CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD

TENDER NO: CMWSSB/CNT/WSS/ICB/JICA/DESAL/CP01/018/2020-21

LOAN AGREEMENT NO. ID-P267
JICA FUNDED PROJECT

BIDDING DOCUMENT

FOR

PROJECT FOR CONSTRUCTION OF CHENNAI SEAWATER DESALINATION PLANT (I)
PART-IV
(PRICE SCHEDULE)

PROCUREMENT OF DESIGN/ENGINEERING, CONSTRUCTION, COMMISSIONING OF 400 MLD SEAWATER REVERSE OSMOSIS (SWRO) DESALINATION PLANT AT PERUR, CHENNAI WITH 20 YEARS OF OPERATION AND MAINTENANCE (DBO BASIS)

INTERNATIONAL COMPETITIVE BIDDING

PROJECT MANAGEMENT CONSULTANTS
SMEC International Pty Ltd.
NJS Engineers India Pvt. Ltd.
Tata Consulting Engineers Ltd.
SMEC India Pvt. Ltd.

SUPERINTENDING ENGINEER (CONTRACTS & MONITORING)
CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD

Date of Issue of Request for Proposal: xx/xx/2021

PREAMBLE TO PRICE SCHEDULES

1. The Pricing Document shall be read in conjunction with Instructions to Bidders and Bidding Documents, as listed in Sub-Clause 6.1 of Instructions to Bidders.

2. The Contract is a lump sum priced Contract, adjusted by the Variations and Adjustments detailed in Clause 13 of Particular Condition of Contract, Part III. The Works are divided into Price Schedules each representing one or more groups of inter-related works forming part of the Works. These Price Schedules shall cover the full compensation of the Contractor to design, construct, manufacture, supply, install, erect, prepare the project documents, commissioning, perform the tests on completion, defect liability, operation and maintenance during the Operation Service Period etc. The scope of work shall be in strict conformity with the Contract documents.

3. The individual item descriptions and quantities within each Price Schedules of the Works included in this Contract are indicative only and shall not be taken as defining the scope of work to be executed under the Contract.

4. The item descriptions, if given, are general summary only, therefore any omission from, or error in, item descriptions within this Price Schedules shall neither warrant any adjustment to the Contract Price nor entitle the Contractor to seek an extension of time under the Contract.

5. The Base Price mentioned in each Price Schedule shall include all costs on materials, duties, landing charges, shipping costs for transport by air, sea or land (or any combination thereof), insurance, import taxes and duties, loading, unloading, storage, getting into position, hoisting, lowering, distributing to positions, fixing, labour, scaffolding and staging, plant, supervision, overhead charges, profit, all tests including commissioning test, process proving test etc., making good prior to handing over to the Employer at the project site and anything reasonably to be inferred from the description of the item and indispensably necessary thereto. For the purpose of clarity, Base Cost shall specifically exclude the GST, IGST and customs duty.

6. The cost of the items for civil, mechanical, electrical, instrumentation and other related works shall be rational representing actual cost of the items. Bidders shall not load the cost of the items in a particular schedule to elsewhere in another schedule.

7. The activity descriptions for items within Price Schedules shall be deemed to cover all aspects of the relevant item scope, irrespective of the fact that the Contractor may not have inserted an amount against any item description. Each Price Schedule shall be deemed inclusive of all the Contractor's obligations to execute the part of the Works covered by the Price Schedule and to perform all his obligations under the Contract in respect thereof. Additional rows have been provided in each Price Schedules to include additional items to be executed to complete the works fully to operate the 400 MLD plant smoothly. The Contractor shall not be entitled to receive any payment other than those mentioned above.

8. The Schedule of Prices is divided as follows:

   Schedule No. 1: Surveys & Investigations, Design, Drawings and Documentation

Schedule No. 2: Intake and Outfall Pipeline Works

Schedule No. 3: Civil Works

Schedule No. 4: Mechanical Works

Schedule No. 5: Electrical and Instrumentation, Control and Automation (ICA) Works

Schedule No. 6: Miscellaneous Works

Schedule No. 7: Process Proving

Schedule No. 8: Summary of CAPEX Price

Schedule No. 9: Operation & Maintenance

Schedule No. 10: Summary of O&M Price

Schedule No. 11: Grand Summary of Price Schedule (CAPEX + O&M)

Schedule No. 12: Chemicals Laboratory Items

Schedule No. 13: Workshop Items

Schedule No. 14: Chemical Consumption Cost during O&M Period

Schedule No. 15: Manpower Cost during O&M Period

Schedule No. 16: List of Asset Replacement and Spare Parts over 20 years

Schedule No. 17: List of Membrane Replacement over 20 years

Schedule No. 18: Payment Terms

9. The schedules do not generally give a full description of the construction details, plant and materials to be supplied and the services to be performed under each item. The quoted price shall be deemed to include the full compliance with all provisions of the Conditions of the Contract.

10. The Contractor shall quote the prices in the Price Schedules (1-17) and provide the soft copy (.pdf or .xls or .xlsx format only) and hard copy.

11. If the Bidder is a JV, the JV agreement should be registered in Chennai as per the prevailing registration act to the condition of registration department after award of the Contract. The cost towards the JV registration shall be borne by the Contractor.

12. The Contractor shall provide the list of all spare parts supplied by the manufacturers along with the list of any new equipment purchased at the end of the Contract.

DECLARATION SHEET

I, the undersigned, ……..certify that all the data furnished in Price Schedules and information pertaining to Part-I, Part-II and Part-III are correct and representation of the offer covered by our Bid No. …….. dated ……. I hereby certify that I am the duly authorized representative of the Bidder whose name appears above my signature.

Bidder's Name _____

Authorized representative's Signature _____

Authorized representative's Name _____

Bidder's Intent:

The Bidder hereby agrees to comply with the requirements and intent of the Bidding Document for the price indicated in this Price Schedules.

Seal of Company

Signature of the Bidder _____

Name & Address of the Bidder _____

Date :_____

* Note : In case of consortium all the members should sign the bid proposal.

Summary of the Contract Price

Description	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
	Base Cost*	GST	Total Local Cost	Base Cost*	Customs Duty	IGST	Total Foreign Cost	Base Cost*	Customs Duty	IGST	Total Foreign Cost
	A	B	C=(A+B)	D	E	F	G=(D+E+F)	H	I	J	K=(H+I+J)
Schedule No. 1: Surveys & Investigations, Design, Drawings and Documentation (A)											
Schedule No. 2: Intake and Outfall Pipeline Works (B)											
Schedule No. 3: Civil Works (C)											
Schedule No. 4: Mechanical Works (D)											
Schedule No. 5: Electrical and ICA Works (E)											
Schedule No. 6: Miscellaneous Works (F)											
Schedule No. 7: Process Proving (G)											
Schedule No. 8: Summary of CAPEX Price (H=A+B+C+D+E+F+G)											
Schedule No. 10: Summary of OPEX Price (I)											
Schedule No. 11: Grand Summary of CAPEX &											

OPEX Price (J=H+I)											
Provisional Sum (only for Dispute Adjudication Board) (K)			45,000,000.00								
Grand Total (L=J+K)											

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Signature of Bidder : _____

Name : _____

Designation : _____

Place : _____

Date : _____

Company Name and Seal

Schedule 1: Surveys & Investigations, Design, Drawings and Documentation

The total cost of the Schedule No. 1 should not exceed 1.50% of the sum of costs from Schedule 2 to Schedule 7.

