refer DRG.No. TWAD-MKM-SWRO-007 in Volume III, page 9 of 38 for Outfall location. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	(i.e. Page 65 of 814)			mentioned as 700 m. Kindly confirm if the distance of the Outfall Diffuser from the LFP and the pipeline length between them shall be considered as 700 m.	
118	Volume II Part- IA Process Description & Design Basis Page No.57 (i.e. Page 58 of 814)	13.1	Outfall Pipe SDR	As per the referred clause, the Outfall Pipe shall be of HDPE (SDR 13.6 PN 10 PE 100) as per ISO 4427-2007. However, as per ISO 4427-2007, the SDR corresponding to HDPE Pipe PN 10 PE 100 is SDR 17. Kindly confirm if HDPE (SDR 17 PN 10 PE 100) as per ISO 4427-2007 shall be considered for Outfall Pipeline Design.	Outfall Pipe shall be of HDPE (SDR 17 PN 10 PE 100) as per ISO 4427-2007. Please refer Addendum.
119	Volume II, Part IA Process Description & Design Basis Page No. 57 (i.e. Page 58 of 814)	13.2	Diffuser Specifications	Kindly confirm the size, quantity, inclination and detailed specification (if any) of diffuser ports.	DBO contractor shall select as per the standard engineering practice.
120	Volume II Part IA Process	6.7	Sea Water Pumps Capacity and specifications	Kindly confirm if the Sea Water Vertical Turbine Pumps (3W + 1S) shall be designed for a	Yes, Bid conditions confirmed. The Bidder is requested to follow Contract conditions Volume – II

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Description & Design Basis Page No. 33 (i.e. Page 34 of 814)			capacity of 187 MLD (corresponding to 72 MLD of Product Water) i.e., a capacity of 2597.23 m3/hr for each pump. Also, kindly provide the detailed specifications of Sea Water Intake VT Pumps.	Part I A Process Description & Design basis, Cl 6.7, page 34 of 814 and follow good engineering practice.
121	Volume II Part IA Process Description & Design Basis Page No. 24 (i.e. Page 25 of 814)	5.4	Total Brine Reject Outfall Rate	As per referred clause, the Total Brine Reject Outfall Rate is mentioned as 108 MLD. However as per Volume II Part IA, 13. Seawater Outfall, Clause 13.1 & 13.2, the Outfall Pipe shall be sized for a min. flow of 126.5 MLD i.e., 115 MLD + 10% additional capacity to take care of bio growth. Kindly confirm if 115 MLD shall be considered as Total Brine Reject Outfall Rate and 126.5 MLD be considered for the design of Outfall Pipeline.	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, Cl 13.1, page 58 of 814.
122	Volume II Part IA Process Description & Design Basis Page No. 25 (i.e. Page	6.2	Offshore Screen MOC	As per referred clause, the Offshore Screen MOC is mentioned as GRP. However as per Volume II, Part IA, 6. Seawater Intake, Clause 5 (f), it is mentioned that the screen elements shall be of material suitable for sea water	GRP is preferable as per section 6.2

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	26 of 814)			application and that all steel in direct contact with seawater shall be of Super Duplex. Kindly confirm if GRP has to be considered as the MOC of the Offshore screens.	
123	Volume III - Drawings	Bathymetry Map, Dwg. No. TWAD-MKM-SWRO-004	HWL	Kindly provide the High Water Level (HWL) from the Mean Sea Level/Chart Datum for all the seasons.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
124	Volume III - Drawings	Bathymetry Map, Dwg. No. TWAD-MKM-SWRO-004	LWL	Kindly provide the Low Water Level (HWL) from the Mean Sea Level/Chart Datum.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
125	Volume II Part-IIC Mechanical and Piping Specifications Page No. 111 (i.e. Page 785 of 814)	13.7	HDPE Pipe Detailed Specifications	Kindly provide the detailed specifications of the HDPE Pipes (if any) apart from the referred clause.	Bid conditions confirmed.
126	Volume II Part IA Process Description	2.3	Forebay/ Silting Basin Requirement	We understand that, Forebay or Silting Basin is required before the Travelling Band Fine Screen in the Intake Well & Pumping	Please refer Volume III, page 20 of 38, P & I Diagram of 60 MLD SWRO Desalination Plant (Intake Chamber, Receiving Chamber,

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	& Design Basis Page No. 12 (i.e. Page 13 of 814) General			Station. The requirement of the same is not mentioned in the tender document. Please Confirm.	Flash Mixers, Flocculators and Lamella Clarifiers) drawing for the requirement. The Bidder can select size as per his design requirement.
127	Volume II Part IA Process Description & Design Basis Page No. 33 (i.e. Page 34 of 814)	6.5	Travelling Band Screen Quantity	Kindly confirm the quantity (Working & Standby) of Travelling Band Fine Screens as it is not mentioned in the tender document.	The specification for Travelling band screen is now included. Please refer Addendum.
128	Volume II Part IA Process Description & Design Basis Page No. 12 (i.e. Page 13 of 814) General	2.3	Travelling Band Screen Opening Size	As per referred clause, the opening size of the Travelling Band Screen shall be 3 mm. However, as per Volume II, Part IA 6. Seawater Intake, 6.1 Primary Flows, the opening size is given as 3 to 4 mm. Kindly confirm if 3 mm has to be considered as the opening size of the Travelling Band Fine Screen.	The specification for Travelling band screen is now included. Please refer Addendum.
129	Volume II Part IA Process Description & Design	6.5	Travelling Band Screen Detailed Specifications	Kindly provide the detailed specifications of the Travelling Band Screen, if any.	The specification for Travelling band screen is now included. Please refer Addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Basis Page No. 33 (i.e. Page 34 of 814)				
130	Volume II Part IA Process Description & Design Basis Page No. 55 (i.e. Page 56 of 814)	11.1	Potable Water Discharge Battery Limit	Kindly clarify the Battery Limit regarding the Final Discharge Point of the Potable Water/Product Water from the Product Storage Tank. Kindly provide the pipe details, road/culvert crossing details along the pipe route if in case the potable water needs to supply to a location farther from the proposed plant layout.	Battery limit for the bidder's work will be at Final Product (Potable) Water Storage Tank. Product (Potable) Water Pump House with pump sets is not in the scope of the present Contract. However, the Contractor has to consider additional electrical load of 570 kW (220 kW pumps with 2W +1S and 65 kW pumps with 2W+1S) for the product water pumps during the design of electrical system. Please refer addendum.
131	Volume II Part IA Process Description & Design Basis Page No. 33 (i.e. Page 34 of 814)	2.1	Future connection	Please confirm whether only blind flange or isolation valve need to be provided in the piping for future connection with units like Lamella clarifier, Dual media gravity filter, UF & RO modules, flash mixer, flocculator, etc.	Isolation valve need to be provided in the piping for future connection with units like Lamella Clarifier, Dual Media Gravity Filter, UF & RO Modules, Flash Mixer, Flocculatoretc
132	Volume III - Drawings	General	Piping Material	We presume piping material as specified in the P&ID shall be followed, please confirm.	Refer Item wise Quarries are Clarified for Piping Material. Not to be considered as General

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
133	Volume III - Drawings	General	-	Kindly provide the Longitudinal Section drawing of Intake and Outfall Pipeline.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
134	Volume II Part II C Mechanical and Piping Specifications Page No. 113 (i.e. Page 787 of 814)	14.1	HVAC – Air Conditioning	Kindly provide the Building/ Unit-wise requirement of Air Conditioning (other than the buildings/units mentioned in the tender document). Kindly also mention the type, method, other details of Air Conditioning required for the said buildings/ units.	The Contractor has to carryout detailed Engineering own assessment to ascertain actual quantity / sizing of HVAC – Air Conditioning and Ventilation fans for each building based on total number of equipment to be housed in each building, its head dissipation and site conditions etc.,
135	Volume II Part II C Mechanical and Piping Specifications Page No. 113 (i.e. Page 787 of 814)	14.1	HVAC – Ventilation Fans	Kindly provide the Building/ Unit-wise requirement of Ventilation Fans (other than the buildings/units mentioned in the tender document). Kindly also mention the type, method, other details of Ventilation required for the said buildings/ units.	The Contractor has to carryout detailed Engineering own assessment to ascertain actual quantity / sizing of HVAC – Air Conditioning and Ventilation fans for each building based on total no. of number of equipment to be housed in each building, its head dissipation and site conditions etc.,
136	Volume I Page No. 166 (i.e.	General	TNPCB, CPCB, Other Regulations	Kindly provide us the approval obtained (If any) from TNPCB, CPCB, Other State / Central	TWAD is processing for CRZ clearance and yet to obtain and all other approvals are the

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page 171 of 814)			Nodal Agencies permission sought for the present plant location, capacity, Intake and Outfall System.	responsibilities of the Bidder..
137	Volume II Part IA Process Description & Design Basis Page No. 3 (i.e. Page 4 of 814)	Section 1: Introduction 1.3 Project Description	CIO ₂ generator	We understand that bidder has to choose 12% hypo for SWRO plant chlorination requirement in place of CLO2 generator system. Kindly confirm bidder understanding is correct.	CIO ₂ dosing need not be considered. Please refer Addendum.
138	Volume II Part IA Process Description & Design Basis Page No. 18 (i.e. Page 19 of 814)	Section 3: Water Quality Table 6.0: Drinking Water Quality Requirements as per IS 10500 – 2012	Boron level	Please confirm boron < 1 ppm has to be met as per IS 10500 - 2012.	Bid conditions confirmed.
139	Volume II Part IA Process Description & Design Basis Page No. 25 (i.e. Page	Section 6: Seawater Intake 6.2 Intake structure with Screen offshore	Environmental Management Plan (EMP).	Kindly share the latest EMP plan as specified in tender documents for waste disposal. Also, kindly provide the location & distance from site to dispose the solid waste generated in desalination plant.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	26 of 814)				
140	Volume II Part IA Process Description & Design Basis Page No. 38 (i.e. Page 39 of 814)	Section 7: Pre- Treatment System Table 14.0 Ultra Filtration System	UF design	Kindly confirm we can chose any vendor provided in the approved vendor list (page No 99 of 814) irrespective of MWCO cut off. Also, kindly advise if bidder can choose recovery (more than 92%) as per vendor recommendations	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed. For designing of UF system maximum recovery net rate of 92% alone be considered. Bid conditions confirmed
141	Volume II Part IA Process Description & Design Basis Page No. 50 & 51 (i.e. Page 51 & 52	Section 10: Chemical Systems 10.1 Chemicals & Table 28.0: Carbon Dioxide Dosing	Storage time for day tank & bulk Storage tank	We understand that 2 Nos. of day tank to be provided for each chemical having 12 hours retention time each. In addition, 2 Nos. of bulk storage tank to be provide for each chemical having total 15 days retention time. Kindly confirm our understanding	The requirement for each chemical shall be as given in the Bid conditions, Section 10, Chemical Systems. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	of 814)			is correct. In mentioned table 7- days storage time is mention whereas in table 26 on page 49 of 814, 10 days storage is mention. Kindly advice which one to follow	
142	Volume – III Drawings	General Arrangement Layout of 60 MLD SIPCOT-TUT-SWRO-16	Unit Sizing	We understand that storage & process tanks sizes mentioned in layout are minimum requirement. Kindly confirm. Also, kindly allow bidder to optimize UF & SWRO building sizes.	Refereed drawing is not relevant to this project. However, the Bidder is requested to follow Contract conditions Volume I, Cl 4.1, page 101 of 171 and Volume – II Part I A Process Description & Design basis, Cl 2.1, page 11 of 814. Bid conditions confirmed.
143	Volume – III Drawings	PFD for Desalination Plant	Reject disposal pumps	In P&ID 6 Nos. reject disposal pumps are provided kindly clarify operation methodology & flow rate of each pump.	5 Nos. Working and 1 No. Standby. The Contractor has to carryout detailed Engineering own assessment to ascertain actual flow rate.
144		General Query	N-Pit Requirement	Kindly advise if we have to consider dedicated neutralization pit for chemical wastes generated in the plant.	Separate Neutralisation pit shall be provided.
145		General Query	Auto CAD files	Kindly provide Auto Cad files of all drawings given in Volume III	The available details already furnished with the Bid, the Bidder has to collect himself any further details.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
146		General Query	Cover for tanks	Kindly confirm that only potable water storage tank is covered tank whereas all other tanks are uncovered.	The UF filtrate collection tank, RO Permeate collection tank, Potable water storage tanks and all chemical tanks shall be covered. For all other tanks the DBO contractor can decide.
147	Volume – III Drawings	General Arrangement for Plant	Please refer Volume IV page 5 of 48.	Can we combine non- process building like admin building, lab, workshop etc. in one common building. Kindly confirm.	Due to different nature of activities, separate buildings required.
148	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 1 (i.e. Page 454 of 814)	1.1	The reimbursement towards Electricity charges during Operation and Maintenance shall be as per Volume I, Sub clause 4.19, page 112 of 171. Bid conditions confirmed.	As per mentioned tender clause reference, we understood that, the 110 kV feeder line shall be brought by contractor to the site as per TANGEDCO norms. Space will be allocated by contractor to enable TANGEDCO to supply and install the pole switch, required incomer meter, inter trip load break switch etc. Kindly confirm.	Bidder understanding is correct. Bidder is expected to visit the site for his own assessment based on consultation with TANGEDCO authority and right of way to bring 110 KV feeder lines from TANGEDCO substation to Plant. Obtaining right of way for 110 KV feeder lines is under Contractor's scope.
149	Volume III Drawings	TWAD-MKM-SWRO-014	General Arrangement Layout & Single Line Diagram	As per single line diagram it is understood that connectivity between 110kV / 11 KV outdoor switchyard power transformer and 11kV HT Switchgear is through Bus Duct. In general underground 11kV HT cable shall be used for	Please Refer Addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>connectivity between 110/11KV power Transformer and 11kV HT Switchgear.</p> <p>Also as per provided General arrangement layout drawings busduct option it seems to be not feasible (road crossing is envisaged) b/w Transformer and HT Switchgear.</p> <p>Hence kindly accept for U/G 11kV cable option.</p>	
150	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 22 & 107 (i.e. Page 475 & 560 of 814)	4.1 12.1 & 12.2	Outdoor Switch yard HT & LT Cables	<p>As per the referred clause, it is mentioned as, all Power cables shall be of Aluminium, XLPE insulated, armoured and FRLS outer sheath.</p> <p>Whereas, as per the reference cited in clause no 12.1 & 12.2, it is mentioned as, all cables shall be of No Smoke Zero Halogen Fire Retardant type.</p> <p>We presume that all cables shall be FRLS type only. Kindly confirm.</p>	Please note that XLPE is an insulating material while FRLS is a Property. Hence type of insulation is XLPE and property of out sheath shall FRLS. Bid Specification is confirmed.
151	Volume II, Part – II B. Electrical Works, SCADA, Instrumenta	12.1	HT Cables	Kindly clarify whether the 11kV HT cables is earthed or unearthed cables.	11 KV HT cable should be unearthed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	tion Control and Automation Page No. 107 (i.e. Page 560 of 814)				
152	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 112 (i.e. Page 565 of 814)	14.1	Solar Street Light	Kindly confirm the Percentage requirement of solar street lighting along with its specification to be followed.	Please Refer Addendum.
153	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No.	14.2	Design Requirement for Indoor lighting Maintenance factor 0.7	Maintenance factor 0.7 is in lower side for LED fixtures we can go up to 0.9 for Air-conditioned rooms and 0.85 for other rooms. Kindly confirm.	Please Refer Addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	112 (i.e. Page 565 of 814)				
154	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 123 (i.e. Page 576 of 814) Volume II, Part – II C. Mechanical and Piping Specifications Page No. 132 (i.e. Page 806 of 814)	19 15.5	Diesel Generator	As per the referred clause, it is mentioned as, DG sets are intended for feeding essential loads such as emergency lighting, RO membrane flushing pumps and fire pumps (if applicable). Contractor has to decide the capacity required based on loads to be connected. Whereas, as per the clause no:5, it is mentioned as, Diesel Engine of suitable capacity to drive the Generator to produce 1250 KVA power. Kindly clarify.	The D.G set capacity given in the Bid Document is indicative only. The Contractor has to carry out detailed Engineering to ascertain actual capacity required.
155	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation	7.0	11kV Indoor substation general requirement	As per the referred clause, it is mentioned as, the equipment belonging to 11kV substation shall be housed in an air-conditioned building. We understood that, bidder shall consider the usual ventilation system for the electrical switchgear room and AC for PLC /	Bidder understanding is not correct. Air-conditioned building is required to house all switch gear panels including Soft starter / VFD panels.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 93 (i.e. Page 546 of 814)			SCADA control Room only. Kindly confirm.	
156	Volume II Part IA Process Description & Design Basis Page No. 6 (i.e. Page 7 of 814)	1.4 Table-1	TANGEDCO incoming power supply	Kindly provide details of nearby substation location with 2 nos. of 110kV power feeders.	The nearest substation is about 15 km at Marakkanam. However, Bidders are expected to visit the site for his own assessment and consultation with TANGEDCO to get required data on nearest substation location.
157	Volume II Part IA Process Description & Design Basis Page No. 10 (i.e. Page 11 of 814) &Volume II, Part – II B. Electrical Works, SCADA, Instrumenta tion Control and Automation	2.1 & 5.2	Electrical unit design	As per the referred clause 2.1, it is mentioned as, Electrical and Instrumentation shall be provided to produce 60 MLD & Whereas as per clause 5.2, it is mentioned as, Capacity Based on electrical load list for ultimate flow of 72 MLD We presume that, all Electrical units to be sized for 60MLD only. Kindly confirm.	It is confirmed that Capacity of Power Transformer shall be based on electrical load list for ultimate flow of 72 MLD and remaining Electrical unit including distribution transformer shall be sized for 60 MLD only. Please Refer Addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 90 (i.e. Page 543 of 814)				
158	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 93 (i.e. Page 546 of 814)	7.0	Electrical hoist	Electrical hoist of suitable lifting capacity shall be installed to handle the panels and bus duct Switchgears are delivered in a cubicle sections for easy installation. Hence we presume that, any hoist may not be required for 11kv indoor substation.	The Contractor has to make his own assessment based on site condition, best engineering practices and have the same approved by Employer.
159	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 95 (i.e. Page 548 of 814)	7.0	11kV switchgear	Refer to basic datasheet Sl. No. 13, protection class mentioned as IP-45(indoor). In general IP-4X is standard for indoor 11kV panel. Kindly confirm.	Please Refer Addendum.
160	Volume II, Part – II B. Electrical	6.0 7.0	Distribution Transformer rating	Refer to subject clause distribution Transformer rating to be estimated by contractor as per	Bidder understanding is correct.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Works, SCADA, Instrumentation Control and Automation Page No. 91 & 94 (i.e. Page 544 & 547 of 814)			load schedule. Whereas refer to clause 7.0 it mentioned 4 Nos. of 2 MVA distribution transformers are considered for supplying power to the LV loads and other utility purpose. We presume that transformer rating shall be selected based on load requirement. Kindly confirm.	
161	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 102 (i.e. Page 555 of 814)	10.2	LV motor Efficiency	As per mentioned clause, LV Motor shall be energy efficient type ensuring minimum efficiency of 96%. As per IS 12615, ECBC and market standard 96% efficiency is not available for LV motors. Bidder request to consider energy efficient as IE2 class.	The bid price is evaluated which includes Electricity Charges, hence Bidders are advised to consider premium or super premium efficiency motors for power conservation.
162	Volume – III, Drawings Page No. 17 / 38	TWAD-MKM SWRO-014	GENERAL ARRANGEMENT LAYOUT	We understand that, in the tender GA Layout, the sizes mentioned for 110kV/11kV substation, MRSS 11kV substation & Electrical control buildings are indicative. Bidder shall arrive actual requirement.	Yes, Bidder understanding is correct.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD												
163	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 21 (i.e. Page 474 of 814)	3.0	Plant power supply and distribution	11kV System fault level as 40KA for 3 sec seems to be high referred to CEA guidelines (25 KA for 1 sec).	Please Refer Addendum.												
164	Volume II Part IA Process Description & Design Basis Page No. 98 (i.e. Page 99 of 814)		List of Approved Major Vendors	<div>We request you to include the following vendors in addition to the list of mentioned major vendors:</div> <table><tr><td>Battery</td><td>HBL</td></tr><tr><td>Cables (Control & Instrumentation)</td><td>Cords, KEI, KEC RPG</td></tr><tr><td>Chlorine measurement</td><td>Emerson, Hach, Potence</td></tr><tr><td>PLC</td><td>ABB, Emerson, Fuji Electric</td></tr><tr><td>UPS</td><td>Vertiv, Fuji Electric</td></tr><tr><td>ORP/PH/Con</td><td>Hach, Potence</td></tr></table>	Battery	HBL	Cables (Control & Instrumentation)	Cords, KEI, KEC RPG	Chlorine measurement	Emerson, Hach, Potence	PLC	ABB, Emerson, Fuji Electric	UPS	Vertiv, Fuji Electric	ORP/PH/Con	Hach, Potence	<div>Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows.</div> <div>"The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application".</div> <div>Bid conditions confirmed.</div>
Battery	HBL																
Cables (Control & Instrumentation)	Cords, KEI, KEC RPG																
Chlorine measurement	Emerson, Hach, Potence																
PLC	ABB, Emerson, Fuji Electric																
UPS	Vertiv, Fuji Electric																
ORP/PH/Con	Hach, Potence																