To include, but not limited to, the following items to deliver the project fit for purpose.

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.1	**Survey, Process, Design and**												
1.1.1	Site survey, Bathymetric study, brine diffusion study, Subsoil investigations and Baseline Environmental monitoring	LOT											
1.1.2	PFD, Mass balance, Process design calculations and P&IDs	LOT											
1.1.3	Site layout plan, General arrangement drawings, Hydraulic diagram, Architectural drawings and Site grading plan	LOT											
1.1.4	Site drainage, Yard piping, Ext.	LOT											
1.1.5	Single line diagrams, Substations and Electrical drawings	LOT											
1.1.6	Instrumentation & Control Systems	LOT											
1.1.7	Functional Design Specification (FDS)	LOT											
1.1.8	Ancillary Works	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
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A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.1.9	Any other works, as required (Items should be specified)	LOT											
	Sub Total Schedule 1.1												
1.2	**Civil Structural Designs and Drawings**												
1.2.1	Intake and Outfall structures including headers and diffusers	LOT											
1.2.2	Intake Pumping station including band screen and pumps	LOT											
1.2.3	Pre-treatment Chemical Buildings + Tanks Storage area	LOT											
1.2.4	Flash mixing and flocculation	LOT											
1.2.5	Lamella Settlers	LOT											
1.2.6	DAFs	LOT											
1.2.7	DMFs, Backwash tanks and Pump houses	LOT											
1.2.8	RO Buildings and ancillary structures	LOT											
1.2.9	RO Chemical Buildings	LOT											
1.2.10	Permeate tanks and Neutralization tanks	LOT											
1.2.11	Remineralization buildings and associate system	LOT											
1.2.12	Product Water Tanks	LOT											
1.2.13	Clear Water Tank	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.2.14	Post Treatment Chemical Buildings	LOT											
1.2.15	Waste Sludge Balancing Tank with pumping system	LOT											
1.2.16	Gravity Thickeners	LOT											
1.2.17	Sludge Holding Tank and thickened sludge Pump House	LOT											
1.2.18	Sludge Treatment Building (BFP Building, along with polymer dosing systems and BFP feed pumping system)	LOT											
1.2.19	Administrative Building	LOT											
1.2.20	Control Building with Laboratory	LOT											
1.2.21	Warehouse and Workshop	LOT											
1.2.22	Sub Stations & Electrical buildings	LOT											
1.2.23	Firefighting and Security buildings	LOT											
1.2.24	Sewage treatment building	LOT											
1.2.25	All yard piping at project site	LOT											
1.2.26	Ancillary works and any other works, as required (Items should be specified)	LOT											
	Sub Total Schedule 1.2												

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.3	**Mechanical System Designs and Drawings**												
1.3.1	Intake Screen and Intake Pumps and Sluice gates	LOT											
1.3.2	Flash mixers, flocculators, tube settlers, valves, gates and dismantling joints at inlet structure, flocculation and Lamella Settlers	LOT											
1.3.3	Pumps, valves, gates, dismantling joints at DAF	LOT											
1.3.4	Backwash pumps at DMF	LOT											
1.3.5	Filter media, valves, gates, piping and underdrain system at DMFs	LOT											
1.3.6	All mechanical equipment at pretreatment chemical buildings	LOT											
1.3.7	All mechanical equipment including valves, gates, dismantling joints at RO Feed Tank	LOT											
1.3.8	All mechanical equipment at RO system	LOT											
1.3.9	All mechanical equipment at RO chemical buildings	LOT											
1.3.10	All mechanical equipment at CO2 system	LOT											

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.3.11	All mechanical equipment at Limestone Filters	LOT											
1.3.12	All mechanical equipment at post treatment chemical buildings	LOT											
1.3.13	Valves, gates, dismantling joints at Product Water Tanks	LOT											
1.3.14	Valves, gates, dismantling joints at CWR	LOT											
1.3.15	Sludge Balancing Tank with Submersible Pumps	LOT											
1.3.16	All mechanical equipment at Sludge Thickener	LOT											
1.3.17	All mechanical equipment at Thickened Sludge Holding Tank	LOT											
1.3.18	All mechanical equipment at Belt Filter Press including Feed Pumps	LOT											
1.3.19	Belt Filter Press and polymer dosing system	LOT											
1.3.20	Sludge conveyance system	LOT											
1.3.21	Sewage treatment system	LOT											
1.3.22	Ancillary works and any other works, as required (Items should be specified)	LOT											
	Sub Total Schedule 1.3												

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			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.4	**Electrical Designs and Drawings**												
	CP1 Plant Area												
1.4.1	Electrical & Mechanical Equipment Load Schedule	LOT											
1.4.2	Subgrade Earthing System, Potential Gradient Earthing System, Above Ground Earthing System, and Lightning Protection System Drawings	LOT											
1.4.3	Lighting Illumination Design Calculation in Buildings and Structures	LOT											
	Street Lighting Illumination Calculation												
	Area Lighting Illumination Calculation												
	Lighting and Small Power System Layout Drawings												
	Lighting and Small Power System Distribution Boards Drawings												
	Central Battery System Single Line Diagram and Control Schematic Drawings												

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Street Lighting System Layout Drawings												
	Street Lighting Feeder Pillar Single Line Diagram Drawing and Control Schematic Diagram Drawings												
1.4.4	FM 200 System Layout and Schematic Drawings	LOT											
1.4.5	UPS System Single Line Diagram Drawing and Control Schematic Diagram Drawing for Telecommunication & Data System, CCTV System, Fire Alarm System, FM200 System, Substation Automation System and SCADA System	LOT											
1.4.6	Electrical Cable Trench, Manholes and Cable Duct Bank Drawings	LOT											
	Cable Route and Cable Tray Layout Drawings												
1.4.7	Sub Distribution Board Load Schedules and Single Line Diagrams	LOT											
	Motor Control Centers Load Schedules and Single Line Diagrams												
	Low Voltage Switchgear Load Schedules and Single Line Diagrams												

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
	11kV Switchgear Load Schedules and Single Line Diagrams												
	Sub Distribution Board Panel Arrangement Drawings												
	Motor Control Centers Panel Arrangement Drawings												
	Low Voltage Switchgear Panel Arrangement Drawings												
	11kV Switchgear Panel Arrangement Drawings												
	230/110/11kV Gas Insulated Switchgear Substation												
1.4.7	Substation Subgrade Earthing System, Potential Gradient Earthing System, Above Ground Earthing System, and Lightning Protection System Drawings	LOT											
1.4.7	230/110/11kV Substation Key Single Line Diagram Drawing	LOT											
	230/110/11kV Substation Metering, Control, and Protection Schematic Diagram Drawings												

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Substation Automation System (IEC-61850) Architecture Drawing												
	230/110/11kV Substation General Arrangement Layout Drawing												
1.4.7	Substation 110V and 48V DC Batteries, Battery Chargers, and DC Distribution Switchgear SLD and Control Schematic Diagram Drawings	LOT											
	Substation 33/0.415kV Auxiliary Low Voltage AC Distribution Switchgear Single Line Diagram and Control Schematic Drawings												
1.4.7	Substation Building and Civil Engineering Works including Sleeves and Openings Detail Drawings												
	Substation Power Receiving Gantry Area Structural Works and Supports Structural Drawings												
1.4.8	Substation Lighting, Emergency Lighting and Small Power Layout Drawings.												
	Lighting Illumination Design Calculation												

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Substation Data and Telecommunication System Drawings												
	Substation CCTV System Drawings												
1.4.9	Substation FM 200 System Fire Protection Drawings	LOT											
	Substation Fire Alarm System Drawings												
	Deluge Water Spray System Drawings and Schematic Diagram for 150 MVA Power Transformers and 50 MVA Power Transformers												
	Substation Heating, Ventilation, and Air Conditioning System Drawings												
	Substation Potable Water System and Drainage System Drawings												
1.4.10	Substation Fiber Optic Multiplexer Equipment for Communication and Protection Control Schematic Drawings	LOT											
	Substation SCADA System Drawing												

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A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.4.11	Substation EHV, HV, LV, and ELV Power, Control, Instrumentation, Automation, Telecommunication, Data, and SCADA System Cable Schedule Drawings	LOT											
1.4.12	Substation 150 MVA & 50MVA ONAN/ONAF Auto Power Transformer General Arrangement, Sections, and Elevation Drawings	LOT											
	Substation 150 MVA & 50MVA ONAN/ONAF Auto Power Transformer Automatic Voltage Regulation Control and Protection Schematic Diagram Drawing												
1.4.13	Substation 33/0.433kV 315 kVA & 11/0.433kV 315 kVAONAN Earthing Transformer Znyn11 General Arrangement Drawing	LOT											
	33kV & 11kV Outdoor Type Vacuum Circuit Breaker and Off Load Isolator for 315kVA Earthing Transformer Single Line Diagram, Protection and Control Schematic Diagram Drawings												
	Neutral Earthing Resistor Single Line Diagram and Control Schematic Diagram Drawing												

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			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.4.14	Substation Nitrogen Injection Fire Protection (NIFPS) System for 150 MVA ONAN/ONAF Auto Power Transformer and 50 MVA ONAN/ONAF Auto Power Transformer	LOT											
1.4.15	11kV Switchgear Single Line Diagram, Metering, Protection, and Control Schematic Diagram Drawings	LOT											
1.4.16	230/110/11/0.415kV Switchgears Load Flow Analysis, Short Circuit Calculations, Earthing Calculation, and Final Relay Coordination Settings (ETAP / CYME / SKM Software)	LOT											
	EHV, HV, LV Power Cable Sizing and Voltage Drop Calculations												
	Power Transformer and Earthing Transformer Load Sizing Calculations												
	11kV and 0.415kV Capacitor Bank Sizing Calculation												
1.4.17	Substation EHV, HV, LV, ELV Power, Control, Automation, Instrumentation, & SCADA Cable Route and Cable Tray Layout	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
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A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Substation Cable Trench, Manhole, Cable Duct Banks, and Sleeve Opening Drawings												
1.4.18	UPS System Single Line Diagram and Control Schematic Drawing for Substation Automation System, Telecommunication & Data System, Fire Alarm System, FM 200 System, Deluge Water Spray System, and CCTV System.	LOT											
1.4.19	Current Transformer and Voltage Transformer Sizing Calculation	LOT											
	110V and 48V DC Battery and Battery Charger Sizing Calculation												
1.4.20	Sub Distribution Board Panel Arrangement Drawings	LOT											
	Motor Control Centers Panel Arrangement Drawings												
	Low Voltage Switchgear Panel Arrangement Drawings												
	33kV Switchgear and Isolator Outdoor Panel Arrangement Drawings												
	Neutral Earthing Resistor Panel Arrangement Drawing												
	230kV GIS Technical User Guide Manual and Data Sheets												

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	110kV GIS Technical User Guide Manual and Data Sheets												
	150 MVA Power Transformer Technical User Guide Manual and Data Sheet												
	50 MVA Power Transformer Technical User Guide Manuals and Data Sheets												
	33kV Outdoor Type Circuit Breaker and Isolator Technical User Guide Manuals and Data Sheets												
	Metering and Protection Relays Technical User Guide Manuals and Data Sheets												
	Current Transformers and Voltage Transformers Technical User Guide Manuals and Data Sheets												
	230kV, 110kV, 33kV, 11kV XLPE Cables Technical User Guide Manual and Data Sheets												
	Low Voltage Power and Control Cables Technical User Guide Manual and Data Sheets												
	Fire Alarm System, FM200 System, Deluge Water Spray System Technical User Guide Manual and Data Sheets												

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Substation Fiber Optic Multiplexer Equipment for Communication and Protection Control Technical User Guide Manual and Data Sheets												
	Substation SCADA System Technical User Guide Manual and Data Sheets												
	Substation Automation System (IEC-61850) Technical User Guide Manual and Data Sheets												
	CCTV System Technical User Guide Manual and Data Sheets												
	HVAC System Technical User Guide Manual and Data Sheets												
1.4.21	HVAC Cooling Load Calculation												
	Sub Total Schedule 1.4												
1.5	**Instrumentation, Control & Automation Drawings/Documents**												
1.5.1	DCS System Architecture	LOT											
1.5.2	DCS Functional Specification	LOT											
1.5.3	Instrument Schedule	LOT											
1.5.4	DCS database IO List	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
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A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.5.5	PLC System configuration/ Controller drawing	LOT											
1.5.6	Instrument control panel design drawings	LOT											
1.5.7	Instrument data sheets	LOT											
1.5.8	General Arrangement of PLC Panels	LOT											
1.5.9	PLC system Power & Control Schematics	LOT											
1.5.10	PLC system BOM	LOT											
1.5.11	DCS system graphic designs	LOT											
1.5.12	Block Logic Diagram	LOT											
1.5.13	PLC and DCS System FAT Procedure	LOT											
1.5.14	Instrument Cable Schedule	LOT											
1.5.15	GA of Junction Boxes	LOT											
1.5.16	GA of Pneumatic Control Boxes	LOT											
1.5.17	Field instrument layout drawings	LOT											
1.5.18	Instrument Hook ups	LOT											
1.5.19	Cable & Trench Layout Drawing	LOT											
1.5.20	FOC Core Allocation Diagram	LOT											
1.5.21	Control Room Layout & Equipment drawings	LOT											
1.5.22	Integrated Security System	LOT											
1.5.23	Integrated Security System Drawings	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.5.24	Fire Alarm & Detection System Specification	LOT											
1.5.25	Fire Alarm & Detection System Drawings	LOT											
1.5.26	Central Control Room Drawings	LOT											
1.5.27	Any other works, as required (Items should be specified)	LOT											
	Sub Total Schedule 1.5												
1.6	**As Built Drawing**												
1.6.1	Civil & Building works	LOT											
1.6.2	Mechanical systems	LOT											
1.6.3	Electrical system	LOT											
1.6.4	Control, Instrumentation & Automation system	LOT											
1.6.5	Any other ancillary system	LOT											
	Sub Total Schedule 1.6												
1.7	**Other Documentation**												
1.7.1	Process Design Basis Report	LOT											
1.7.2	Design Basis Report - Electrical	LOT											