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries		Reply to Queries by TWAD																					
				<table><tr><td>ductivity</td><td></td></tr><tr><td>VMS</td><td>Forbes Marshall</td></tr><tr><td>ACB</td><td>L&T</td></tr><tr><td>Battery Charger</td><td>Servilink</td></tr><tr><td>Bus Ducts / Bus Trunking</td><td>Powergear, C&S</td></tr><tr><td>Cables (1.1kV Grade XLPE / PVC / FRLS IS 1554)</td><td>Havells, Kei, Torrent</td></tr><tr><td>Control & Relay Panel (110kV / 132kV)</td><td>Sifang Automation</td></tr><tr><td>Power & distribution transformers</td><td>Voltamp, Electrotherm, T&R, Raychem</td></tr><tr><td>VFD</td><td>TMEIC, Hitachi – Hirel, Fuji Electric</td></tr><tr><td>Switchboards (11kV / 6.6 kV / 3.3kV - VCB Panels)</td><td>L&T,CGL</td></tr><tr><td>VCB</td><td>L&T,CGL</td></tr></table>	ductivity		VMS	Forbes Marshall	ACB	L&T	Battery Charger	Servilink	Bus Ducts / Bus Trunking	Powergear, C&S	Cables (1.1kV Grade XLPE / PVC / FRLS IS 1554)	Havells, Kei, Torrent	Control & Relay Panel (110kV / 132kV)	Sifang Automation	Power & distribution transformers	Voltamp, Electrotherm, T&R, Raychem	VFD	TMEIC, Hitachi – Hirel, Fuji Electric	Switchboards (11kV / 6.6 kV / 3.3kV - VCB Panels)	L&T,CGL	VCB	L&T,CGL	
ductivity																											
VMS	Forbes Marshall																										
ACB	L&T																										
Battery Charger	Servilink																										
Bus Ducts / Bus Trunking	Powergear, C&S																										
Cables (1.1kV Grade XLPE / PVC / FRLS IS 1554)	Havells, Kei, Torrent																										
Control & Relay Panel (110kV / 132kV)	Sifang Automation																										
Power & distribution transformers	Voltamp, Electrotherm, T&R, Raychem																										
VFD	TMEIC, Hitachi – Hirel, Fuji Electric																										
Switchboards (11kV / 6.6 kV / 3.3kV - VCB Panels)	L&T,CGL																										
VCB	L&T,CGL																										
165	Volume II, Part – II B.	4.6 Control and Relay	Relays	The clause states all Main Protection relays shall have with		RS485 communication protocol is most preferable																					

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Electrical Works, SCADA, Instrumentation Control and Automation Page No. 53 (i.e. Page 506 of 814)	Panels		RS485 communication facility. The substation is considered with IEC 61850 based Intelligent relays which communicate over Cat 5e/6 cables. Kindly confirm that all protection relays shall have RJ45 facility instead of RS485.	communication protocol. Bid conditions confirmed.
166	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 93 (i.e. Page 546 of 814)	7.0 11kV indoor substation	Numerical relays	As per referred clause, it is mentioned as, "Microprocessor based numerical multifunction relays with dual redundant PROFIBUS based communication to SCADA system shall be installed". We kindly request you to consider IEC 61850 compatible Numerical relays with Dual RJ-45 ports for maximum operational safety & availability. Kindly confirm	Dual redundant PROFIBUS is most preferable communication protocol. Bid conditions confirmed.
167	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control	Instrumentation Control and Automation 1.3.4 Installation Requirements	Local Instrument Panel	We assume the analysers can be placed in a separate LIP in an air-conditioned room. Kindly clarify.	As per clause 1.3 design requirements of control and instrumentation. The Contractor shall furnish set of drawings and documents including PLC/SCADA Architecture Drawing and also as per Clause No. 5.2 System

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	and Automation Page No. 7 (i.e. Page 588 of 814)				Architecture; It is vendor responsibility to carryout detailed design and submit fool proof architecture drawing with design concept for approval by Employer. Hence it is under scope of Contractor.
168	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 14 (i.e. Page 595 of 814)	Instrumentation Control and Automation 1.5 Site testing requirements	Communication protocol	Please note that we shall consider 4-20mA with HART for instruments and MODBUS for valve actuators. Kindly confirm.	
169	Volume II, Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 70 (i.e. Page 651 of 814)	Instrumentation Control and Automation 12.18 System Control Processor requirements	System Control Processor Requirements	As per the clause, controller shall be provided with dual redundant profibus DP ports along with Modbus ports. Please consider that the communication ports may be considered as per the design requirement.	
170	Volume II,	Instrumentation	System Architecture	As per referred clause, it is	

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part – II B. Electrical Works, SCADA, Instrumentation Control and Automation Page No. 58 (i.e. Page 639 of 814)	on Control and Automation 12.8 System Architecture		mentioned as The proposed system configuration drawing is attached as a guideline. Whereas, the proposed system configuration drawing is not available in the tender document. We request you to kindly provide the same.	
171	Volume-1 / Section I Page No. 17 (i.e. Page 22 of 171)	18 Bid Prices and Discounts - 18.6 (2)	2. During Operation and Maintenance period prices shall be subject to variations as per Clause 13 of PCC	We understand that, any Statutory variation shall be paid during O&M period. Please confirm.	Please refer GCC Clause 13.6
172	Volume - I / Section VIII Page No. 87 & 97 (i.e. Page 92 & 102 of 171)	Section VIII Particular Conditions, Part A- Contract Data Clause 4.2 Performance Security & Sub-Clause 4.2 Performance Security / Security Deposit	1] 50% of Annual Operation Service fee (excluding power consumption charges) which shall be collected immediately on expiry of DLP of 2 years (i.e from third year of O&M) and should be renewed each year. 2] 50% of the Asset Replacement Cost for the respective year portion to be renewed each year. & The Performance Security	We understand that the Performance security for O&M period should be 50% of Annual O&M Value in the respective year of O&M and the same shall be renewed Annual basis. Kindly confirm our understanding is correct	Performance security for O&M period shall be 50% of Annual O&M Value in the respective year of O&M plus 50% of the Asset Replacement Cost for the respective year portion.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			for the O&M Period should be 50%.....		
173	Volume - I / Section VIII Page No. 87 & 97 (i.e. Page 92 & 102 of 171)	Section VIII Particular Conditions, Part A- Contract Data Clause 4.2 Performance Security & Sub-Clause 4.2 Performance Security / Security Deposit	1] 50% of Annual Operation Service fee (excluding power consumption charges) which shall be collected immediately on expiry of DLP of 2 years (i.e from third year of O&M) and should be renewed each year. 2] 50% of the Asset Replacement Cost for the respective year portion to be renewed each year. & The Performance Security for the O&M Period should be 50%.....	1. We presume that the return of Performance Security on completion of O&M period shall be returned along with the final bill payment. 2. We requesting to consider the Performance Security 10% of Annual O&M Value which excluding power charges.	1. Performance Security for O&M period will be returned after completion of the contract 2. Bid conditions confirmed
174	Volume - I / Section VIII Page No. 89 (i.e. Page 94 of 171)	10.6 (a) Maximum Compensation Payable by the Contractor	10% (Ten percent) of the Final Contract Price for Operation Service that is sum of 20 years of Operation Service Cost and 20 Years of Asset Replacement Fund.	We requesting to consider the maximum compensation payable by the contractor shall be 10% of annual Operation services. Kindly confirm.	Bid conditions confirmed
175	Volume - I / Section VIII Page No. 90 (i.e. Page 95 of 171)	14.3 Limit of Retention money	5% of total Operation services cost for 20 years for the retention amount deducted during Operation and Maintenance.	We request to consider, the release of retention money on annual basis during O&M period. Please confirm.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
176	Volume - I / Section VIII Page No. 91 (i.e. Page 96 of 171)	14.19 Amount of maintenance retention fund	5%	Kindly explain on the maintenance retention fund.	Please refer Sub-Clause 14.19 of GCC. Maintenance Retention fund is created by deducting 5% from the value of each interim payment during the Operation Service period.
177	Volume - I / Section VIII Page No. 107 (i.e. Page 95 of 171)	Sub-Clause 4.19 Electricity, Water and Gas	Reimbursement shall be to the extent of power charges calculated for the net power consumption guaranteed by the Contractor.....on to the above 1.25 times of excess power consumption charges will be levied as penalty	Since the Penalty on excess power usage shall be deducting from contractor bills, if any incentive benefit receiving from the Electricity board shall be passed on to the contractor. Kindly confirm.	Bid conditions confirmed
178	Volume - I / Section VIII Page No. 107 (i.e. Page 112 of 171)	Sub-Clause 4.19 Electricity, Water and Gas	The contractor is also responsible for obtaining permanent power connection..... Payment towards actual power consumption charges shall be paid by the Contractor and shall be reimbursed by the Employer in the monthly bills payable to the Contractor after deducting penal charges due to the Employer.	Considering benefit to the customer, We requesting to consider the power charges shall be paid by the Owner to the electricity board during O&M period.	Bid conditions confirmed
179	Volume - I /	Sub-Clause	The contractor is also	We requesting to confirm the	Please refer Volume I Evaluation

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Section VIII Page No. 107 (i.e. Page 112 of 171)	4.19 Electricity, Water and Gas	responsible for obtaining permanent power connection..... Payment towards actual power consumption charges shall be paid by the Contractor and shall be reimbursed by the Employer in the monthly bills payable to the Contractor after deducting penal charges due to the Employer.	charges for electricity charges & demand charges during O&M period.	criteria page 44. Present Power charges are at INR 6.35 per KWh and Rs 350 per KVA as Fixed Demand Charges and is subject to variation as per TANGEDCO tariff.
180	Volume - I / Section VIII Page No. 126 (i.e. Page 131 of 171)	Sub-Clause 14.20 Taxation	Any benefits arising out of reduction in taxes shall be passed on to the Employer in full and any increase shall be adjusted as changes in Legislation	We understand that any change in taxation policy or any new addition or deletion of policies by state or central government shall be reimbursed or the benefit passed to the employer during O&M period. Please confirm bidder understanding is correct.	Please refer GCC Sub clause 13.6
181	Volume – I, Section IX - Contract Forms Page No. 141 (i.e. Page 146 of 171)	Appendix 1 • Terms and Procedures of Payment Schedule No. 6 - Operation Services	The price specified in the price schedule shall be released subject to deduction/ adjustment of.....	We presume that the payment to the contractor against monthly invoice shall be paid within 30days from the date of invoice. Kindly confirm.	The Employer will pay at the earliest on receipt of the invoice.
182	Volume – I,	Appendix 1 •	The power charges paid by	We presume that the payment for	The Employer will pay at the