Item No.	Description for 400 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.7.3	Operation & Maintenance Manuals including Trouble Shooting	LOT											
1.7.4	Training Programme and Manuals	LOT											
1.7.5	Design and Process Details with excel sheets	LOT											
1.7.6	Standard Operating Procedures	LOT											
1.7.7	Any other document, as required	LOT											
	Sub Total Schedule 1.7												
1.8	**Bidder shall list here details of additional items required for the complete plant design, drawing and documentation as per the Contract.**	LOT											
	Sub Total Schedule 1.8												
	Total Schedule 1 (Total Carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Signature of Bidder
Name & Designation
Company Name and Seal

Schedule 2: Intake and Outfall Pipeline Works

To include, but not limited to the following items to deliver the works from supply to commissioning fit for the purpose as per the Contract.

Item No.	Description of Intake and Outfall Pipeline Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	,N
2.1	**Intake and Outfall (400 MLD)**												
2.1.1	Supply of 2500 mm OD HDPE pipelines and all works for laying of twin Intake pipelines for the length of 1150 m offshore	Lot											
2.1.2	Supply and Fixing of Offshore Velocity Cap type Heads (2 No.) with all allied works such as fish net, boulders, manholes, etc. at offshore intake. Two Screen made of Duplex Steel Frame and Cu-Ni Screen with 100 mm C/c opening	Lot											
2.1.3	Supply of 2500 mm OD HDPE pipelines and all works for laying of Outfall pipeline for the length of 750 m Offshore	Lot											
2.1.4	Supply and Fixing of Offshore Diffusers and all allied works at	Lot											

Item No.	Description of Intake and Outfall Pipeline Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	,N
	brine outfall. Diffuser made of Super Duplex Steel.												
2.1.5	Any other works to provide complete intake and outfall piping system (Items should be specified)	Lot											
	Total Schedule 2 (Total carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST and customs duty.
Note: For offshore works, (Intake and outfall) payment will be made based on the actual pipe length supplied and laid.

Signature of Bidder

Name & Designation

Company Name and Seal

Schedule 3: Civil Works

To include, but not limited to the following items to deliver the works from supply to commissioning fit for the purpose as per the Contract.

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
3.1	**Intake and Outfall Structures**													
	3.1.1	Supply, construction and commissioning of complete Intake Pumping Station including intake well, band screen area, pump area, discharge piping, flash mixer tank to flocculation system	Lot											
	3.1.2	Supply, construction and commissioning of structures associated with Pigging System	Lot											
	3.1.3	Supply, construction and commissioning of Outfall tank	Lot											
	3.1.4	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.1													
3.2	**Shock Chlorination and Air Impingement System**													
	3.2.1	Supply, construction and commissioning of Building for shock chlorination dosing pumps, air compressors and air vessels with Hypochlorite storage tank.	Lot											
	3.2.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.2													

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
3.3	**Chemical Building for Pre-treatment**													
	3.3.1	Supply, construction and commissioning of Chemical Building for pre-treatment with solution preparation tanks, dosing tanks area and storage area for solid chemicals and dosing pumps area for FeCl3, polymer, acid and hypochlorite, bunds, overhead service water tank etc. and other facilities as required.	Lot											
	3.3.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.3													
3.4	**Coagulation and Flocculation System**													
	3.4.1	Supply, construction, and commissioning of Inlet-structure with baffles, flash mixing chambers with weirs, piping, valve & flowmeter chambers and walkway, handrails etc. as applicable	Lot											
	3.4.2	Supply, construction and commissioning of Flocculation Chambers with hopper drain system, walkway platform, handrails etc. as per Contract and complete in all respect.	Lot											
	3.4.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.4													

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
3.5	**Lamella Settler**													
	3.5.1	Supply, construction and commissioning of Lamella Clarifier with tube settlers, hoppers drain system, walkway platform, handrails, pipes, valve & flowmeter chambers etc. as per Contract and complete in all respect.	Lot											
	3.5.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.5													
3.6	**DAF**													
	3.6.1	Supply, construction and commissioning of DAF structure and building along with tanks, pipes, valve & flowmeter chambers and complete system as per the Contract.	Lot											
	3.6.2	Any other works (Items should be specified)	Lot											
	Sub Total of Part 3.6													
3.7	**GDMF**													
	3.7.1	Supply, construction and commissioning of GDMF structure and building along with media tanks, underdrain system, pipes, valve & flowmeter chambers, inlet channel, filtrate channel and complete system in all respect as per the contract	Lot											
	3.7.2	Any other civil works (Items should be specified)	Lot											

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
	Sub Total of Part 3.7													
3.8	**DMF Backwash and RO Feed Tank**													
	3.8.1	Supply, construction and commissioning of DMF backwash and RO feed tank structures, pumps and blower chambers, RO feed pumping station, any other tanks and valve/flowmeter chambers along with structure as needed.	Lot											
	3.8.2	Any other works (Items should be specified)	Lot											
	Sub Total of Part 3.8													
3.9	**RO System**													
	3.9.1	Supply, construction and commissioning of Industrial Steel Structures to inhouse RO system along with CIP system with chemical storage and dosing system, MCC and all other areas as per the Contract.	Lot											
	3.9.2	Supply, construction and commissioning of permeate tanks as per the Contract.	Lot											
	3.9.3	Supply, construction and commissioning of neutralization tanks as per the Contract.	Lot											
	3.9.4	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.9													

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
3.10	**Chemical Building for RO System**													
	3.10.1	Supply, construction and commissioning of Chemical Building with all chemical tanks and overhead service water tank and with sufficient area to accommodate all the dosing system, bunds, drain etc. and all other features.	Lot											
	3.10.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.10													
3.11	**Post Treatment System**													
	3.11.1	Supply, construction and commissioning of CO_2 storage areas with all pipes, valve/flowmeter chambers and any other structure as needed.	Lot											
	3.11.2	Supply, construction and commissioning of RCC Limestone Filter structure with areas for limestone storage and feeding, all pipes, valve/flowmeter chambers and any structure as needed.	Lot											
	3.11.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.11													
3.12	**Chemical Building for Post Treatment**													
	3.12.1	Supply, construction and commissioning of Chemical Building with all the post treatment chemical tanks and overhead service water tank and with sufficient area to accommodate	Lot											

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
		dosing system, bunds, drain, etc. and all other features.												
	3.12.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.12													
3.13	**Waste /Sludge Treatment and Conveyance System**													
	3.13.1	Supply, construction and commissioning of Waste Sludge Balance Tank	Lot											
	3.13.2	Supply, construction and commissioning of Gravity Thickeners	Lot											
	3.13.3	Supply, construction and commissioning of Thickened Sludge Holding tanks	Lot											
	3.13.4	Supply, construction and commissioning of Sludge treatment building (BFP building), with sludge feed pump area, chemical storage and dosing areas and all other areas as required.	Lot											
	3.13.5	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.13													
3.14	**Product Water Tanks**													
	3.14.1	Supply, construction and commissioning of Product Water Tanks with air HEPA filters and watertight cover lids	Lot											
	3.14.2	Any other civil works (Items should be specified)	Lot											

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
	Sub Total of Part 3.14													
3.15	**Clear Water Reservoir**													
	3.15.1	Supply, construction and commissioning of RCC Clear Water Tank with air HEPA filters and watertight cover lids	Lot											
	3.15.2	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.15													
3.16	**Electrical Building and MCC for complete plant**													
	3.16.1	Supply, construction and commissioning of substation building including Switchyard & Transformer area	Lot											
	3.16.2	Supply, construction and commissioning of MCC Rooms for complete plant including Diesel Generator Room	Lot											
	3.16.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.16													
3.17	**Administration, Laboratory and Control Buildings**													
	3.17.1	Supply, construction and commissioning of Administrative building including Canteen area and guest house	Lot											
	3.17.2	Supply and Construction of Plant Control and Laboratory building	Lot											
	3.17.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.17													

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
3.18	**Warehouse and Workshop**													
	3.18.1	Supply, construction and commissioning of Ware–house – Industrial Steel Structure	Lot											
	3.18.2	Supply, construction and commissioning of Workshop – Industrial Steel Structure	Lot											
	3.18.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 3.18													
3.19	**Sewage Treatment Plant**													
	3.19.1	Supply, construction and commissioning of sewage treatment plant Building	Lot											
	3.19.2	Supply, construction and commissioning of all tanks for the treatment plants	Lot											
	3.19.3	Any other civil works (Items should be specified)	Lot											
	Sub Total of Part 2.19													
3.20	**Misc. Works at Site**													
	3.20.1	Supply, construction and commissioning of Parking lot, sign board, light, traffic signal, Site clearance, filling, removal of slurry to assigned quarry, temporary works etc., as specified	Lot											
	3.20.2	Supply of material and Backfilling of the plant site to bring uniform ground level at CD+6.50m excluding burial and area not included in the plant.	Lot											
	3.20.3	Supply, construction and commissioning of RCC retaining wall up to CD +6.50m and	Lot											

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
		min 2.50m high Brick wall boundary around the plant site and burial ground sites												
	3.20.4	Supply, construction and commissioning of two Plant Gates and Security smart houses with cameras	Lot											
	3.20.5	Firefighting building and associated structures												
	3.20.5	Any other works (Items should be specified)	Lot											
	Sub Total of Part 3.20													
3.21	**Roads and Drainage**													
	3.21.1	Supply and Construction of all Roads and paths etc. as specified at per the plant layout	Lot											
	3.21.2	Supply and Construction of Site storm water drainage system, both for the plant and burial grounds as required and Rainwater Harvesting structures.	Lot											
	3.21.3	Plantation, Landscaping as specified	Lot											
	3.21.4	All yard pipe works not covered above	Lot											
	3.21.5	Supply, construction and commissioning of Firefighting Rooms for complete plant	Lot											
	3.21.6	Any other works (Items should be specified)	Lot											
	Sub Total of Part 3.21													
3.22	**(all area of the works) required in Civil Supply, Construction works for the Desalination Plant as per the Contract Specifications**													

Item No.	Part	Supply, Construction, Testing and Commissioning of Civil Works for 2 x 200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost *	GST	Total Cost (F)=(D)+(E)	Base Cost *	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost *	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B		C	D	E	F	G	H	I	J	K	L	M	N
	Sub Total of Part 3.22													
	Total Schedule 3 (Total Carried to Schedule 8)													

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Signature of Bidder

Name & Designation

Company Name and Seal

Schedule 4: Mechanical Works

To include, but not limited to the following items to deliver the works from supply to commissioning fit for the purpose as per the Contract.