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Section IX - Contract Forms Page No. 141 (i.e. Page 146 of 171)	Terms and Procedures of Payment Schedule No. 6.1 – Power consumption charges	the contractor shall be reimbursed	the Electricity charges shall be paid to the contractor within 5days from the date of Electricity bill from the electricity board to avoid any interruption on Power supply & plant operations. Kindly confirm.	earliest on receipt of the invoice.
183	Volume – I, Section IX - Contract Forms Page No. 145 (i.e. Page 150 of 171)	Appendix 1 - Terms and Procedures of Payment (B) Payment Procedures Schedule No. 6 - Operation Services Procedures for Calculation of the Operation Service payments	1) Schedule 6.: The Employer shall pay the Annual Fixed Fee monthly due to default of the Contractor the fixed charges shall be reduced proportionately	Since the fixed fee majorly with staff and personnel salaries, bidder requesting to consider to pay the fixed portion without any deduction. The variable can be paid as per the formula given in the tender document. Please consider and confirm the request.	Bid conditions confirmed.
184	Volume – I, Section IX - Contract Forms Page No. 159 (i.e. Page 164 of 171)	Appendix 7 • Functional Guarantee 4. Failure in Guarantees and Performance Damages	If, during the Operation Service Period, the Contractor fails to meet the standards..... shall pay to the Employer performance damages in the following amounts	We request to confirm the total Penalty / performance damages during O&M period limited with maximum 5% of Monthly O&M Contract Price. Kindly confirm.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
185	Volume – I, Section IX - Contract Forms Page No. 146 (i.e. Page 151 of 171)	Price Schedule Schedule No. 13: Additional Operation Services due to Expansion from 60 MLD to 72 MLD	As per Schedule 6. • Operation Service - Fixed Fee and Variable Fee	We understand that the Additional O & M Charges per year shall be applicable for further years of O&M from the expansion works. Contractor will be paid as per schedule 6 along with schedule 13. Kindly confirm.	Confirmed.
186	Volume – I, Section IX - Contract Forms Page No. 147 (i.e. Page 152 of 171)	Price Schedule Schedule No. 14: Power consumption charges	Additional Power Consumption Charges towards production of additional quantity of 12 MLD after System Expansion etc. excluding GST.	We understand that the Additional power consumption charges per year shall be applicable for further years of O&M from the expansion works. Contractor will be paid as per schedule 6.1 along with schedule 14. Kindly confirm.	Confirmed.
187	Volume – I, Section IX - Contract Forms Page No. 159 (i.e. Page 164 of 171)	Price Schedule 4. Failure in Guarantees and Performance Damages	1. Failure to supply the guaranteed minimum plant output specified in the Schedule of Guarantees, when requested by the Employer, 2. Unplanned interruptions to production > 18 hours	We request to consider to reduce the Rs. 150 per KL of shortfall to the actual production cost of water per KL. The given penalty rates are high compare to such desal tenders.	Bid conditions confirmed
188	Volume – I, Section IX - Contract Forms Page No.	Price Schedule 4. Failure in Guarantees and	Unplanned interruptions to production > 18 hoursDaily	We request to consider evaluation period for the Unplanned interruption to production on monthly basis.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	159 (i.e. Page 164 of 171)	Performance Damages			
189	Volume – I, Section IX - Contract Forms Page No. 161 (i.e. Page 166 of 171)	Price Schedule 8. Chemical usage	No payment for usage in excess of chemical as proposed by bidder. Raw water parameters outside the range for source water quality specified in Employer's Requirements	We presume that, Any Sea contamination like Oil / chemical contamination, Red tide condition, Algae Bloom, Marine pollution, other contaminations , etc., necessary shut-down shall be provided to the contractor without any penalty till the time plant get stabilised and sea water condition becomes normal. And the shut-down period due to the above shall not include to the annual shut-down plan.	Bid conditions confirmed
190	Volume II Part IA Process Description & Design Basis Page No. 75 (i.e. Page 76 of 814)	SECTION 19: Operation and Maintenance Services 19.2 Scope of Work	The contract contemplates operation and maintenance of entire Desalination Plant including complete intake, outfall systems and product water conveying system up to potable water storage sump for a period of 20 Years	As per Operation & maintenance requirement in the tender document, expanded capacity operations are not mentioned; Kindly clarify that during which year of O&M the requirement of 72MLD operations are required. Also, provide the Annual requirement of water demand for 20years of O&M period.	Please refer Volume IV page 5 of 48.
191	Volume II Part IA Process Description	19.2 Scope of Work	19.2.2 Plant shall be operated 24 hours/day.....es and duties including all cess as	Referring the clause, bidder understanding that the Power charges shall be paid by the Employer to the Electricity	The reimbursement towards Electricity charges during Operation and Maintenance shall be shall be as per Volume I, Sub

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	& Design Basis Page No. 75 (i.e. Page 76 of 814)		applicable from time to time by the statutory bodies for efficient operations of the facility except Power, which shall be provided by the Employer.	department. Kindly confirm.	clause 4.19, page 112 of 171. Bid conditions confirmed.
192	Volume I Appendix 1 Page No. 139 (i.e. Page 144 of 171)	Appendix 1	Bank Guarantee for Payment of Supply items	The Contractor already submits Performance Bank Guarantee of 5% and 5% retention is applicable. Hence, we request you to remove the bank guarantee required against the payment of Plant and Mandatory Spare Parts Supplied from both Abroad and Domestic. Kindly Confirm.	Bid conditions confirmed
193	Volume I Appendix 1 Page No. 139 (i.e. Page 144 of 171)	Appendix 1	Terms of Payment	We request you to provide 10% of payment for supply items against placement of PO for both Abroad and Domestic items.	Bid conditions confirmed
194	Volume I Appendix 1 Page No. 139 (i.e. Page 144 of 171)	Appendix 1	Terms of Payment	For Final payment of design services contractor needs to submit CAD back drafted drawings, we presume this is "Good for Construction Drawings" . Kindly Confirm.	Bid conditions confirmed
195	Volume I -	14.2	Mobilization advance	We request you provide interest	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Section VIII - Particular Conditions Page No. 90 (i.e. Page 5 of 171)			free mobilization advance	
196	General			We presume the Project Site will be deforestrated, cleared and levelled before being handed over to the Contractor. Kindly Confirm.	Clearing the project site is the responsibility of the Bidder.
197	General			We presume that afforestation carried out in order to compensate for the trees removed at site will be in clients scope	No. Bidder's scope
198	Volume – I Section – III Page No. 35 (i.e. Page 40 of 171)	3.2.1 Technical Eligibility Criteria (i)	Technical Eligibility Criteria	The referred clause required the bidder or any one partner of the Joint Venture/Consortium to meet requirements of the Technical Eligibility Criteria with the plants completed within last 5 years. Request you to consider eligibility criteria for plants completed within last 10 years as on date of bid submission.	Bid conditions confirmed
199	Volume – I Section – III Page No. 35 (i.e. Page 40 of 171)	3.2.1 Technical Eligibility Criteria (iv)	Technical Eligibility Criteria	The referred clause required the bidder or any one partner of the Joint Venture/Consortium to Constructed, Operated and Maintained Intake and Outfall	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>system.</p> <p>We request you to allow the experience of sub-Contractor also for the referred Technical Eligibility criteria and amend the clause as in case bidder or member of the consortium are not having the required experience the Bidder enters into a MOU with a sub-contractor who is fulfilling the referred eligibility criteria for construction and operation & Maintenance of Intake and Outfall systems for the entire contract period.</p>	
200	Volume – IV – Price Bid Schedule No. – 9 Page No. 39 of 48	Schedule No. – 9	Price variation for 12 MLD Expansion	As per the scope of the work the plant is Expandable up to 72 MLD based on the demand. Since we cannot predict the timeline for the expansion, we request you to consider Price Escalation Clause for 12 MLD Output Capacity Expansion.	Already provided in the document
201	Volume – 1 Page No. 8 and 42 (i.e. Page 13 and 47 of 171)	4.1 (m) & 3.3.3 (b)	Litigation History	As per referred clauses we understand that only consistent history of litigation resulting in awards against the contractor can be a cause of disqualification. Kindly confirm.	Will be at the discretion of the Employer.
202	Volume – I	4.1 (g), (l) &	JV/Consortium MoU	In reference to the stated clause,	MOU format is now attached

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Section- I, ITB Page Nos. 6, 7 & 12 (i.e. Page 11, 12 & 17 of 171)	11.2 (e)		we understand that for bidder participating as JV/Consortium duly signed copy of MoU needs to be submitted along with the bid, the format for which shall be finalized by employer with the law branch and after issuance of LOA the selected bidder shall enter into JV/Consortium Agreement. We request you to confirm our understanding and kindly provide MoU format.	
	A. Bid Conditions & Contractual Issues				
203	Volume-I Sec-I, Page No. 13 (i.e. Page 18 of 171) Sec-II Page No. 30 (i.e. Page 35 of 171)	ITB CI 13.1 BDS ITB CI 13.1		As per specified clauses in ITB and BDS, " <i>Alternative Bids are Not Allowed</i> ", whereas in Volume-I, Sec-IV, Technical Proposal CI 2.1.3 Pre-treatment System (page 52), it is mentioned that " <i>....Bidder offers a pre-treatment system, which they have used successfully in past.</i> " Further in Volume-II, Sec-2, 2.3 Pretreatment Process (page 12) it is mentioned that " <i>bidder to confirm the pretreatment processes before bidding</i> ". In view of theses, we understand	Alternative technology bids are not allowed. UF system with SWRO is proposed and alternative technology will not be accepted. However, bidder may propose alternative proven pre-treatment technology (components prior to UF system) with track records for similar plant being operated preferably in Indian condition.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				the tender specified Pre-treatment is only indicative, and the Bidder is free to propose the Pre-treatment as per his experience and considering the tender specified sea water quality. Please confirm.	
204	Volume-I Part A – General Page No. 5 (i.e. Page 10 of 171)	4.1 (c)		Considering 20 yearlong O&M Contractual duration, we understand that the change in JV/ Consortium is allowed during Operation & Maintenance Period if requested by the Contractor. Please confirm.	Bid conditions confirmed. Please refer Sub-Clause 1.15 Part B- Special provisions.
205	Volume-I Part A – General Page No. 6 (i.e. Page 11 of 171)	4.1 (g)		Kindly provide the approved format of the MOU which is to be provided with the Bid by the JV/Consortium Bidder.	MOU format is now attached.
206	Volume-I Section II; Bid Data Sheet Page No. 30 & 31 (i.e. Page 35 & 36 of 171)	BDS-ITB 19.1 Currency of Payment BDS-ITB 37.1 Exchange rate & Date		Several high value key components in a Desalination Plant are to be imported, mainly from the Supplies in USA, Europe and Japan, and the payment is to be made in Foreign Currency for which it is not possible for the Bidders to predict the Future Forex Rate. We, therefore request, that the Bidders should	Bid conditions confirmed. Bidders shall quote only in Indian Rupees

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>be allowed to quote part of his Price in US Dollar, Euro and Japanese Yen, and submit the Invoices in the same currency during the project execution. The Employer may choose to pay in the same foreign currency, or in the equivalent Indian Rupees as per the RBI specified Exchange Rate applicable on the date of the Invoice.</p> <p>For the purpose of Bid Evaluation, Employer may use RBI specified FOREX Rates as on 28 days before the Bid submission date. Please confirm.</p>	
207	Volume-I Section IV Bidding Form Page No. 63 (i.e. Page 68 of 171) and Section IX - Contract Forms Page No. 158 (i.e. Page 163 of 171)	Bidding form 11. Functional Guarantee And Appendix 7 • Functional Guarantee		<p>Functional Guarantee formats provided at referred clauses are different, i.e.</p> <ul style="list-style-type: none"> • Page 63 : "Specific Power Consumption is ___kWh/ML", there is no requirement of specifying "Maximum Demand-Power in ___KVA" • Page 158 : "Energy-SWRO plant is ___kWh/m³", and "Maximum Demand-Power in ___KVA" <p>(a) Please confirm Functional</p>	Bidder is requested to provide power consumption in KWH/ML in Price Schedule. Please refer Addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>Guarantee table format to be considered.</p> <p>Further, in Contract Forms, Appendix 7, Functional guarantee, Clause 3, S. No. 3 specifies:</p> <ul style="list-style-type: none"> • Energy-SWRO Plant <u>kWh / m³</u> of Product water [as proposed by bidder] (Furnish for 20 year without indicating the Price) • Whereas, in Volume IV Price Bid Schedule No. 6.1: Power consumption charges, Power consumption in <u>KWH/ML."</u>. <p>(b) Please confirm the unit for the specific energy consumption to be quoted in the bid.</p>	
208	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 87 (i.e. Page	4.2 Performance Security for Design Build		<p>The Department of Expenditure, Ministry of Finance, vide its Office Memorandum No. No. F.9/4/2020-PPD (dt. 12.11.2020), has reduced the Performance Security to 3% of the value of the contract, and this directive shall remain in effect even beyond 31.12.2021. In the</p>	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	92 of 171)			light this, we request that Performance Security shall be limited to 3% of the Design Build Contract Value. Please confirm.	
209	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 87 (i.e. Page 92 of 171)	4.2 Performance security for Operation Services (1)		O&M Performance Security as 50% of Annual Operation Services fee is exceptionally high, unusual, and shall put undue financial burden on the Bidder during 20 long years of O&M period. We request to, reduce it to 10% of Annual Operation Service Fee (excl. power consumption charges). Please confirm.	Bid conditions confirmed
210	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 87 (i.e. Page 92 of 171)	4.2 Performance security for Operation Services (2)		Performance Security as 50% of Assets Replacement Cost is exceptionally high, unusual, and shall put undue financial burden on the Bidder during 20 long years of O&M period. We request to, reduce it to 10% of Asset Replacement Cost for the respective year. Please confirm.	Bid conditions confirmed
211	Volume-I Section VIII Particular Conditions Part A-	4.2 Performance security for Operation Services (2)		Please confirm that Performance Security for Asset Replacement is to be provided only in the year during which Asset replacement is to be done and for the value for	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Contract Data Page No. 87 (i.e. Page 92 of 171)			that year, and the said PBG will be returned immediately after the said Asset Replacement has been done. Please confirm.	
212	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 89 (i.e. Page 94 of 171)	10.6 (a)		We request the maximum compensation payable by the Contractor to be limited to 5% of the O&M price of 20 years of operation service cost.	Bid conditions confirmed
213	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 89 & 116 (i.e. Page 94 & 121 of 171)	Cl 6.9		We understand that the requirement of the specified Key personnel and the imposition of the specified penalty shall be subject to the Personnel and Leave Policy of the Company/Labour Laws.	During the period of contract key personal should be available both during design-build and during Operation service period. In absence/leave period of the key personnel, suitable substitute shall be placed.
214	Volume-I Section VIII Particular	10.6(b)		In order for the Contract to be Fair and equitable, we request that the Maximum compensation	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Conditions Part A- Contract Data Page No. 89 (i.e. Page 94 of 171)			payable by the Employer to be the same as the maximum compensation payable by the Contractor. Please Confirm.	
215	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	Clause 12.1		In a seamless Design-Build and Operate Contract, the "Defect Liability Period (DLP) has no relevance as the Contractor who designed and built the plant will also be responsible for the O&M of the Plant with contractual Performance Guarantees and Financial Penalties against Non-Performance securing Employer's Interest. Hence, we suggest the DLP clause and associated conditions to be deleted from the Contract.	Bid conditions confirmed
216	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page	Sub Clause of GCC as per FIDIC 14.3 Percentage of retention		Cash Retention from Interim Payments of Design-Build, and O&M, and retained over a long period, shall put undue Financial and Cash Flow Burden on the Contractor. We request the Bidder to be given the option of substituting the Cash Retention Money by a Retention Bank	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	95 of 171)			Guarantee separately for DB and O&M. Please confirm.	
217	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	14.3		We understand that 5% Retention in O&M shall be applicable on the yearly O&M value (excluding power consumption charges). Please confirm.	Bidders understanding is correct.
218	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	14.2		Kindly amend the percentage deductions for the repayment of Advance amount to 10% (same as the Advance Payment) to help better manage the cash flows in the project. Please confirm.	Bid conditions confirmed
219	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No.	Cl 14.3(b) Amounts to be deducted		We understand that GST is inadvertently included in the tender specified clause for Amount to be deducted as "1% towards Buildings and other construction welfare cess act, income tax, TDS and GST or any other statutory levies as per the	Please Refer Addendum