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.1	**Intake Pumping Station (400 MLD)**												
4.1.1	On shore Travelling band screen with 3mm mesh (4 x 33%)	Lot											
4.1.2	Vertical Turbine Intake Sea Water Pumps (6W+3S) made of Super Duplex with PREN≥41 including Electric Motor (s) complete with intake, outlet and nonreturn valves, dismantling joints, piping etc.	Lot											
4.1.3	Pigging Systems complete in all respect for intake pipeline cleaning with pig launching and receiving system having two Pigs	Lot											
4.1.4	Isolation Gates (Duplex Steel) for Intake and Outfall tanks	Lot											
4.1.5	Shock chlorination for offshore Heads including tanks, injection system, pumps, piping, valves and all allied items.	Lot											
4.1.6	Compressed air system including compressors, pressure vessels, piping etc. complete in all respect for offshore Heads	Lot											
4.1.7	Any other works to provide the complete system in the intake pumping station area (Items should be specified)	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
4.2	**Pre-treatment Chemical Systems (2x200 MLD)**												
4.2.1	98% Sulphuric Acid bulk Storage tanks: Cylindrical horizontal dished end carbon steel (IS 2062) tanks (2 tanks), internally ebonite Lined & externally coated with epoxy paint, complete with dosing tanks and dosing pumping system facility, transfer/unloading pumps, scrubbers, etc. and all other associated structures and features to complete the system.	Lot											
4.2.2	GRP tanks for $FeCl_3$ and hypochlorite bulk storage (2 tanks for each chemical for total 1 month storage) with transfer/onloading pumps and scrubbers, and all other associated structures and features to complete the system	Lot											
4.2.3	Hypochlorite dosing system with pumps, valves, strainers, and equipment complete in all respect for automatic chemical dosing as per the contract	Lot											
4.2.4	$FeCl_3$ dosing system with pumps, agitators, valves, strainers, EOT crane and equipment complete in all respect for automatic chemical dosing as per the contract	Lot											
4.2.5	Polymer dosing system with pumps, agitators, valves, strainers, EOT, powder polymer transfer system using ejector and equipment complete in all respect for automatic chemical dosing as per the contract	Lot											
4.2.6	Any other works to provide the complete system (Items should be specified)	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.3	**Pre-treatment Process Units (2 x 200MLD)**												
4.3.1	Coagulation and flocculation system including flash mixer, flocculator mixers complete with all associated piping and valves, gates, sludge disposal facility etc.	Lot											
4.3.2	Lamella Settlers including all associated piping and valves, gates, sludge disposal facility etc.	Lot											
4.3.3	Dissolved Air Floatation, complete with pressurized vessel, recycle pumps and all associated valves, pipes, sludge disposal facility etc. in totality	Lot											
4.3.4	Gravity Dual Media Filtration, complete in totality including backwash pumps and blowers, and all associated valves and equipment required for its fully automated operations.	Lot											
4.3.5	Any other works to provide the complete system (Items should be specified)	Lot											
4.4	**DMF Backwash and RO Feed Tank (2 x 200 MLD)**												
4.4.1	DMF backwash and RO feed–tank - complete in totality including all valves and gates along with any equipment needed as per the Contract.	Lot											
4.4.2	Any other works (Items should be specified)	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.5	**RO Skids, Chemical Dosing and CIP System (2 x 200 MLD)**												
4.5.1	Cartridge Filters including housing and complete with all valves and piping, drain, vents, plugs, foundation bolts, leg supports, static mixers etc. for complete requirement in RO system	Lot											
4.5.2	RO skids/trains including all items to complete the skids	Nos.											
4.5.3	Reverse Osmosis 8” membranes	Nos.											
4.5.4	Pressure Vessel for RO membranes including Super Duplex coupling.	Nos.											
4.5.5	Antiscalant, SMBS, Caustic Soda and any other chemicals bulk storage tanks and dosing Systems including tanks, pumps, valves, strainers, piping, EOT crane and all other equipment complete in all respect for automated chemical dosing.	Lot											
4.5.6	RO Booster Pumps with Impeller, casing, shaft Super Duplex with PERN≥41. Motor, VFD complete with all piping and valves.	Nos.											
4.5.7	RO high pressure pumps with impeller, casing, shaft Super Duplex (2507) with PERN≥43. Motor, VFD complete with all piping and valves.	Nos.											
4.5.8	ERD Feed Pumps with Impeller, casing, shaft Super Duplex with PERN≥41. Motor, VFD (if required) complete with all piping and valves.	Nos.											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
4.5.9	ERD Recirculation Pumps with Impeller, casing, shaft Super Duplex with PERN≥43. Motor, VFD (if required) complete with all piping and valves.	Nos.											
4.5.10	Energy Recovery Device –ERD) – pipe headers, flanges, U clamps, fasteners, Victaulic coupling for making connections complete in all respects including anchor foundation bolts etc.	Nos.											
4.5.11	Cleaning in Place (CIP) system complete in totality with heater, pumps, valves and piping etc. and all equipment needed for fully automated process.	Lot											
4.5.12	Any other works to provide the complete system (Items should be specified)	Lot											
4.6	**Post Treatment System (2 x 200 MLD)**												
4.6.1	Lime filters along with auto lime charging system including pipe, valves complete in all respect for auto operation	Lot											
4.6.2	Lime filters backwash pumping and blower system with pipe, valves complete in all respect for auto operation												
4.6.3	CO_2 storage vessels	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.6.4	CO_2 Dosing System comprising of CO_2 filter, Flow regulating valve, Automatic shut off valve, Manual shut off valve, Pressure reducing valve, Safety valves, Discharge valve, Limit switches, automatic change over planes, all mounted on a stainless-steel base frame CO_2 Flow meter System, Mass flow sensor (fully calibrated) assembled to process pipe. As per designed pipe size and pressure ranges.	Lot											
4.6.5	Caustic storage, dosing system with all tanks, pumps, valves, pipes, EOT and all equipment for auto chemical dosing	Lot											
4.6.6	Hypochlorite storage, dosing system with all tanks, pumps, valves, pipes, EOT and all other equipment for auto chemical dosing	Lot											
4.6.7	Any other works to provide the complete system (Items should be specified)	Lot											
4.7	**Product Water Tanks, CWR and Outfall Tank**	Lot											
4.7.1	Product Water Tanks, CWR and Outfall–Tank – all mechanical works complete in totality including all valves, gates, piping along with any equipment needed as per the Contract.	Lot											
4.7.2	Any other works to provide the complete system (Items should be specified)	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
4.8	**Waste /Sludge Conveyance and Treatment System**												
4.8.1	Waste Sludge Balance–Tank - all mixer, submersible pumps, valves, static mixer etc.	Lot											
4.8.2	Gravity Thickeners - all mechanical system, including valves, pipes, rotating bridge with mixer and sludge scraping system,	Lot											
4.8.3	Thickened Sludge Holding–tank - all mechanical system, including valves, pipes, mixer and BFP feed pumps	Lot											
4.8.4	BFP system - BFP units complete in all respect for auto operation producing 25% consistent solid chips.	Lot											
4.8.5	Chemical dosing system i.e., polymer for thickener and BFP complete in all respect.	Lot											
4.8.6	Any other works to provide the complete system (Items should be specified)	Lot											
4.9	**Miscellaneous**												
4.9.1	Mechanical works for Air Compressor, Air Conditioning & Ventilation System including Cooling tower etc. as required in all buildings and covered structures.	Lot											

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.9.2	Fire Detection and Protection System in all building and covered places. Fire Fighting vehicles, pumps, pipes and associated items.	Lot											
4.9.3	Maintenance Bay Equipment (EOT Cranes, Hoist & Monorails etc.) as needed in all buildings and Industrial structures	Lot											
4.9.4	Building Services including domestic water systems. The Bidder shall list here details of any additional items required for a complete installation	Lot											
4.9.5	Workshop equipment and other items	Lot											
4.9.6	Mechanical equipment at sewage treatment	Lot											
4.9.7	Other Miscellaneous Equipment / Items / System not mentioned above but as required in Employers Requirements in contract (Items should be specified)	Lot											
4.10	**Bidders shall list here details of any additional items required for a complete system for smooth automatic operation of the 2x200 MLD desalination plant**												
4.10.1													
4.10.2													
4.10.3													

Item No.	Description of Mechanical Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+E	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
4.11	**Building Services for water supply and other mechanical works requirements. The Bidder shall list below details of items required for a complete installation of all mechanical system at all buildings**												
4.11.1													
4.11.2													
4.11.3													
	Total Schedule 4 (Total Carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Signature of Bidder

Name & Designation

Company Name and Seal

Schedule 5: Electrical and Instrumentation, Control and Automation (ICA) Works

To include, but not limited to the following items to deliver the works from supply to commissioning fit for the purpose as per the Contract.

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.1	**Intake and Outfall (400 MLD)**												
5.1.1	All electrical works at Intake and Outfall system including but not limited to Chemical Dosing System Pumps, Screen Backwash Pumps, Trash Racks, Trash Rack Garbage Machine, Travelling Band Screen, LV Power Cable, Control Cables, Local Push Button Control Station with Emergency Stop Push Button, Isolators, Cable Trays, Cable Termination Kits and Accessories, Subgrade Earthing, and Equipment Earthing	Lot											
5.1.2	All instrumentation and control works as per the contract at intake and outfall system including DCS Controllers, IO units, instrumentations, flow meters, air bursting, shock	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	D	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
	chlorination system and chlorine dosing to intake pump discharge.												
5.1.3	Any other works (Items should be specified)	Lot											
5.2	**Intake Pumping Station (400 MLD)**												
5.2.1	All electrical works at Intake pumping station including but not limited to 11kV Motors, 11kV Switchgear, 11kV Soft Starters, 11kV Cables, 11/0.433 Transformers, LV Bus Ducts, Motor Control Center, LV Power Cable, Control Cables, Local Push Button Control Station with Emergency Stop Push Button, Cable Trays, Cable Termination Kits and Accessories, Subgrade Earthing System, Potential Gradient Earthing System,Lightning Protection System, and Equipment Earthing System	Lot											
5.2.2	All instrumentation control and automation (ICA) works as per the contract including DCS Controllers, IO units,	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	instrumentations, pH, Temp, Chlorine, Conductivity, Turbidity, flowmeters, condition monitoring system etc. and all other analysers as per the contract												
5.2.3	Any other works (Items should be specified)	Lot											
5.3	**Pre-treatment Chemical Systems (2x200 MLD)**												
5.3.1	All electrical works at pre-treatment chemical system including but not limited to Motor Control Centers, Bus Ducts, Power Cables, Control Cables, Dosing Pumps, Mixers, Ventilation Fans, Isolators, Local Control Push Buttons with Emergency Stop, Watertight Flexible Conduits, Cable Trays, Cable Glands, and Equipment Earthing.	Lot											
5.3.2	All ICA works including instrumentation and automation as per the contract for all pre-treatment chemical dosing system	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.3.3	Any other works (Items should be specified)	Lot											
5.4	**Pre-treatment Process Units (2 x 200MLD)**												
5.4.1	All electrical works including but not limited to LV Bus Ducts, Motor Control Centers, LV Power Cables, Control Cable, Cable Trays, Isolators, Local Push Button Station with Emergency Stop Push Button, Subgrade Earthing System, Equipment Earthing System, Chemical Dosing Pumps, Mixers, Sludge Scraper, Recirculation Pumps, Ventilation Fans, and Air Compressors	Lot											
5.4.2	All ICA works as per the contract for all pre-treatment process units including filter consoles, instrumentations, analysers, DCS controllers and IO units complete in all respect for auto operation.	Lot											
5.4.3	Any other works (Items should be specified)	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.5	**GDMF Backwash and RO Feed Tank (2 x 200 MLD)**	Lot											
5.5.1	All electrical works including but not limited to 11kV Switchgear, Soft Starters, LV Bus Ducts, Motor Control Centers, LV Power Cables, Control Cable, Cable Trays, Isolators, Local Push Button Station with Emergency Stop Push Button, Subgrade Earthing System, Equipment Earthing System, Backwash Pumps, Air Scouring Blower, and Waste Disposal Pump, Ventilation Fans.	Lot											
5.5.2	All ICA works as per the contract for RO feed Tank	Lot											
5.5.3	Any other works (Items should be specified)	Lot											
5.6	**RO Skids and CIP System (2 x 200 MLD)**												
5.6.1	All electrical works including but not limited to 11kV Motors, 11kV Switchgears, 11kV Soft Starters, 11kV Cables, 11/0.433	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Transformers, 11/0.69kV Transformers, LV Bus Ducts, Motor Control Centers, Filtered Water Pumps, Booster Pumps, High Pressure Pumps, Crane, CIP Pump, Flushing Pump, Cleaning Tank Mixer, Cleaning Pump, Air Compressor, Dryer Filter, Cooling Water Pump, Service Water System, and Permeate Water Pump, Ventilation Fans, LV Power Cable, Control Cables, Local Push Button Control Station with Emergency Stop Push Button, Cable Trays, Cable Termination Kits and Accessories, Subgrade Earthing System, Potential Gradient Earthing System,Lightning Protection System, and Equipment Earthing System												
5.6.2	All ICA works as per the contract at RO system, CIP tank, permeate tank, neutralization tank including instrumentations, flowmeters, pressure measurement, analysers such as chlorine, turbidity, Boron,	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	D	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
	conductivity, TSS, SDI, ORP and DCS IO units and Controllers etc. as per the contract.												
5.6.3	Any other works (Items should be specified)	Lot											
5.7	**Post Treatment System (2 x 200 MLD)**												
5.7.1	All electrical works including but not limited to 11kV Motors, 11kV Switchgears, 11kV Soft Starters, 11kV Cables, 11/0.433 Transformers, 11/0.69kV Transformers, LV Bus Ducts, Motor Control Centers, Local Push Button Control Station with Emergency Stop Push Button, Cable Trays, Cable Termination Kits and Accessories, Subgrade Earthing System, Potential Gradient Earthing System,Lightning Protection System, Equipment Earthing System, Limestone Filter Feed Pumps, Degassing Air Blowers, Air Scouring Blower, Lime Stone Unloading System, Lime Stone Recharging System, Waste Disposal Pump, Process Water	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	D	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
	Pump, Carbon Dioxide Plant, Chlorine Evaporator, Overhead Crane, Recarbonation Tower Feed Pump, and Ventilation Fans.												
5.7.2	All ICA works as per the contract at CO_2 system and Limestone filters and Caustic system including DCS Controllers, IO units, Instrumentation flowmeters, pressure, level measurements, analysers such as chlorine, conductivity, hardness, pH etc.	Lot											
5.7.3	Any other works (Items should be specified)	Lot											
5.8	**Product Water Tanks, CWR and Outfall Tank**												
5.8.1	All electrical works including but not limited to Motor Control Center, Power Cable, Control Cable, Local Control Push Button Station with Emergency Stop, Subgrade Earthing System, Equipment Earthing System, Potable Water Delivery Pump,	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	**B**	**C**	D	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
	Overhead Crane, NaClO Dosing Pump, and Cathodic Protection.												
5.8.2	All ICA works as per the contract at product water tanks, CWR and outfall tanks.	Lot											
5.8.3	Any other works (Items should be specified)	Lot											
5.9	**Waste /Sludge Conveyance and Treatment System**												
5.9.1	All electrical works including but not limited to Motor Control Centers, LV Power Cables, Control Cables, Cable Trays, Subgrade Earthing System, Equipment Earthing System, Isolators, Local Control Push Buttons with Emergency Stop, Submersible Mixers, Sludge Scrapers, Sludge Extraction Pump, Sludge Belt Press, Flocculator, Wash Water Pump, Screw Conveyor, Air Compressor, and Ventilation Fans.	Lot											
5.9.2	All ICA works including flowmeters and analysers as per the contract at sludge balance	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	tank, thickeners, sludge holding tanks and BFP building including polymer ejector loading system												
5.9.3	Any other works (Items should be specified)	Lot											
5.10	**230/110/11kV GIS Substation**												
5.10.1	230kV Incoming Gantry Area including Outdoor Termination Units and Steel Structures												
5.10.2	230kV Gas Insulated Switchgear Double Bus Bar 4000A, 50Hz, 3 Ph, 50kA in 3 secs. as per Key Single Line Diagram	Lot											
5.10.3	110kV Gas Insulated Switchgear Double Bus Bar 3150A, 50 Hz, 3 Ph, 40kA in 3 secs. As per Key Single Line Diagram	Lot											
5.10.4	2 Nos. 230/110/33kV 150 MVA Auto Power Transformers with ONAN/ONAF Cooling and Vector Group YNa0d1 as per Key Single Line Diagram	Lot											
5.10.5	2 Nos. Earthing Transformer 33/0.433kV with ONAN Cooling	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	and Vector Group ZNyn11 as per Key Single Line Diagram												
5.10.6	4 Nos. 110/11kV 50MVA Auto Power Transformer with ONAN/ONAF Cooling and Vector Group YNd5 as per Key Single Line Diagram	Lot											
5.10.7	4 Nos. Earthing Transformer 11/0.433kV with ONAN Cooling and Vector Group ZNyn11 as per Key Single Line Diagram	Lot											
5.10.8	Metering and Protection Relays including CTs and VTs for 230kV &110kV GIS, 33kV Outdoor Circuit Breakers and Isolators and 11kV Switchgears, Auto Power Transformers, and Earthing Transformers	Lot											
5.10.9	230kV & 110kV XLPE Cables including Cable Plug-in Modules and Cable Sealing ends	Lot											
5.10.10	33kV & 11kV XLPE Power Cables including Termination Kits and Accessories	Lot											
5.10.11	33kV Outdoor Type Vacuum Circuit Breakers and Isolators	Lot											
5.10.12	11kV Outdoor Type Vacuum Circuit Breakers and Isolators	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.10.13	Subgrade Earthing, Potential Gradient Earthing, Equipment Earthing, and Lightning Protection System	Lot											
5.10.14	11kV Switchgear Indoor Type including Metering and Protection Relays as per Key Single Line Diagram	Lot											
5.10.15	LV Switchboards, 110V & 48V DC Distribution boards, and Batteries	Lot											
5.10.15	Substation Automation System and SCADA System	Lot											
5.10.16	Fiber Optic Cables, LV Power Cables, ELV Cables, and Control Cables	Lot											
5.10.16	Lighting and Small Power System, HVAC System, CCTV System, Telecommunication and LAN System	Lot											
5.10.17	Fire Alarm System, FM200 System, and Deluge Water Spray System	Lot											
5.10.18	Overhead Travelling Crane for 230kV & 110kV GIS Rooms	Lot											
5.10.18	Potable Water System and Drainage System	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.11	**Control System**												
5.11.1	All DCS hardware works as per the Contract including Controllers, Remote IO, Operator Stations, DCS Control Servers, Communication system, CMMS/ Optimization servers, FOC, Display units, GPS, Rack units, Large Wall Screen, Printers, Routers, DCS ergonomic Operator Control desks, configuration Laptops, Reporting system, any peripherals. Etc	Lot											
5.11.2	All DCS software works as per the contract including database engineering, configuration and programming for Operating System, Historian, CMMS, Optimization, Cybersecurity, Antivirus, Instrumentation Management, Reporting system. Etc.	Lot											
5.11.3	Any other works (Items should be specified)	Lot											