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	90 (i.e. Page 95 of 171)			<i>prevailing law</i> ". We request, this clause may be suitably amended with exclusion of GST from the "amount to be deducted".	
220	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No.90 (i.e. Page 95 of 171)	14.2		We understand that the Simple Interest on Advance Payment is applicable on the Reducing Balance. Please confirm.	Bid Conditions confirmed.
221	Volume-I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	14.2		It is surprising to see interest as high as 13.3% levied on the Advance Payment made by the Employer to be used in its own Project, and in-spite of securing the advance payment by Advance Bank Guarantee from the Contractor. In addition to the futility of such a requirement, it will also un-necessarily add to the project cost. We, therefore, request the Advance Payment to be made Interest Free.	Bid conditions confirmed
222	Volume-I Section VIII Particular	Sub-clause 4.2		Different durations of DLP are specified. Please clarify if the DLP period is 1 year or 2 years.	DLP period is 2 year from the date of Commissioning certificate.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Conditions Part A- Contract Data Page No. 97 (i.e. Page 102 of 171)				
223	Volume-I Section VIII; Part B- Special Provisions Page No. 104 (i.e. Page 109 of 171)	Sub Clause 4.10 Site Data		<p>The referred clause specifies: - <i>"The Contractor shall be responsible for interpreting all data including data listed elsewhere in the Contract as open for inspection at</i> 1. <i>National institute of Oceanography, Goa</i> 2. <i>Integrated Coastal and Marine area Management Project Directorate (ICMAM PD), Pallikaranai, Chennai</i> 3. <i>National Institute of Ocean Technology (NIOT), Pallikaranai, Chennai"</i></p> <p>Please note, the interpretation of the data is not possible in such a short time. This is a very onerous burden on the contractor and the implications cannot be ascertained over the construction and further O&M. We request, the clause may be suitably amended.</p>	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
224	Volume-I Section VIII; Part B-Special Provisions Page No. 104 (i.e. Page 109 of 171)	4.12 (b)		By its very definition, Unforeseeable Physical Conditions are Unforeseeable, and hence in the event of encountering any such adverse situation during project execution, it is only fair that Employer compensate the Contractor for additional cost and time incurred by the Contractor to meet his Contractual Obligation and Deliver the Project to the Employer. We, therefore, kindly request the original text of the GCC for the Sub-Clause 4-12 (Unforeseeable Physical Conditions) be re-instated in the Contract and the Contractor is not penalised for things beyond his control. Please confirm.	Bid conditions confirmed
225	Volume-I Section VIII; Part B-Special Provisions Page No.105 (i.e. Page 110 of 171)	4.14		We request that the Contractor not to be held liable for any Consequential Damages, whatsoever. The Contractor shall only be obliged to rectify the damages caused. If the Contractor is required to carry any additional works, he shall be entitled for the appropriate & approved cost, and time extension. Please Confirm.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
226	Volume-I Section VIII; Part B-Special Provisions Page No. 120 (i.e. Page 125 of 171)	9.6		We understand that the Contractor shall be liable to pay delay damages for delay events solely attributable to the Contractor and the payment of LD against delay (if any) by the Contractor shall fully discharge his liabilities with respect to delayed completion of Works. Please confirm.	Payment of delay damages shall not relieve the contractor from his obligation to complete Design-build and the Operation services or from any other duties, obligations or responsibilities which he may have under the contract
227	Volume-I Section VIII Particular Conditions Page No. 124 (i.e. Page 129 of 171)	Sub-clause 13.8		We request the Price Adjustment to be provided on Design Build Price, and appropriate Price Adjustment Formula and Applicable Indices included in the Amendment.	Bid conditions confirmed
228	Volume-I Section-IX Contract forms Page No.139 (i.e. Page 144 of 171)	Appendix 1 – Terms and procedures of payment		We request the Payment terms for Plant and Mandatory Spare Parts Supplied from Abroad to be amended to 80:90:100 principle (Shipping: Delivery & Inspection: Commissioning certificate) and Plant and Mandatory Spare Parts Supplied from within the Employer's country to be amended to 70:90:100 principle (Delivery: Erection & Inspection: Commissioning certificate)	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				principle. Please confirm.	
229	Volume-I Section-IX Contract forms Page No. 139 & 140 (i.e. Page 144 & 145 of 171)	Appendix 1 – (A) Terms of Payment, Schedule No. 1 & Schedule No. 2 (BG towards supply & delivery)		It is unusual in DBO Contracts and Financially onerous on the Contractor and the Project Cost to provide irrevocable payment security in the form of BG for the equivalent amount made out in favour of the Employer against each stage Payment for Despatch / Delivery / Installation of Plant & Mandatory spare parts from Abroad and from Employer's Country. The Memorandum which drastically reduces the values of the Project Bank Guarantees, issued by the Ministry of Finance, takes due cognisance of such undue financial & cost burdens on the Projects which bringing no added value to the Exchequer. In any case, the Employer shall have Contractor's Advance Bank Guarantee and Project Performance Bank Guarantee. In view of all this, we request the requirement of such BGs as specified should be deleted. Kindly confirm.	Bid conditions confirmed
230	Volume-I	Annexure 1,		Please confirm that the :	It is the responsibility of the

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Section-IX Contract forms Page No. 166 (i.e. Page 171 of 171)	last paragraph		<p>(a) locations of Intake and Outfall points are selected, and CRZ Clearance from Authorities is sought after all the necessary technical studies were done to ensure consistency of the water quality and flow during the 20 year long Plant Operation Period.</p> <p>(b) In case of conditional clearance given by the CRZ Authorities which may delay the project and/or increase the cost, the same shall be duly compensated to the Contractor by the Employer.</p>	Bidder to verify locations of Intake and Outfall points are selected. The bidder shall choose any locations of Intake and Outfall points that ensures consistency water quality and flow during the 20-year long Plant Operation Period.
231	Volume-I Section-II Page No. 31 (i.e. Page 36 of 171)	BDS 24.1		Considering several critical clarifications and information required to prepare and submit a compliant and competitive Bid, and delays in responses we are encountering from several key Suppliers & Collaborators due to the prevailing COVID situation in their Region/Countries, we kindly request the Bid Submission date to extended to 19 th April 2021 (from the present 9 th February 2021).	Now extended upto 26.02.2021.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	B. Process & Mechanical				
232	Volume-II Part IA, Section 3 Page No. 18 (i.e. Page 19 of 814)	Table 6: Drinking Water quality as per IS 10500-2012		As per the our experience in several SW Desal Plants, and RO Membrane Suppliers, due to warm water in the region, high average and design Boron concentration in the sea water to be desalinated, the plant will require 2 Pass RO System to achieve Boron <0.5mg/l (max 1 mg/l), to comply with IS:10500-2012, hugely increasing the Capex and long term Opex. It may kindly be noted that WHO DW Standards allows Boron concentration up to 2.4 mg/l. Desalination Plants in the Middle East are designed to comply with WHO DW standards for Boron. We strongly recommend the same WHO specified Boron concentration limit to be allowed in this project also. Kindly confirm.	Bid conditions confirmed
233	Volume-II Part IA, Section 3 Page No. 13 (i.e. Page 14 of 814)	2.6 Reject and other waste Discharge arrangements		We understand that the tender specified requirement and values are indicative, and the Bidder is allowed to decide the need and design (size, volume, etc.) of such units like CIP Tank, Flush	The Bidder is requested to follow Contract conditions Volume I, Cl 4.1, page 101 of 171 and Volume – II Part I A Process Description & Design basis, Cl 2.1, page 11 of 814.The Bidder

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				Tank, Brine Tank, to be able to offer the benefits of the evolution of Desal Technology and Bidder's Operating Experience of such plants. Please confirm.	can add any further unit as per his own design without any additional cost. Bid conditions confirmed.
234	Volume-II Part IA, Section 3 Page No. 15 (i.e. Page 16 of 814)	Table-3		We understand for the design of the Pre-treatment system, bidder shall consider values given in Table-3. It may be noted that the value of TSS in Table-3 (TSS = 36 mg/l) and in Table-5 (TSS =350 mg/l) are vastly different. Please confirm the TSS value to consider.	For design, the values given in Volume – II Part I A Process Description & Design basis, page 18 of 814, Table 5 shall be considered.
235	Volume-II Part IA, Section 3Page No. 16 & 17 (i.e. Page 17 & 18 of 814)	Table 4 & Table 5		The specified tables have different values of Temperature and TDS, please confirm what value of Temperature (Min. & Max.) and TDS to be considered for design of SWRO system.	For design, the values given in Volume – II Part I A Process Description & Design basis, page 18 of 814, Table 5 shall be considered.
236	Volume-II Part IA, Section 3Page No. 33 (i.e. Page of 814)	Clause 6.6 Sea Water Pumping Station		Please confirm Submersible pumps are also allowed for Sea Water Pumping as they are now accepted world-wide in Desal Plants for Intake pumping.	Submersible pumps not acceptable. Bid Condition confirmed
237	Volume-II	7. Pre-		As per Vol-I, Sec-IV, Technical	The Bidder is requested to follow

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part IA, Section 7 Page No. 35 (i.e. Page 36 of 814)	Treatment System		Proposal CI 2.1.3 (page 52) Pre-treatment System, "...Bidder offers a pre-treatment system, which they have used successfully in past." In view of same, we understand the design criteria mentioned in referred Section 7 of Volume-II is indicative only, and Bidder can propose its own optimised design. Please confirm.	Contract conditions Volume I, CI 4.1, page 101 of 171 and Volume – II Part I A Process Description & Design basis, CI 2.1, page 11 of 814. The Bidder can add any further unit as per his own design without any additional cost. Bid conditions confirmed.
238	Volume-II Part IA, Section 7 Page No. 37 (i.e. Page 38 of 814)	Table 12: Lamella Settlers		Please confirm the following : (i) Lamella Surface (ii) Loading rate (vertically projected surface area) <15 m/hr, is the Overflow Rate on the Lamella Superficial / Plan Area (iii) Settling Rate mentioned < 1.2 m/hr is the Design Hazen Velocity.	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, CI 7.5, page 38 of 814. Bid conditions confirmed.
239	Volume-II Part IA, Section 12 Page No. 56 (i.e. Page 57 of 814)	Clause 12.1		Sludge management line is required to be design for Inlet TSS 350 mg/l. However, in Table-3, TSS vale is 36 mg/l. This is a huge difference and shall lead to and extremely over designed system which will remain un-utilised for most of the time. Kindly review and reconfirm the	For design, the values given in Volume – II Part I A Process Description & Design basis, page 18 of 814, Table 5 shall be considered.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				design requirement for Sludge System.	
240	Volume-III – Drawings Page No. 16 of 38	Drawing No. TWAD-MKM-SWRO-013		The indicative Process Flow Diagram shows Centrifuge whereas PID shows Filter press as for Sludge Dewatering. Please confirm the Dewatering Machine to be proposed	Filter press shall be used. Bid conditions confirmed.
241	Volume-II Part IA, Section 12 Page No. 56 (i.e. Page 57 of 814)	Clause 12.1		Please provide information on location and distance of landfill site for dewatered sludge disposal.	The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, Cl 19.2.12, page 84 of 814. Bid conditions confirmed.
242	Volume-II Part II, C. Mechanical & Piping Specification Page No. 30 (i.e. Page 704 of 814)	Clause 6		The requirement of noise level not exceeding 65 dBA at 1.0 metre from the Blower is extremely stringent. The Equipment Suppliers are able to guarantee only down to 85 dBa at 1.86 m distance, which is the Industrial Standards for Rotating Equipment. Please confirm the same is acceptable.	Requirement of Noise Level not exceeding 85 dBA at 1.0 Meter, which is the Industrial Standard for Rotating Equipment
243	Volume-II Part II, C. Mechanical & Piping Specification	Clause 10.6.1 a		Since the plant will require several high BkW Pumps/Equipment, Tender specified Motors selection criteria with 25% (minimum) margin	The Contractor shall design the system based on best engineering practice and same to be approved by the employer.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD								
	Page No. 91 (i.e. Page 765 of 814)			<div>shall lead to Over-capacity Motors and Electrical System (hence high Capex, Opex). We suggest the following Motor Selection Criteria which is usual</div> <table><tr><th colspan="2">Selection criteria (% higher) over BkW</th></tr><tr><td>< 5.5 kW</td><td>25%</td></tr><tr><td>5.5 kW – 75 kW</td><td>15%</td></tr><tr><td>> 75 kW</td><td>10%</td></tr></table> <div>practice in such plants : Please confirm</div>	Selection criteria (% higher) over BkW		< 5.5 kW	25%	5.5 kW – 75 kW	15%	> 75 kW	10%	
Selection criteria (% higher) over BkW													
< 5.5 kW	25%												
5.5 kW – 75 kW	15%												
> 75 kW	10%												
244	Volume-II Part IA Page No. 98 (i.e. Page 99 of 814)	Preferable vendors list		<div>The referred clause mentions that "...successful bidder may consider equivalent make also..." We understand here the "successful bidder", shall be read as "Bidder". Please confirm.</div>	<div>Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows.</div> <div>"The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application".</div> <div>Bid conditions confirmed.</div>								

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
245	Volume-II Part IA Page No. 98 (i.e. Page 99 of 814)	Preferable vendors list	Clo2	We appreciate that in the Preferable Vendor List, Employer has allowed the Contractor the flexibility of "Equivalent Vendors with Proven Track records". However, in order to ensure fair competition, control and ensure the quality of the critical equipment like RO Feed and RO High Pressure Pumps, UF and RO Membranes, Energy Recovery Device, only the Vendors specified for those Equipment in the Preferable Vendor Lists should be allowed without the option of Equivalent Vendors. Please review and confirm.	Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows. "The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
246	Volume-II Part IA, Section 1 Page No. 3 (i.e. Page 4 of 814)	Clause 1.3		ClO ₂ Generator Room is specified in Bidder's scope of Work. However, in Vol-II, Part I, A. Process Description & Design Basis, Section 9, Cl 9.2 Disinfection (Page 48), disinfection chemical is suggested as Sodium Hypochlorite (NaOCl). We understand that it is typographical error and ClO ₂ Generator & Room is not be considered. Please confirm.	ClO ₂ dosing need not be considered. Please refer addendum.
247	Volume-II	Clause 9.1.2		Tender specifies that bidder may	Please refer Addendum

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part IA, Section 9 Page No. 48 (i.e. Page 49 of 814)			<p>also recommend a Post-Treatment System of their preference and provide a brief analysis of the cost and operational advantages. However, as per the Two Packet Tendering rules, no cost analysis cannot be included in the Technical Bid. Hence, such an analysis will not serve any purpose.</p> <p>As it is a competitive DBO Bid with 20 years of O&M included in the Bid Evaluation, the Bidder should be free to propose only one and proven Post-Treatment Process of his preference without any additional cost analysis. Please confirm.</p>	
248	Volume-II Part II, C. Mechanical & Piping Specification Page No. 9 (i.e. Page 683 of 814)	Clause 2.3		Please confirm that the Pumps shall be of Non-API Standards.	Design of the Pumps shall be confirmed to Technical Specification criteria
249	Volume-II Part II, C. Mechanical	Clause 2.3		Duplex Stainless Steel MOC is specified for Valves. However, valves for sea water applications	Valves MOC is confirmed as Duplex Stainless Steel.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	& Piping Specification Page No. 9 (i.e. Page 683 of 814)			are now also available with MOC which are equally or more durable, and less expensive We suggest the Bidder may be allowed to propose valves with MOC proven for sea water application and from the Suppliers with proven track record in sea water application, and the MOC of the RO Permeate Pipe in plastic material. Please confirm.	
	C. Civil & Structural Works				
250	Volume - II Employer's Requirement Part 1A Process Description & Design Basis, Section 1. Introduction Page No. 7 (i.e. Page 8 of 814)	Clause 1.5- Scope of Works		The tender states " <i>Construction of Internal Roads, including connecting road to site from existing Road to have a separate and independent entry to plant/site.</i> " We understand, the length of connecting road to site from existing Road is roughly 4.5 km as per the Google image snapshot attached in § 1.4 Koonimedu – Location Details. (page 4). Please confirm.	Yes, Bid conditions confirmed
251	Volume - II Employer's Requirement	Clause 1.5- Scope of Works		The referred clause specifies: " <i>Storm water Drainage within battery limits and extension up to</i>	As per Volume – II Part I A Process Description & Design basis, page 8 of 814, Clause

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Part 1A Process Description & Design Basis, Section 1. Introduction Page No. 7 (i.e. Page 8 of 814)			<p><i>nearest drain/point of disposal, drinking water & sanitation water system for operating & maintenance personnel, yard lighting, fencing, etc."</i></p> <p>Please provide the tentative length incurring for the extension up to nearest drain/point of disposal.</p>	1.5, "Storm water has to be collected on the plant site and to be used for rain water harvesting". Bid conditions confirmed.
252	Volume - II Employer's Requirement Part 1A Process Description & Design Basis Section 6. Seawater Intake Page No. 29 (i.e. Page 30 of 814)	Clause 6.3 - Intake Piping / 5 Marine Pipeline Works /a. Offshore Trenching		<p>The referred clause specifies: "<i>i. Based on survey it is evident that layer of rock shall be encountered along the entire intake and outfall pipe alignments, so trenching spread to be mobilized to suit rock cutting/excavation/dredging.</i>"</p> <p>Please provide us the Geotechnical Report of the On-shore area, to evaluate the amount of rock encountering.</p>	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
253	Volume - II Employer's Requirement Part 1A Process Description	Clause 15.1- Plant Buildings/15. 1.1 General		<p>The referred clause specifies: "Building shall generally be of concrete foundation slabs. Sheet metal clad, insulated and suitable for cyclonic condition with a design life of 30 years."</p>	The DBO contractor shall select the same as per the standard engineering practice.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	& Design Basis Section 15. Civil Building and Structural Works Page No. 59 (i.e. Page 60 of 814)			Please provide the permissible limits of Acoustic resistivity in decibels for walls and roof claddings.	
254	Volume - II Employer's Requirement Part 1A Process Description & Design Basis Section 15. Civil Building and Structural Works Page No. 60 (i.e. Page 61 of 814)	Clause 15.2- Road works		<p>The referred clause specifies: <i>"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 50 t rough terrain crane. The covers shall be levelled to the fished road level."</i></p> <p>We understand that the load of 50t outrigger needs to be applied for those underground cable pit which are on the road carriage way. Please confirm.</p>	Yes, Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
255	Volume - II Employer's Requirement Part 1A Process Description & Design Basis Section 15. Civil Building and Structural Works Page No. 61 (i.e. Page 62 of 814)	Clause 15.4 Storm water Drainage		<p>The referred clause specifies: <i>"The drainage design shall be checked for a 1 in 100 year average recurrence interval rainfall event to ensure that no facilities (including electrical equipment) suffer any permanent damage from such a storm."</i></p> <p>Please provide us the rainfall data for the last 100 years at the Project location or please recommend particular rainfall intensity in mm/hr with requisite percentage of runoff.</p>	The Bidder has to collect himself any further details. Bid Conditions confirmed.
256	Volume - II Employer's Requirement Part II – A. Civil– Specifications 1.0 Scope of Work & Supply Page No. 6 of 302 (i.e. Page 112 of 814)	Clause 1.0 Scope of Work & Supply (xxiii)		<p>The referred clause specifies: xxiii) <i>Providing Anti-corrosive layer under tanks, wherever required</i></p> <p>We understand that the Anti-corrosive layer needs to be applied on tank wall face and bottom face of the base slab which are exposed to the earth face. Please confirm.</p>	Yes, Bid conditions confirmed
257	Volume - II Employer's	Clause 1.0 Scope of		The referred clause specifies: xxv) <i>Providing Water proofing</i>	Yes, Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Requirement Part II – A. Civil– Specifications 1.0 Scope of Work & Supply Page No. 6 of 302 (i.e. Page 112 of 814)	Work & Supply (xxv)		<p><i>and damp proofing wherever specified/directed by the Engineer</i></p> <p>We understand that the Water proofing needs to be applied on top of RCC roof and damp proofing course needs to be applied between plinth beam top and brick masonry wall. Please confirm.</p>	
258	Volume - II Employer's Requirement Part II – A. Civil– Specifications 1.0 Scope of Work & Supply Page No. 6 of 302 (i.e. Page 112 of 814)	Cl. 1.0 Scope of Work & Supply (xxviii)		<p>The referred clause specifies: "xxviii. <i>Provide anti-termite treatment for the buildings, wherever required/specified/directed by the Engineer</i>"</p> <p>We understand that the Anti-termite treatment needs to be applied for brick or stone masonry which are buried under the ground. Please confirm.</p>	Anti – Termite treatment shall be as per Volume – II – Part II Civil - Specifications, page 157 of 814, Clause 7.0.
259	Volume - II Employer's Requirement Part II – A. Civil– Specifications 1.0 Scope of	Cl. 1.0 Scope of Work & Supply (xxvi)		<p>The referred clause specifies: "xxvi. <i>Providing protective linings/coatings on RCC surface wherever required /specified /directed by the Engineer-In-Charge</i>"</p> <p>Kindly elaborate on which all</p>	Epoxy linings on the surface of the concrete (Internal & External) of all water retaining structures shall be used. The epoxy shall be food grade and shall comply with the requirements of IS:9833 -

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Work & Supply Page No. 6 of 302 (i.e. Page 112 of 814)			structural element should have protective lining/coatings needs to be applied	1981.with minimum three coats over one coat of primer wherein each coat shall be 125 microns.
260	Volume - II Employer's Requirement Part II – A. Civil– Specifications 2.0 Specification Civil/Structural Work requirement Page No. 9 of 302 (i.e. Page 115 of 814)	2.3 Design loading/ii. Live Loads		<p>The referred clause specifies: "5. Roof Slab = 150kg/sqm"</p> <p>Live load intensity of 150kg/m2 are generally applied for RCC flat roof building. This value shall be too high for the Steel structural building. Kindly allow us to take the recommended value of Live load for Pitched Roof-Structural steel structure according to IS 875-Part 2.</p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
261	Volume - II Employer's Requirement Part II – A. Civil– Specifications 2.0 Specification Civil/Structural Work	2.7 Minimum thickness of Civil Members		<p>The referred clause specifies: "The double layer of rebars required wherever concrete section thickness more than 100mm."</p> <p>Kindly allow us to follow § 32.5.1 of IS 456 2000 which states that "For walls having thickness more than 200 mm, the vertical and</p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	requirement Page No. 12 of 302 (i.e. Page 118 of 814)			<i>horizontal reinforcement shall be provided in two grids, one near each face of the wall".</i>	
262	Volume - II Employer's Requirement Part II – A. Civil– Specifications 3.3 Specific Requirement for Sump and Pump house Page No.29 of 302 (i.e. Page 135 of 814)	3.3.3 Sump & Pump Houses for Vertical/Horizontal centrifugal Pumps at Grade level.		<p>The referred clause specifies: "The pumphouse superstructure may be of RCC./steel structural construction."</p> <p>The above-mentioned statement is getting contradicted with "§ 10.0 Building Works/10.1 General 1. All building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof." Kindly confirm whether the bidder is free to adopt the Material of Construction (MOC) for superstructure.</p>	The UF and RO building will be of RCC structure with brick cladding. Steel trusses will support the precoated metal sheet roofing. All other building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof. Bid conditions confirmed.
263	Volume - II Employer's Requirement Part II – A. Civil– Specifications 4.0 Sampling	4.3 Frequency of Sampling and Testing		<p>The referred clause specifies: 1.0 Water -Initial setting time based on IS 4031 (Part 5). IS 4031- Part 5 basically conforms for the Initially testing on Cement.</p>	The test blocks prepared with the water proposed to be used shall be tested in accordance with the requirements of I.S. 4031.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Testing and Quality Control Page No. 32 of 302 (i.e. Page 138 of 814)			We understand, the above-mentioned statement is a typographical error. Please confirm.	
264	Volume - II Employer's Requirement Part II – A. Civil– Specifications 4.0 Sampling Testing and Quality Control Page No. 32 of 302 (i.e. Page 138 of 814)	4.3 Frequency of Sampling and Testing		The referred clause specifies: <i>1.0 Water -Compressive Strength based on IS 516.</i> IS 516- basically conforms with Hardened Concrete Test We understand, the above-mentioned statement is a typographical error. Please confirm.	The test blocks prepared with the water proposed to be used shall be tested in accordance with the requirements of I.S. 516.
265	Volume - II Employer's Requirement Part II – A. Civil– Specifications 3.0 General Requirement Page No. 24 of 302 (i.e.	3.1 General Requirement (w) 8.12 Admixtures		The referred clause specifies: <i>"w) Corrosion Inhibitor shall be added to concreting for water retaining structures in contact with sea water as well for use of concrete to embed the structural steel."</i> -&- <i>"As directed by the Engineer, the Contractor shall use approved</i>	The DBO contractor shall select the same as per the standard engineering practice.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	<p>Page 130 of 814)</p> <p>8.0 Concrete Allied works. Page No. 66 of 302 (i.e. Page 172 of 814)</p>			<p><i>Corrosion Inhibitor made by reputed manufacturers approved by the Engineer to concreting for water retaining structures in contact with sea water as well for use of concrete to embed the structural steel. "</i></p> <p>We understand the corrosion inhibitor needs to be added for concrete batch used for units from Sea water intake tower to Dual Media Gravity filters. Please confirm.</p> <p>Also, please provide us the institutional guidelines to be followed for the selection of corrosion inhibitor, as those are going to be get in contact with potable/drinking water.</p>	
266	<p>Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete and Allied Works Page No. 52</p>	8.2 Materials for standard concrete		<p>The referred clause specifies:</p> <p>a) "Cement</p> <p>ii. Portland Slag Cement confirming (PSC) to the latest Indian Standard (IS): 455 Portland Slag Cement – Specification" for all works submerged under sea water".</p> <p>We understand that PSC needs to</p>	Yes, Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	of 302 (i.e. Page 158 of 814)			be used only for offshore structures. Please confirm.	
267	Volume –III Drawings Page No. 6 of 38	TWAD-MKM-SWRO-004		Please provide the Bathymetrical survey of the sea offshore in CAD format	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
268	Volume – III Drawings Page No. 5 of 38	TWAD-MKM-SWRO-003		Please provide the topographical survey of the site in CAD format	The available details already furnished with the Bid, the Bidder has to collect himself any further details.
269	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete and Allied Works Page No. 68 of 302 (i.e. Page 174 of 814)	8.14 Preparation prior to concrete placement. final inspection and approval		<p>The referred clause specifies: <i>"Temporary openings shall be provided to facilitate inspection, especially of bottoms of columns and wall forms, to permit removal of saw dust wood shavings, binding wire, rubbish, dirt, etc. Openings shall be placed or holes drilled so that these materials and water can be removed."</i></p> <p>Kindly note that temporary opening cannot be made at the bottoms of columns and wall forms for the inspection purpose. As such temporary opening shall create a weak joint on formwork after closure while concreting. The inspection can be easily done from formwork top. Please</p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed. It is responsibility of the bidder to ensure safety & cleanliness of the structure

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				confirm.	
270	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete and Allied Works Page No. 69 of 302 (i.e. Page 175 of 814)	8.14 Preparation prior to concrete placement. final inspection and approval		<p>The referred clause specifies: <i>"b) Bonding mortar. Immediately before concrete placement begins, prepared surfaces except formwork, which will come in contact with the concrete to be placed, shall be covered with a bonding mortar as specified."</i></p> <p>IS 3370 -1-2009 § 10.1 Joints b) Construction joints states <i>"It is not desirable to apply layer of mortar on old surface"</i>.</p> <p>Hence kindly requesting you to allow us to apply the methodology mentioned in IS 3370-1-2009 for joint surface preparation. Please confirm.</p>	Bonding of new and old concrete shall be as per Volume – II – Part II Civil - Specifications, page 181 of 814, Clause 8.16.
271	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete Page No. 71 of 302 (i.e. Page 177 of	8.15 Procedure for placing of concrete		<p>The referred clause specifies: <i>"d) Placing of Manual labour Except when otherwise approved by the Engineer, concrete shall be placed in the shuttering by shovels or other approved implements and shall not be dropped from a height more than 1000 mm or</i></p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	814)			<p><i>handled in a manner which will cause segregation."</i></p> <p>IS 456-2000 § 13.2 Placing states that <i>"As a general guidance, the maximum permissible free fall of concrete may be taken as 1.5 m."</i></p> <p>Kindly requesting you to allow us to follow the same. Please confirm.</p>	
272	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete and Allied Works Page No. 75 of 302 (i.e. Page 181 of 814)	8.15 Procedure for placing of concrete		<p>The referred clause specifies: <i>"m) Special Provision in Placing When placing concrete in walls with openings, in floor of integral slab and beam construction and other similar conditions, the placing shall stop when the concrete reaches the top of the opening in walls or bottom horizontal surface of the slab, as the case may be."</i></p> <p>We request that Bidder/ Contractor shall be to allowed to cast such walls with openings in single lift. Please confirm.</p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.
273	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete	8.16 Bonding of new and old concrete		<p>The referred clause specifies: <i>"Epoxy resins may be used to bond fresh concrete to concrete that is fully cured, to give a monolithic bond capable of transmitting high stresses when</i></p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	and Allied Works Page No. 75 of 302 (i.e. Page 181 of 814)			<p><i>traditional bonding agents such as cement slurry cannot always be relied upon to provide good adhesion which is particularly the case when large areas are involved."</i></p> <p>IS 3370 -1-2009 § 10.1 Joints b) Construction joints states "<i>It is not desirable to apply layer of mortar on old surface</i>".</p> <p>Hence, we request you to allow bidder/ contractor to apply the methodology mentioned in IS 3370-1-2009 for joint surface preparation. Please confirm.</p>	
274	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.0 Concrete and Allied Works Page No. 79 of 302 (i.e. Page 185 of 814)	8.19 Water stops and Joint fillers		<p>The referred clause specifies: <i>"Construction joint in raft -225mm wide ribbed with hollow center bulb and 5mm minimum thickness Construction joint in wall -150mm wide ribbed with hollow center bulb and 5mm minimum thickness."</i></p> <p>Please be informed that following water stops are normally used for construction joints: - Construction joint in raft -225mm wide ribbed with centre fin and bottom kicker surface type and 5mm minimum</p>	The type proposed by the Bidder is also acceptable provided it satisfies the Volume – II – Part II Civil - Specifications, page 185 of 814, Clause 8.19.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>thickness Construction joint in wall -150mm wide ribbed with centre fin and 5mm minimum thickness."</p> <p>We request you to please allow the same for this tender. Please confirm.</p>	
275	<p>Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.43 Reinforcement Page No. 107 of 302 (i.e. Page 213 of 814)</p> <p>3.0 General Requirement Page No. 21 of 302 (i.e. Page 127 of 814)</p> <p>2.0 Specific Civil/Structural Work</p>	<p>8.43.7 Cover</p> <p>3.1 General Requirement</p> <p>2.8 Minimum Cover of reinforcement</p>		<p>The referred clause specifies: <i>"Proposed concrete Structure is exposed to sea environment. Hence as per the latest Indian Standard (IS) 456 "Plain and Reinforced Concrete – Code of Practice" – Table 3, Environmental Exposure conditions – category – Severe exposure can be considered"</i></p> <p>The above tender statement is contradicting with the following sections of tender:- a) § 3.1 General Requirement . c) From durability consideration, the minimum cement content, maximum water cement ratio shall be for Very Severe Environmental exposure condition as given in IS 456.</p>	<p>Very severe condition shall be considered. Please Refer Addendum.</p>

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	requirement Page No. 13 of 302 (i.e. Page 119 of 814)			-&- <i>b) § 2.8 Minimum Cover to main reinforcement generally provided for Very Severe condition as per IS 456 Table 16</i> Please clarify the contradiction.	
276	Volume - II Employer's Requirement Part II – A. Civil– Specifications 8.43 Reinforcement Page No. 107 of 302 (i.e. Page 213 of 814)	8.43.7 Cover		The referred clause specifies: <i>"Increased cover thickness shall be provided for surfaces exposed to the action of harmful chemicals or exposed to earth contaminated by such chemicals, acid, alkalis, saline atmosphere, sulphurous smoke etc. and such increase of cover may be between 15 mm and 50 mm beyond the figures mentioned here as may be specified by the Engineer"</i> We understand that, the nominal cover requirements shall be as per § 8.43.7 Cover which are generally provided for severe condition. This is even complying with Table 3 Environmental Exposure. Please confirm our understanding.	Very severe condition shall be considered. Please Refer Addendum.
277	Volume - II Employer's Requirement Part II – A.	9.6 Load Test on Piles.		The referred clause specifies: <i>"4) The pile / pile group shall be tested for cyclic plate load test"</i>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Civil-Specifications 9.0 Piling Works Page No. 116 of 302 (i.e. Page 222 of 814)			Cyclic plate load testing are laborious and time consuming. The result derived used to get misleading most of the times. We request you to replace the test with Pile Dynamic Analysis. Please confirm.	
278	Volume - II Employer's Requirement Part II – A. Civil-Specifications 10.0 Building Works Page No. 120 of 302 (i.e. Page 226 of 814) 3.3 Specific requirements for sump and Pump houses Page No. 29 of 302 (i.e. Page 135 of 814)	10.1 General 3.3.3 Sump & Pump houses for Vertical/Horizontal Centrifugal pumps at Grade level		The referred clause specifies: <i>"1. All building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof."</i> The above-mentioned specification is contradicting with <i>"§ 3.3.3 Sump & Pump houses for Vertical/Horizontal Centrifugal pumps at Grade level"</i> which states that "The pump house superstructure may be of RCC./steel structural Construction" Please Clarify the contradiction.	The UF and RO building will be of RCC structure with brick cladding. Steel trusses will support the precoated metal sheet roofing. All other building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof. Bid conditions confirmed.
279	Volume - II	10.1 General		The referred clause specifies:	Please refer Volume – II – Part

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Employer's Requirement Part II – A. Civil– Specifications 10.0 Building Works Page No. 120 of 302 (i.e. Page 226 of 814)			<p><i>"All lean concrete for building work shall be in cement concrete with 40 mm nominal size aggregate. Thickness of lean concrete shall not be less than 100 mm unless otherwise specified."</i></p> <p>We understand the grade of lean concrete shall be M10. Please confirm.</p>	II Civil – Specifications, page 127 of 814, Clause 3.1 b. Bid conditions confirmed.
280	Volume - II Employer's Requirement Part II – A. Civil– Specifications Page No. 120 of 302 (i.e. Page 226 of 814)	10.1 General		<p>The referred clause specifies: <i>9. Internal Finishes</i> <i>Ceiling finishes of RO Building – ["-Left blank-"]</i> Please provide the ceiling finishes of RO building, if all the buildings should comply with the tender clause §10.1 <i>General 1. All building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof."</i></p>	The UF and RO building will be of RCC structure with brick cladding. Steel trusses will support the precoated metal sheet roofing. All other building works shall be in reinforced concrete framework. It shall be RCC frame structure with brick masonry wall and RCC roof. Bid conditions confirmed.
281	Volume - II Employer's Requirement Part II – A. Civil– Specifications	10.1 General		<p>The referred clause specifies: 12. Railing: <i>Unless specified otherwise one metre high (above floor level) railing shall be provided in stairs, walkways or at other specified places and in all</i></p>	Bidder is requested to comply with the Bid conditions. Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	10.0 Building Works Page No. 123 of 302 (i.e. Page 229 of 814)			<p><i>unprotected openings in as a safety device, with SS304 vertical posts of 40 mm dia (2 mm thick sheet) 1 m high placed at C/C distance not exceeding 1.2 m with 40 mm dia (2 mm thick sheet) SS304 pipes in two horizontal rows to the approval of the Engineer."</i></p> <p>We request you to allow us to provide with SS304 vertical posts of 32 mm outer dia with 1 m high placed at C/C distance not exceeding 1.5 m with 32 mm outer dia SS304 pipe in top horizontal row and 25mm outer dia to the middle horizontal row. This arrangement is equally stable, easy to handle and install.</p>	
282	Volume - II Employer's Requirement Part II – A. Civil– Specifications Soil Investigation Report Page No. 3 (i.e. Page	Soil Investigation Report 2.3 Summary		<p>The referred clause specifies: "The location of the field investigation borehole are shown in site plan give in Fig 2.0"</p> <p>The attachment of Fig 2.0 is found to be missing. Please provide us the same.</p>	The available details already furnished with the Bid, the Bidder has to collect himself any further details.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	414 of 814)				
283	Volume - II Employer's Requirement Part II – A. Civil– Specifications 9.0 Piling Works Page No. 116 of 302 (i.e. Page 222 of 814)	9.6 Load Test on Piles		<p>The referred clause specifies:</p> <p><i>"2) There shall be two categories of tests on piles, namely initial tests, and routine tests. Initial tests should be carried out on test piles for vertical, lateral, and uplift loads, which are not to be incorporated in the work."</i></p> <p>Kindly requesting you, based on the geotechnical parameters, to provide us recommended pile diameter, permissible compression load, permissible lateral load and permissible tension load.</p>	Available details are given in the Bid Document. The DBO Contractor has to decide on the requirement of piles and to do the design.
284	Volume - II Employer's Requirement Part I – A. Process Description and Design Basis 15.0.0 Civil, Building and Structural works Page No. 61	15.3 Site Services		<p>The referred clause specifies:</p> <p>➤ <i>"Existing site level varies from 1.0 to 1.75 m above MSL and the nearby road is at 2.5m above MSL."</i></p> <p>As per the contour survey drawing the elevations of plant boundary are lying in between 3.5 MSL to 7.5 MSL. Please confirm.</p> <p>We believe the adoption of FGL of</p>	Finished Ground level (FGL) at any place inside the Plant shall be at +4.500m wrt to MSL or at the Natural ground level whichever is more. The Bidder also has a choice to maintain a uniform FGL of +4.500m wrt to MSL for the entire Plant. Please refer addendum.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	(i.e. Page 62 of 814)			site shall be based on Contractor's design.	
	D.Electrical & Instrumentation Works				
285	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 19 (i.e. Page 472 of 814)	3.0 plant power supply and distribution		<p>As per this clause "A dedicated 110 KV Power supply connection at Site has to be obtained through TANGEDCO. The Over-Head /underground Lines shall terminate in the metering facility established by TANGEDCO inside the periphery of plant boundary."</p> <p>From this clause, we understand that the bidder scope shall be from connection of 110 kV Over-Head /underground Lines at O/G of the metering panel installed in the plant premise by TANGEDCO. The connection fee shall be paid by employer and contractor's responsibility is to obtain statutory approvals and liasioning work. Please confirm.</p>	As per Tender conditions, Obtaining Permanent Power Connection in the name of Employer and obtaining right of way for bring 110 KV Over-Head /underground feeder from nearest TANGEDCO Sub-station to Sea Water Desalination Plant is under scope of Contractor. However, Employer pay statutory fee to TANGEDCO and will provide necessary assistance.
286	Volume II – Part II B. Electrical, SCADA, Instrumentation Control	4.0 outdoor 110 kV switch yard:		Please provide the tentative layout of outdoor 110kV Switchyard with dimension or tentative area (sq. meter) which shall be used for the outdoor 110 kV switch yards general	Adequate land is allotted for 110 KV/11 KV Substation yard. Please ref. drawing No. TWAD-MKM-SWRO-014 - GA layout - given in Sl. No. 15 of Volume III of bid document for area

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	and Automation Page No. 22 (i.e. Page 475 of 814)			arrangements.	allotted.
287	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 90 (i.e. Page 543 of 814)	Power Transformer Specification : Table		<p>As per table Sl. No.-2 the Transformer capacity shall be "Based on electrical load list for ultimate flow of 72 MLD".</p> <p>We request to please furnished the following factors which shall be considered for finalizing the sizing of transformers.</p> <ul style="list-style-type: none"> -Main motor load and diversity factor -Auxiliary Load diversity factor -Power factor (Average or Corrected) -Transformer contingency and Loading factor -Motor efficiency and power factor as per Manufacturer's catalogue. 	It is confirmed that Capacity of Power Transformer shall be based on electrical load list for ultimate flow of 72 MLD and remaining Electrical unit including distribution transformer shall be sized for 60 MLD only. Please Refer Addendum.
288	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation	7.0 11 kV indoor sub station		<p>As per this clause "The 4 Nos. of 2 MVA distribution transformers are considered for supplying power to the LV loads and other utility purpose."</p> <p>We request transformer capacity shall be finalized by transformer</p>	Bidder understanding is correct.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 94 (i.e. Page 547 of 814)			sizing calculation based on electrical load list by considering load & diversity factors etc. Please confirm.	
289	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 96 (i.e. Page 549 of 814)	8.0 low voltage switch gear:		As per this clause "The switchboards shall be as per IS 13947. It shall be floor mounted, free standing, totally Enclosed". From this we understand that the PCC / PMCC / MCC Panels shall be PTTA type form 3B as per relevant IS. Please Confirm.	It is confirmed that PCC/PMCC/MCC panel shall be floor mounted, free standing & cubical type.
290	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 116 (i.e. Page 569 of 814)	14.5 Street light / compound lighting:		In referred clause it's mentioned that "The Glass Reinforced Polyester (GRP) Poles for streetlight" Please allow us to use galvanized / steel tubular Pole instead of FRP pole for street lighting.	Not accepted, Bid specification confirmed.
291	Volume II – Part II B. Electrical, SCADA,	Instrumentation Control and Automation		As per this clause "All Analyzers cabinet must be fitted with air conditioner" From this we understand that the all analyser	It is conformed that all Electro Chemical analysers panels are to be installed in an air-conditioned room.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Instrumentation Control and Automation Page No. 7 (i.e. Page 588 of 814)	Local Instrument Panels (LIP):		panels and local instrument panel shall fitted with dust proof louver and FAN. Please Confirm.	
292	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 58 (i.e. Page 588 of 814)	Instrumentation Control and Automation 12.8 System Architecture	General	We request employer to provide Control System Architect to understand the exact requirement of Automation.	As per clause 1.3 design requirements of control and instrumentation. The Contractor shall furnish set of drawings and documents including PLC/SCADA Architecture Drawing and also as per Clause No. 5.2 System Architecture, It is vendor responsibility to carryout detailed design and submit fool proof architecture drawing with design concept for approval by Employer. Hence it is under scope of Contractor
293	Volume II – Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No.	12.3 Cable Trays, Ladders and Supports:	General	Please provide the cable installation detail for external cabling works, in tender specification it is mentioned that cabling in cable trays and underground ducts only.	It is confirmed that external cabling work shall be done in underground RCC trench with pre-cast RCC slab.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	108 (i.e. Page 561 of 814)				
	E. O & M Works				
294	Volume II, Part 1 A- Process Description and Design Basis Section 19: Operation And Maintenance Services Page No. 76 (i.e. Page 77 of 814)	19.2.2		As per referred Clause, "Employer may at any time choose to operate the plant at part capacity or may choose to keep the plant under shutdown". As long term shut down of membrane plant will severely impact on operation and maintenance cost, we request TWAD to specify the maximum cap for UF/RO plant shutdown by employer. Please confirm.	It will be decided without affecting the UF / RO membranes. Bid conditions confirmed.
295	Volume II, Part 1 A- Process Description and Design Basis Section 2: Design Services Page No. 13 (i.e. Page 14 of 814)	2.6 Reject and other waste Discharge arrangements		As per referred Clause," Solid waste such as used anthracite, filters, membranes and other waste should be disposed off in compliance with pollution control board norms.". As government body is easy to get approval for solid waste disposal land, we request TWAD to provide approved solid waste disposal land site within 20 km radial distance from the plant. Please	Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				confirm.	
296	Volume I, Section VIII Particular Conditions Part B– Special Provisions Page No.108 (i.e. Page 113 of 171)	Sub-Clause 4.19 Electricity, Water and Gas		As per referred Clause, "In the event during plant operation in any operating month the Contractor maintains a power factor which is lower than a power factor of 0.95, penalty @ 1.25 times the penalty, as charged by TANGEDCO to the Employer during the said month shall be charged to the Contractor. And in addition to the above 1.25 times of excess power consumption charges will be levied as penalty" whereas in controversy Volume II, employer's requirement page 80, it is mentioned that "sub clause no.19.2.6 Contractor has to keep the entire capacitor panel in working condition to maintain the power factor more than 0.90. In any condition the power factor should not be less than 0.90. ". Please confirm a guaranteed minimum power factor to be maintained by the contractor.	Please refer Addendum
297	Volume I, Section VIII Particular	Sub-Clause 10.7 Failure to Reach		As per referred Clause, "Details of the parameters to be measured shall be as below:	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Conditions Part B – Special Provisions Page No. 123(i.e. Page 128 of 171)	Production Outputs		<p>a) pH, Turbidity, Total dissolved solids (TDS), Total Hardness (as CaCO₃), Boron (as B), Iron (as Fe), Fluoride (as F) shall be measured on hourly basis.</p> <p>b) Parameters mentioned in table-2 (except mentioned in point (a) above), IS 10500:2012 or its latest revisions shall be measured daily.</p> <p>c) Bacteriological quality Table 6, IS 10500:2012 or its latest revisions, shall be measured on hourly basis.</p> <p>d) Parameters listed in Table-3 & Table-5 of IS 10500:2012 or its latest revisions shall be measured in each shift. For avoidance of doubt each shift consist of 8 hrs and each day consist of 24 hrs.</p> <p>e) Other parameter not mentioned in above points (a), (b), (c) and (d) but part of IS 10500:2012 or its latest revisions shall be measured on weekly basis."</p> <p>As analysis of Bacteriological test etc consumes minimum 48 hours, we request TWAD to consider the following:</p> <p>a) pH, Turbidity, Total dissolved</p>	

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>solids (TDS), Total Hardness (as CaCO₃), Boron (as B), Iron (as Fe), Fluoride (as F) shall be measured on hourly basis.</p> <p>b) Parameters mentioned in table-2 (except mentioned in point (a) above), IS 10500:2012 or its latest revisions shall be measured daily.</p> <p>c) Bacteriological quality Table 6, IS 10500:2012 or its latest revisions, shall be measured <u>on weekly basis.</u></p> <p>d) Parameters listed in Table-3 & Table-5 of IS 10500:2012 or its latest revisions shall be measured <u>on monthly basis.</u></p> <p>e) Other parameter not mentioned in above points (a), (b), (c) and (d) but part of IS 10500:2012 or its latest revisions shall be measured on weekly basis." Please confirm.</p>	
298	Volume I, Schedules of Prices Page No. 146 (i.e. Page 151 of 171)	Schedule No. 13: Additional Operation Services due to Expansion from 60 MLD		As per referred Clause, "Additional Operation and maintenance charges towards additional facilities of system (Excluding power consumption charges) and producing additional 12 MLD water after System	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD																				
		to 72 MLD		<div>expansion excluding GST.</div> <table><tr><td>S l. n o</td><td>O&M Peri od</td><td>Fixed cost per annum in Rs</td><td>Variabl e cost for product ion and convey ance of Product water per ML Rs</td><td>Total cost per annu m</td></tr><tr><td>A</td><td>b</td><td>c</td><td>d</td><td>E = c + (d*12 *365)</td></tr></table> <div>We presume that table has a typographical error & will be as corrected as follows :</div> <table><tr><td>S l. n o</td><td>O&M Peri od</td><td>Fixed cost per annum in Rs</td><td>Variable cost for producti on and convey ance of Product water per ML Rs</td><td>Total cost per annum</td></tr><tr><td>A</td><td>b</td><td>c</td><td>d</td><td>E = c + (d*12* 365.25)</td></tr></table> <div>Please confirm.</div>	S l. n o	O&M Peri od	Fixed cost per annum in Rs	Variabl e cost for product ion and convey ance of Product water per ML Rs	Total cost per annu m	A	b	c	d	E = c + (d*12 *365)	S l. n o	O&M Peri od	Fixed cost per annum in Rs	Variable cost for producti on and convey ance of Product water per ML Rs	Total cost per annum	A	b	c	d	E = c + (d*12* 365.25)	
S l. n o	O&M Peri od	Fixed cost per annum in Rs	Variabl e cost for product ion and convey ance of Product water per ML Rs	Total cost per annu m																					
A	b	c	d	E = c + (d*12 *365)																					
S l. n o	O&M Peri od	Fixed cost per annum in Rs	Variable cost for producti on and convey ance of Product water per ML Rs	Total cost per annum																					
A	b	c	d	E = c + (d*12* 365.25)																					

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD																					
299	Volume I, Schedules of Prices Page No. 147 (i.e. Page 152 of 171)	Schedule No. 14: Power consumption charges		<p>As per referred Clause," Additional Power Consumption Charges towards production of additional quantity of 12 MLD after System Expansion etc excluding GST.</p> <table><tr><td>S l. n o</td><td colspan="5">Power consumption charges of Product water</td><td>Total cost of power per annum Rs</td></tr><tr><td></td><td>Year</td><td>Power consumption in KWH /ML</td><td>Demand Requirement in KVA</td><td>Demand Charge per KVA / month (Rs . 350 per month)</td><td>Cost /KWH (Rs . 6.35 per KWH)</td><td>g = (c*12 *365 *f) + (d*e*12)</td></tr><tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td></tr></table> <p>We presume that table has a typographical error & will be as corrected as</p>	S l. n o	Power consumption charges of Product water					Total cost of power per annum Rs		Year	Power consumption in KWH /ML	Demand Requirement in KVA	Demand Charge per KVA / month (Rs . 350 per month)	Cost /KWH (Rs . 6.35 per KWH)	g = (c*12 *365 *f) + (d*e*12)	a	b	c	d	e	f	g	Bid conditions confirmed
S l. n o	Power consumption charges of Product water					Total cost of power per annum Rs																				
	Year	Power consumption in KWH /ML	Demand Requirement in KVA	Demand Charge per KVA / month (Rs . 350 per month)	Cost /KWH (Rs . 6.35 per KWH)	g = (c*12 *365 *f) + (d*e*12)																				
a	b	c	d	e	f	g																				

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries							Reply to Queries by TWAD
				Sl. no	Power consumption charges of Product water					Total cost of power per annum Rs	
					Year	Power consumption in KWH /ML	Demand per KV A	Demand Charge per month (Rs 350 per month)	Cost/ KWH (Rs. 6.35 per KWH)	$g = (c \times 12 \times 365 \times f) + (d \times e \times 12)$	
				a	b	c	d	e	f	g	
				Please confirm.							
300	Volume I, Section 3.2 Page No. 3 & 34 (i.e. Page 38 & 39 of 171)	2 nd Para		The tender states that in case the Country is signatory of Hague Convention then only Apostile is sufficient. However, on page 34 in continuation tender states that even after Apostile the document shall be attested by Indian							Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p>Embassy. We understand that Apostile is sufficient in case the origin Country has signed Hague Convention.</p> <p>Further, in case of large documents like Balance Sheet, all pages cannot be apostilled. One single page will be apostilled for the entire document.</p>	
301	Volume I, Section 3.2 Page No. 36 (i.e. Page 41 of 171)	3.2.2 (A) (ii)		We understand that the value of work is the Capex portion of the contract. Please clarify.	Confirmed
302	Volume II Part IA & Process Description & Design Basis Page No. 25 (i.e. Page 26 of 814)	6.2 Intake structure with Screen offshore,	A suitable sized screen preferably in GRP construction shall be provided at the intake to exclude larger marine life.	Material of construction for intake screen is not clear; do we need to consider GRP as cladding material or construction material? Please clarify	GRP is preferable as per section 6.2
303	Volume II Part IA & Process Description & Design Basis	19.2.12 Disposal of sludge and residuals	The Contractor shall arrange for the disposal of any screenings, grit, sand, other wastes, debris and residuals (Except Sludge, wherein Sludge shall be as	Please provide the distance for disposal of sludge and residue from site to disposal area.	The available details already furnished with the Bid, the Bidder has to collect himself any further details.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 83 (i.e. Page 84 of 814)		defined as sludge outlet from Lamella) removed from the seawater or generated at the treatment plant to an identified disposal landfill. Disposal shall be arranged through TNPCB authorized agencies only. Toxic wastes shall be disposed off at a site to be agreed with the concerned local body. Unless a public sanitary landfill site can be used for the disposal of non-toxic residuals, the disposal site has to be approved by the local bodies responsible for public health. The disposal costs as such outside the boundaries of the facility shall be borne by the Contractor. The brine shall be disposed off through the outfall chamber.		
304	Volume I Annexure I : Clearances Required Page No.	Annexure I : Clearances Required	1. Ministry of Finance / RBI i) Approval for foreign Investment and foreign loans, if required ii) Approval for import of	Please confirm whether cost required to obtain permits and statutory approval is reimbursable or not.	Statutory fees payable to the authorities will be reimbursed by the Employer as per actuals. All others costs are Bidders' responsibility.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	166 (i.e. Page 171 of 171)		<p>equipment and machinery for construction and operation, if required</p> <p>2. GOI/ GOTN / Local Authorities</p> <p>i) Approval from Ministry for Environment and Forests if any structures are located in Coastal Regulation Zone*</p> <p>ii) Navy, if any</p> <p>iii) Explosive license for storing Diesel / fuel.</p> <p>iv) Permission from Chief Electrical Inspector of Government (CEIG) and TANGEDCO for electrical connection</p> <p>vi) Permission required from CEIG for installation of DG sets, if any</p> <p>vii) Permission from Maritime Department, GOTN for sea water drawl</p> <p>vii) Clearance from the Tamil Nadu Pollution Control Board</p> <p>viii) Permission for cutting of trees, if any</p> <p>ix) License from Inspector of Factories</p> <p>x) Permit for plan and</p>		

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			<p>construction of buildings, structures, in accordance with applicable building bylaws, if any</p> <p>xi) License from Labour Commissioner for meeting Principal Employer's Obligations under the Contract Labour (Regulation & Abolition) Act 1970</p> <p>xii) Approval for shifting/ protection of utilities such as water supply, telecommunication, power etc, if any.</p>		
305	Volume II Part IA & Process Description & Design Basis Page No. 83 (i.e. Page 84 of 814)	19.2.12 Disposal of sludge and residuals	The disposal costs as such outside the boundaries of the facility shall be borne by the Contractor. The brine shall be disposed off through the outfall chamber.	Process flow diagram indicates consideration of Sludge dewatering system (Filter press) however Vol 2 technical specs mention both provision i.e dispose of with brine through outfall chamber or consideration of disposal to landfill as per Statutory compliance . We understand bidder need to consider only cost provision for dewatering if TNPCB makes Sludge disposal to landfill compulsory .However we shall go ahead with sludge disposal to	Clause 19.2.12 is for wastes other than sludge from Lamella Clarifier. The Bidder is requested to follow Contract conditions Volume – II Part I A Process Description & Design basis, Section 2: Design Services Sub Clause 2.6 Reject and other Waste Discharge arrangements Page No. 13 (i.e. Page 14 of 814) and Section 12, Page No. 56 (i.e. Page 57 of 814). Bid conditions confirmed.
	Volume III – Drawings Page No. 22 of 38	Drawing No. TWAD-MKM-SWRO-E3			

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				outfall chamber by mixing with brine without dewatering. Please confirm our understanding is correct	
306	Volume I Reimbursement of Diesel Consumption during O&M at the time of Power Outage Page No. 107 (i.e. Page 112 of 171)	Clause 4.19		Since energy consumption charges shall be directly paid by Client please confirm that Client will reimburse charges for diesel consumption by DG Sets during Power Cuts / Outage at the time of O&M Kindly confirm. In case of diesel consumption charges (for running DG set during power outage at the time of O&M) to be born bidder, client is requested to provide number of hours to consider for power outage (on daily basis).	Bid conditions confirmed
307	Volume II Part IA & Process Description & Design Basis Page No. 23 (i.e. Page 24 of 814)	5.1 Design period	The DBO contractor shall ensure that the infrastructures shall be designed for a life expectancy in excess of: ➤ Electrical cables – 15 years Ø Mechanical – rotating machinery and complex equipment – 15 years Ø High Tension electrical transformers – 15 years	Nearly all SWRO Membrane manufacturers provide membrane life for a period of 3 years on prorata basis. We request client to suitable modify this clause and allow membrane life of 3 years in place of 5 years .	Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			<p>Ø Low Tension electrical transformers and switch gears - 15 years</p> <p>Ø Instrumentation IT system - 10 years</p> <p>Ø DCS / PLC and SCADA system - 10 years</p> <p>Ø UF membranes life - 7 years</p> <p>Ø seawater reverse osmosis (SWRO) membrane life - 5 years</p>		
308	Volume II, Part II A. Civil Specifications Page No. 302 of 302 (i.e. Page 408 of 814)	Soil investigation report		Please provide soil investigation report	The available report already furnished with the Bid, the Bidder has to collect himself any further details.
309	Volume II, Part I, A. Process Description and Design basis Page No. 98 (i.e. Page 99 of 814)	Makes	Preferable Vendors list	<p>Client is requested to consider additional vendors, apart from the vendor list provided in the tender document as mentioned below:</p> <p>Toray for UF & RO membrane</p> <p>Asahi-Kasei for UF membrane</p>	<p>Refer Page No. 98 (i.e. Page 99 of 814) of Volume II, Part 1A Process Description and Design Basis. It is clearly stated as follows.</p> <p>"The preferable vendor list is given below. However, the successful bidder may consider equivalent make also, for which prior vendor approval shall be</p>

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
					obtained from the Employer / Employers' representative with evidence of proven track record for working with high salinity and seawater desalination application". Bid conditions confirmed.
310	Volume II, Part II B. Electrical, SCADA, Instrumentation Control and Automation Page No. 19 (i.e. Page 472 of 814)	3.0 Plant Power Supply And Distribution	A dedicated 110 KV Power supply connection at Site has to be obtained through TANGEDCO. It is contractor's responsibility to assess the cable routing and exact length. The Over-Head /underground Lines shall terminate in the metering facility established by TANGEDCO inside the periphery of plant boundary. The 110 kV feeder line shall be brought to the site as per TANGEDCO norms.	Please provide distance from which bidder need to bring 110 KV Power supply to Desalination plant site.	The nearest substation is about 15 km at Marakkanam. However, Bidders are expected to visit the site for his own assessment and consultation with TANGEDCO to get required data on nearest substation location.
311	Volume I Section II. Bid Data Sheet Page No. 30 (i.e. Page 35 of 171)	ITB 21.1 Bid Security	Bid Security shall be INR 2,60,00,000 (Rupees Two Crores sixty Lakhs Only) in the form of Bank Guarantee as per the format given in Section IV of this Volume	As per the MOF- Office memorandum (No. F.9/4/2020-PPD) dated 12th Nov-20, which states " <i>no provisions regarding Bid Security should be kept in the Bid Documents in future and only provision for Bid Security</i> "	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				<p><i>Declaration should be kept in the Bid Documents."</i></p> <p>In view of the above, request you to allow us to submit Bid Security Declaration lieu of BG.</p>	
312	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 87 (i.e. Page 92 of 171) Page No. 31 (i.e. Page 36 of 171)	Performance Security PCC 4.2 & ITB 44.1	5 % of Design Build Portion of Accepted contract Price for design-build that is inclusive of all taxes and duties.	<p>As per the MOF- Office memorandum dated 12th Nov-20, as part of AatmaNirbhar Bharat Abhiyan, Support for Construction & Infrastructure, Performance security on contracts to be reduced to 3% instead of 5 to 10%.</p> <p>In view of the above, request you to reduce the performance security to 3% of Design build value excluding taxes and duties.</p>	Bid conditions confirmed
313	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 157 (i.e. Page 91 of 171)	1.1.24 Percentage of Profit for arriving at Cost Plus profit	Where the Contract allows for Cost Plus profit, percentage of profit to be added to the cost shall not exceed 0%.	Request you to consider 10% profit for arriving at Cost Plus profit.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
314	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 86 (i.e. Page 94 of 171)	9.6 Delay damages	0.02% of the cost of the balance work of respective works per day for Period beyond the original Milestone.	Request you to reduce the delay damages to 0.005% of the cost of the balance work of respective works per day for Period beyond the original Milestone.	Bid conditions confirmed
315	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 89 (i.e. Page 94 of 171)	9.6 Maximum amount of Delay damages	10% (Ten percent) of the Final Contract price of Design-Build.	Request you to limit maximum amount of Delay damages to 5% (Five percent) of the Final Contract price of Design-Build.	Bid conditions confirmed
316	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 89 (i.e. Page	10.6 (a) Maximum Compensatio n Payable by the Contractor	10% (Ten percent) of the Final Contract Price for Operation Service that is sum of 20 years of Operation Service Cost and 20 Years of Asset Replacement Fund.	Request you to limit maximum compensation payable under 10.6 (a) to 5% (Five percent) of the Final Contract Price for Operation Service that is sum of 20 years of Operation Service Cost excluding 20 Years of Asset Replacement Fund.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	94 of 171)				
317	Volume I Section VIII Particular Conditions Part A- Contract DataPage No. 89 (i.e. Page 94 of 171)	10.6 (b) Maximum Compensatio n Payable by the Employer	0%(zero percent)	Request you to consider, payment of 5% (Five percent) of the Final Contract Price for Operation Service that is sum of 20 years of Operation Service Cost and 20 Years of Asset Replacement Fund, as compensation payable by employer.	Bid conditions confirmed
318	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	12.1 Defects Liability Period	Defect Liability Period shall be two years after the date of Commissioning Certificate or the date of rectification of all the defects notified as per Sub-Clause 12.1. whichever is later	Request you to limit Defect Liability Period to 12 months from date of Commissioning Certificate.	Bid conditions confirmed
319	Volume I Section VIII Particular Conditions Part-A Contract DataPage No.90(i.e. Page 95 of 171)	14.2 Interest rate for Advance payment	Interest rate of 13.3% p.a. on advance.	Request you to provide interest free advance.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
320	Volume I Section VIII Particular Conditions Part A- Contract Data Page No.90(i.e. Page 95 of 171)	14.3 Limit of Retention money	5% of Accepted price of Design build for the retention amount deducted during Design-build and 5% of total Operation services cost for 20 years for the retention amount deducted during Operation and Maintenance.	Request to reduce the limit to 3% of Accepted price of Design build for the retention amount deducted during Design-build and 3% of total Operation services cost for 20 years for the retention amount deducted during Operation and Maintenance.	Bid conditions confirmed
321	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 90 (i.e. Page 95 of 171)	14.7 (b) Minimum amount of Interim Payment Certificates	Minimum amount of Interim Payment Certificates is 2 (Two)% of the Contract Price.	Request you to reduce the minimum amount of Interim Payment Certificates as 1% of the Design- Build Contract price.	Bid conditions confirmed
322	Volume I Section VIII Particular Conditions Part A- Contract Data Page No. 91 (i.e. Page 96 of 171)	14.19 Amount of maintenance retention fund	Amount of maintenance retention fund 5%	Request you to reduce the maintenance retention fund to 2% of Operation services cost.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
323	Volume I Section VIII Particular Conditions Part B PageNo. 124 (i.e. Page 129 of 171)	13.8 Adjustment for Changes in Cost	The prices for the design build scope of works shall be firm.	Request you to allow the applicability of Price escalation for design build scope also.	Bid conditions confirmed
324	Volume I Page No. 147(i.e. Page 152 of 171)	Appendix 2 • Price Adjustment		Request you to allow the applicability of Price escalation for Chemicals during O&M service.	Bid conditions confirmed
325	Volume I Section VI General Conditions, FIDIC Gold Book Page No. 90 (i.e. Page 95 of 171)	14.7 (b)	Interim payment within 56 days after bill receipt by Employers representative	Request you to certify and pay Interim payment bills within 30 days of submission of IPC/Bill by Contractor.	The Employer shall pay at the earliest on receipt of the invoice.
326	Volume I Section VIII Particular Conditions Part B PageNo. 125 (i.e. Page 130 of 171)	14.9	The Sub-Clause is deleted	Request you to consider payment of interest @ 12% p.a. on delayed Interim payment after 30 days from submission of IPC by Contractor.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
327	Volume I Section VIII Particular Conditions Part A & B Page No. 92 & 132 (i.e. Page 97 & 137 of 171)	20.8	In PCC, Part A, it is mentioned that "The place of arbitration as Chennai" In PCC, Part B, it is mentioned that "The seat of arbitration shall be at Vellore, Tamil Nadu"	Kindly confirm the exact Seat of Arbitration (Chennai or Vellore)	Chennai. Please refer Addendum
328	Volume I Page No. 166 (i.e. Page 171 of 171)	Annexure I : Clearances Required	*The Employer is processing for CRZ clearance from the authorities for the indicated locations of Intake and Outfall points.	Request you to confirm the status of Approval from Ministry for Environment and Forests	TWAD is processing for CRZ clearance and yet to obtain and all approvals are the responsibilities of the Bidder.
329	Volume I Section I. - Instructions to Bidders Page No. 3 (i.e. Page 8 of 171)	A. General 2.1 Source of Funds	Tamil Nadu Water Supply and Drainage Board is proposed to take up this infrastructure project under assistance from various financial institutions.	Request you to confirm the fund availability and/or financial closure status.	Bid Conditions confirmed
330	Volume I Page No. iii (i.e. Page 3 of 171)	NIT	As per NIT last date of bid submission is on 12.02.2021	Since the project involves lot of Pre-bid engineering and design, request you to extend the bid submission date at least for 15 working days.	Now extended upto 26.02.2021.
331	Volume I Page No. iii	Invitation for Bids	8) Tenders must be delivered to the address	We are keen to participate in the tender and considering	Now extended upto 26.02.2021.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	(i.e. Page 3 of 171)		below on or before 3.00 PM on 12.02.2021	voluminous works involved in the tender for preparation of bid, we request to kindly extend bid submission date for at least Six (6) weeks time from the current submission due date 12.02.2021	
332	Volume I Page No. iii (i.e. Page 3 of 171)	Invitation for Bids	8) Tenders must be delivered to the address below on or before 3.00 PM on 12.02.2021	<p>As you are aware the bidders need to import most of the major process equipment's for this desalination project. To prepare this bid, the bidders has to float enquiries abroad, clarify vendor's queries, receive quotations, compare and subsequently finalise vendors, which will itself take up a minimum time of 3 months.</p> <p>This is a large and complex desalination project that requires substantial time and effort to prepare and compile a bid. The bidder hence requests an extension of 3 months from the current bid due date of 12.02.2021.</p> <p>For your reference, the timelines for a few recent desalination projects tendered in India are as follows:</p>	Now extended upto 26.02.2021.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD																																					
				<table><tr><th>S.No</th><th>Project</th><th>NIT Date</th><th>Submission Date</th><th>Tendering Duration</th></tr><tr><td>1.</td><td>150 MLD Nemmeli</td><td>10.11.2016</td><td>15.09.2017</td><td>10 months</td></tr><tr><td>2.</td><td>100 MLD GIDC</td><td>24.12.2018</td><td>22.05.2019</td><td>5 months</td></tr><tr><td>3.</td><td>GWIL Tenders: 20 MLD Porbandar</td><td rowspan="5">02.01.2019</td><td rowspan="5">28.08.2019</td><td>8 months</td></tr><tr><td>4.</td><td>50 MLD Bhavnagar</td><td>8 months</td></tr><tr><td>5.</td><td>50 MLD Dwaraka</td><td>8 months</td></tr><tr><td>6.</td><td>50 MLD Mandvi</td><td>8 months</td></tr><tr><td>7.</td><td>30 MLD Somnath</td><td>8 months</td></tr><tr><td>8.</td><td>20 MLD Amreli</td><td></td><td></td><td>8 months</td></tr></table>	S.No	Project	NIT Date	Submission Date	Tendering Duration	1.	150 MLD Nemmeli	10.11.2016	15.09.2017	10 months	2.	100 MLD GIDC	24.12.2018	22.05.2019	5 months	3.	GWIL Tenders: 20 MLD Porbandar	02.01.2019	28.08.2019	8 months	4.	50 MLD Bhavnagar	8 months	5.	50 MLD Dwaraka	8 months	6.	50 MLD Mandvi	8 months	7.	30 MLD Somnath	8 months	8.	20 MLD Amreli			8 months	
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333	Volume I Section I – Instructions to Bidder Page No. 9 (i.e. Page 14 of 171)	4.3	A Bidder that has been determined/declared to be ineligible/ blacklisted/ debarred/restricted by any Other State Government/State Government Bodies or Municipalities /Public Sector Units in India/ any foreign reputed funding agency like World Bank/ADB/JICA and similar funding agencies shall not be eligible to be awarded this contract. A bidder whose contract has been terminated/ cancelled by other State Government /State Government Bodies or municipalities/ Public Sector Units in India or any foreign reputed agency like World Bank/ADB/JICA and similar funding agencies will not be awarded this contract. Such bids will be out rightly declared ineligible and not taken for	The bidder understands that to be eligible for award of this contract, a bidder should not be determined/ declared to be ineligible /blacklisted /debarred/ restricted in Tamil Nadu by Government / Government Bodies or Municipalities/ Public Sector Units / any foreign reputed agency like World Bank/ADB/JICA and similar funding agencies at any time in the last ten years. Kindly confirm our understanding.	Bid conditions confirmed																																					

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			evaluation at any stage.		
	Volume I Section III – Evaluation and Qualification Criteria Page No. 34 (i.e. Page 39 of 171)	3.2 Eligibility Criteria: General ii)	ii) Bidders should not have been debarred blacklisted by any Indian Utility body/Municipality or Govt./semi Govt. undertaking or multilateral funding agencies at any time in the last ten years.		
334	Invitation for Bids Page iv (i.e. Page 4 of 171)	Sl. 8	Tenders must be delivered to the address below on or before 3.00 PM on 12.02.2021	With reference to the subject project, we are attaching the pre bid clarifications. We presume that pre bid replies will be received within 15 days. Based on the expected date of pre bid replies, we have to prepare the technical and financial documents as per the tender requirements. For the preparation of tender document, the bidder needs minimum 12 working days from the receipt of pre bid replies. We request you to extend the receipt of bid document from 12.02.2021 to 01.03.2021	Now extended upto 26.02.2021.
335	Volume - I- Bidding procedures	17,Technical Proposal, Subcontractor	The bidders are requested to perform their own water analysis	We requested Employer to provide the Sea water analysis report for last one year data	Available details are given in the Bid. Bidders have to collect any further details required. Please

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	and Condition of contract Page No. 14 (i.e. Page 19 of 171)	s 17.1	in order to find best suitable design for his proposal. Further the bidders are expected to perform their own software calculations and design of the Plant as baseline for their DBO offer.	which will be useful to all the bidders to prepare the best & suitable technical report. However, if it is bidder scope, time of bid submission, the bidder will submit the technical proposal based on the sea water analysis report provided in the tender document & in case of major changes on sea water quality after 5 years, the bidder and employer has to take care with equal responsibility for both technically and financially. Kindly confirm.	refer Clause 17.1. It clearly states that: <ul style="list-style-type: none"> The bidder takes the full responsibility for any water analysis and plant design within his proposal. TWAD shall not be liable for the accuracy or otherwise of the data and takes NO LIABILITY for any water analysis and plant design; Bid conditions confirmed.
336	Volume -1 Technical Proposal Page No. 63 (i.e. Page 68 of 171)	11. Functional Guarantee of the proposed facility	Life of Components such as RO/UF Membranes, Cartridge filter etc. - Not less than 5 years	We requested employers to review & confirm the life of components for the cartridge filter and list out the etc. .. Unit	Please refer Addendum
337	Volume -1 Bid document Page No. 89 and 120 (i.e. Page 94 and 125 of 171)	Section VIII Particular condition, Part A - Contract data	9.6 Delay damages, 9.6 Maximum amount of Delay damages & Other penalty clauses for EPS and O&M Period	We requested the employer has to remove the penalty clauses, which is not practiced by the TWAD board. Kindly review and confirm	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
338	Volume -1 Bid document Page No. 14 (i.e. Page 19 of 171)	Appendix 1 - Terms and Procedures of Payment	Sixty percent (60%) of the total or pro rata CIP amount, upon delivery at site and inspection and satisfied by the Employer on receipt of irrevocable payment security in the form of BG for the equivalent amount made out in favour of the Employer	The submission of BG for the equivalent amount of supply item (60% of the total project value) the same will be incremental cause on the total project cost. In the General payment terms in all government & TWAD board tender works, the payment will be made after satisfactory inspection and upon delivery at site. Kindly review and confirm	Bid conditions confirmed
339	Volume II Part IA & Process Description & Design Basis Page No. 17 (i.e. Page 18 of 814)	Section :3 Water Quality- Table 5.0 Seawater Quality - Dissolved solids	Total suspended solid - 350 mg/l	<p>The design parameter of suspended solid is 350 mg/l, the provided scheme has required additional unit such as presettling with appropriated dosing system.</p> <p>As per CPHEEO, the raw water parameter if it is exceeding 50 NTU of turbidity, we have to provide the Presettling tank. In this juncture the designing of pre-treatment units, the turbidity and suspended solid shall be 30 NTU and 44.40 mg/l respectively. Please review and confirm</p>	Bidders is requested to follow contract condition Volume I Sub clause 4.1 Page 101 of 177. Bid conditions confirmed
340	Volume II Part IA & Process Description	Section 4: SWRO Desalination Plant layout	For the preparation of their bidding offer, Bidder shall assume that the shape of the Greenfield plant site is	As provided design basic & calculation in tender document, it seems that the design is for all civil unit for the production	Refer Volume II, Part 1 A Process Description and Design Basis, Clause 1.3 Project Description.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	& Design Basis Page No. 20 (i.e. Page 21 of 814)		flexible and shall develop the most economically viable SWRO Desalination Plant layout which the Bidder can fit in a site of total built up area not to exceed 26000 sq.m including space for future expansion.	capacity of 60 MLD only. The provided total build up area 26000 Sq.m requires the additional area to meet the production capacity of 72 MLD. Kindly review & confirm	Bid conditions confirmed
341	Volume II Part IA & Process Description & Design Basis Page No. 12 (i.e. Page 13 of 814)	Section 2: Design Services , 2.4.1 RO Membrane and Permeate Recovery	1. TDS for the 3rd year RO plant shall have to be no greater than 350 mg/l at 32° C. 2. Design the plant shall be set <350 mg/l for RO permeate at 25-32° C,	Please review & confirm, the TDS in year wise with respect to the range of temperature of Permeate water.	Bid conditions confirmed
342	Volume -1 Technical Proposal Page No. 63 (i.e. Page 68 of 171) Volume II Part IA & Process Description & Design Basis	11. Functional Guarantee of the proposed facility Section 5: Design criteria	Life of Components such as RO/UF Membranes, Cartridge filter etc - Not less than 5 years UF membrane lie - 7 Year	Please confirm the life of UF membrane for the design period	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	Page No. 23 (i.e. Page 24 of 814)				
343	Volume II Part IA & Process Description & Design Basis Page No. 34 (i.e. Page 35 of 814)	6.8 Chlorination system	Chlorination shall be provided to minimise marine growth.... Chlorination shall be Sodium Hypo Chlorite with 12% concentration.	The availability of sodium hypo chlorite concentration in open market is 6% to 8 %, if it is storage for the period of 15 days to 1 month, it may be depletion of the concentration. We ensure that the appropriated dosing rate shall be provided to meet the requirement. Kindly review and confirm the concentration of sodium hypo chlorite	Bid conditions confirmed
344	Volume II Part IA & Process Description & Design Basis Page No. 36 (i.e. Page 37 of 814)	Section 7: Pre-treatment System Clause 7.3, Table 10.0 Coagulation and Rapid Mixing	Flow inlet to flocculation is 155.69 MLD	As per table 8.0 primary flow, the inlet flow is 186.7 MLD for production of 60.0MLD of Permeate water. Kindly confirm the design of inlet flow for pre-treatment units	Refer Volume II, Part 1 A Process Description and Design Basis, Clause 1.3 Project Description. Intake is sized for the production of 72 MLD, whereas pre-treatment is designed for the production of 60 MLD. Bid conditions confirmed.
345	Volume II Part IA & Process Description & Design Basis Page No. 36	Section 7: Pre-treatment System Clause 7.3, Table 10.0 Coagulation	Flow inlet to flocculation is 155.69 MLD	The provided layout and unit sizing shall be considered the feed flow of 155.69 MLD. Kindly review and confirm the unit size and overall layout size of the plant.	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
	(i.e. Page 37 of 814)	and Rapid Mixing			
346	Volume II Part IA & Process Description & Design Basis Page No. 11 and 39 (i.e. Page 12 and 40 of 814)	Section 2: Design service & 7.8 Ultrafiltration filter storage	1. The following components need to be designed to produce product water for the Ultimate requirement of 72 MLD. Table 15.0: UF Filtered Seawater Storage	As per design service, the bidder has to provide the civil tanks and structures for the production capacity of 72 MLD, The sizing of the civil tank and structures provided in layout and Pre-treatment section are seems to be production capacity of 60 MLD. Kindly review and confirm production capacity of each unit and required area of the treatment unit	Bid conditions confirmed
347	Volume II Part IA & Process Description & Design Basis Page No. 56 (i.e. Page 57 of 814)	Section 12: Sludge management	It is usual practice to discharge the sludge from the pre-treatment units to the sea along with the brine i.e. reject from the Reverse Osmosis process and can potentially have damaging effect on the ecosystems. Considering the above sludge dewatering system considered. The design of dewatering system is given table 29.0 below	Please provide the detailed scope, unit specification, area and distance for disposal of sludge cake for dewatering system and same need to be updated in the price bid. Kindly update in layout for arriving the total area and price bid.	Since It is DBO contract, the contractor expected to collected required details
348	Volume -IV - Price bid Page No.		General	As per the tender document the requirement of 72 MLD is ultimate water demand.	The bidders are requested quote at today's rate and payment will be given at the time of

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
				We requested you to be provided with separate row in price bid for entering the price for electro mechanical and instrumentation work of 12 MLD with the expected year of installation with financial incremental percentage.	installation after price adjustment based on indexation
349	Volume II Part IA & Process Description & Design Basis 12 56 (i.e. Page 13 of 814)	2.3 Pre-treatment Process	Process scheme	As per the analysis report it started that the TSS level in sea water analysis report is reaching the 44.0 mg/l & treated water outlet in MGF shall be 5 NTU which may require high frequency of cleaning and backing time and due to that, the wastage of water is also high. To reduce the wastage of water, Power cost & increase life of UF membrane, Self-cleaning filter may be provided in between the MGF and UF. Kindly review and confirm.	Bid conditions confirmed
350	Volume II Part IA & Process Description & Design Basis Page No. 44 (i.e. Page 45 of 814)	Section 8 : Reverse Osmosis Plant 8.7 RO Train Design Table 21.0: SWRO Membrane	Process design	Boron Rejection (Nominal): >92% & Salt Rejection (nominal) : >99.8% at what condition. Is it for standard test condition? Please confirm	Bid conditions confirmed

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
351	Volume I Page. No. 35 (i.e. Page 40 of 171)	3.2.1 Technical Eligibility Criteria	<p>The bidder or any one partner of the Joint Venture/Consortium should have Designed, Constructed, Erected, Tested and Commissioned at least one number of Sea Water Desalination Plant, based on Reverse Osmosis (SWRO) process with a single SWRO plant production capacity of minimum 30 MLD and the same plant should have been in successful operation for minimum of two years during the last five years as on the date of bid submission.</p> <p>and</p> <p>(ii) The bidder or any one member of the Joint Venture/Consortium should have Operated & Maintained at least one number of Sea Water Desalination Plant, based on Reverse Osmosis process with a production capacity of minimum 30 MLD for a minimum period of two years during the last</p>	<p>(i) The bidder or any one partner of the Joint Venture/Consortium should have Designed, Constructed, Erected, Tested and Commissioned at least one number of Reverse Osmosis (SWRO/ BWRO) or Ultra Filtration (UF) membrane system or Micro Filtration (MF) membrane system process with a single plant production capacity of minimum 30 MLD and the same plant should have been in successful operation for minimum of two years during the last five years as on the date of bid submission.</p> <p>And</p> <p>(ii) The bidder or any one member of the Joint Venture/Consortium should have Operated & Maintained at least one number of Reverse Osmosis (SWRO/</p>	Bid conditions confirmed.

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			<p>five years as on the date of Bid submission. and.</p> <p>(iii) The Bidder or any one member of the Joint Venture/Consortium should have experience of design and construction of at least one number of SWRO based Desalination plant with a minimum SWRO skid size of 10 MLD as on the date of bid submission.</p> <p>and</p> <p>(iv) The bidder or any one member of the Joint Venture/Consortium should have constructed as on the date of bid submission at least one Sea Water Intake and Outfall System with minimum of the following:</p> <p>i. One project of intake and Outfall system of capacity not less than 30 MLD and successfully running for a minimum period of 2 years.</p> <p>ii. Installation of intake pipe with HDPE pipeline of OD \geq 1200 mm for a minimum length of 700 m through dredging.</p> <p>iii. Installation of outfall</p>	<p>BWRO) or Ultra Filtration (UF) membrane system or Micro Filtration (MF) membrane system process with a production capacity of minimum 30 MLD for a minimum period of two years during the last five years as on the date of Bid submission.</p> <p>And</p> <p>(iii) The Bidder or any one member of the Joint Venture/Consortium should have experience of design and construction of at least one number of one number of Reverse Osmosis (SWRO/ BWRO) or Ultra Filtration (UF) membrane system or Micro Filtration (MF) membrane system process with a minimum skid size of 10 MLD as on the date of bid submission.</p> <p>And</p>	

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
			<p>pipeline with multi-diffuser arrangement using HDPE pipe of OD \geq 1200mm for a minimum length of 700m.</p> <p>iv. Should have operation and maintenance experience of intake and Outfall system of capacity not less than 30 MLD for a period of 2 years.</p>	<p>(iv) The bidder or any one member of the Joint Venture/Consortium should have constructed as on the date of bid submission at least one Sea Water Intake and Outfall Structure with Civil and electro-mechanical works of contract value more than INR 100 Cr.</p>	
352	Invitation for Bids Page iv (i.e. Page 4 of 171)	Sl. 8	<p>Tenders must be delivered to the address below on or before 3.00 PM on 12.02.2021</p>	<p>We are very keen to participate in the above mentioned work. As per your NIT, the due date for the above mentioned tenders is 12.02.2021. We are in the advanced process of finalisation of technology partner. Also, since many tenders are there, it requires more time to work out all details and the present COVID situation has slowed down the work. In view of this, we would request for an extension of time for tender submission by at least 45 days i.e. 29.03.2021. We hope, you would grant our request in order to ensure fair participation of all bidders.</p>	<p>Now extended upto 26.02.2021.</p>

Sl. No.	Documents & Page No.	Clause Reference	Existing Clause	Bidder's Queries	Reply to Queries by TWAD
353	Volume II Part IA & Process Description & Design Basis Page No.38(i.e. Page 39 of 814)	7.7 Ultra-Filtration (UF) Table 14.0 Ultra Filtration System	Molecular wt. cut-off - 1,00,000-1,50,000 Daltons	In our experience for some of the established UF brands, they have a higher MWCO. Our PVDF UF membrane products have a MWCO of 300,000 Daltons. We request you to kindly confirm acceptance of at least up to 300,000 Daltons.	Bid Conditions confirmed
354	Volume II Part IA & Process Description & Design Basis Page No. 39 (i.e. Page 409 of 814)	7.7 Ultra-Filtration (UF) Table 14.0 Ultra Filtration System	Flow direction - inside/Out	In our large experience both In to Out and Out to In flow configurations have been widely used in Sea water Desalination. Please clarify that both in to out and out to in options are acceptable.	Both are acceptable. Bid conditions confirmed.
355	Invitation for Bids Page iv (i.e. Page 4 of 171)	Sl. 8	Tenders must be delivered to the address below on or before 3.00 PM on 12.02.2021	We need some time for preparing our detailed offer and to submit the same. Hence we kindly request you to extend the submission date at least by 20 days time.	Now extended upto 26.02.2021.