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.12	**Miscellaneous**												
5.12.1	Electrical and ICA works at sewage treatment system	Lot											
5.12.2	All electrical and ICA system at the administrative building and all other buildings	Lot											
5.12.3	All plant lighting system including plant earthing and lightning protection system	Lot											
5.12.4	The UPS and Diesel Generators as per contract	Lot											
5.12.5	Other Miscellaneous Equipment / Items / System not mentioned above but as required in Employers Requirement Part-II (Items should be specified)	Lot											
5.13	**Bidders shall list here details of any additional items required for a complete electrical and ICA system for smooth and automatic operation of the 400 MLD plant**												
5.13.1													
5.13.2													

Item No.	Description of Electrical & ICA Items Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant		Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Unit	Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
5.13.3													
	Total Schedule 5 (Total Carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Signature of Bidder

Name & Designation

Company and Seal

Schedule 6: Miscellaneous Works

To include, but not limited to the following items to deliver the works from supply to commissioning fit for the purpose as per the Contract.

Item No.	Description of Miscellaneous Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
6.1	Chemical Laboratory Items as per schedule and required. (complete Schedule 12)	Lot											
6.2	Workshop items as per schedule and required. (complete Schedule 13)	Lot											
6.3	Heating, Ventilation and Air conditioning systems in all buildings/ structures as required and specified in the contract	Lot											
6.4	Firefighting system - fire detection and protection system in all building and covered places - including pumps, pipes, valves, and allied items as per requirement and specifications in the contract	Lot											
6.5	Security and Surveillance system at the plant including gate security, plant monitoring and access system as per requirement	Lot											

Item No.	Description of Miscellaneous Items for Procurement, Supply, Installation/Erection, Testing and Commissioning for 2x200 MLD Plant	Unit	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost (F)=(D)+(E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
	and specifications in the contract												
6.6	Any other works required to operate the 400 MLD DSP smoothly meeting the contract requirements such as vehicles for the Employer. FAT, temporary site office etc. (Items should be specified)	Lot											
	Total Schedule 6 (Total Carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 7: Process Proving

			Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
Item	**Description**	**Unit**	**Base Cost ***	**GST**	**Total Cost (F)=(D)+(E)**	**Base Cost ***	**Customs Duty**	**IGST**	**Total Price (J)=(G+H+I)**	**Base Cost ***	**Customs Duty**	**IGST**	**Total Cost N=(K+L+M)**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
7	**Three months of Process Proving Test Period**												
7.1	**Power Usage (@ INR 6.35/ kWh**	Lot											
7.2	**Chemical Usage**	Lot											
7.3	**Transportation of Sludge**	Lot											
7.4	**Manpower**	Lot											
	Total Schedule 7 (Total carried to Schedule 8)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 8: Summary of CAPEX Price

Schedule	Description of Works – Supply, Construction, Installation/ Erection, Testing, Commissioning and Process Proving	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Base Cost*	GST	Total Cost (E)=(C)+(D)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	I	J	K	L	M	N
1	Surveys & Investigations, Design, Drawings and Documentation											
2	Intake and Outfall Pipeline Works											
3	Civil Works											
4	Mechanical Works											
5	Electrical and ICA Works											
6	Miscellaneous Works											
7	Process Proving											
GRAND TOTAL OF CAPEX PRICE (Sum of Schedule 1 to 7)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 9: Operation and Maintenance

The following O&M expenditure sheet is required to be filled by the Bidders for 20 years of O&M Period (1 to 20 sheets).

			Total Cost Local Currency (INR)			**Total Cost Foreign Currency (USD)**				**Total Cost Foreign Currency (JPY)**			
Item No.	**Description**	**Unit**	**Base Cost ***	**GST**	**Total Cost (F)=(D)+(E)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Cost (J)=(G+H+I)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Cost N=(K+L+M)**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
1	**First year**												
1.1	**Variable Cost including chemicals and others.**												
	Chemicals Consumption Cost during O&M period (complete the Schedule-14)	Lot/ year											
	Any other variable cost (attached details separately)	Lot/ year											
	Sub Total Variable Cost												
1.2	**Fixed Cost including manpower cost, asset replacement cost, membrane cost and administrative cost**												
	Manpower Cost during O&M period (complete the Schedule 15)	Lot/ year											
	List of Asset Replacement and Spare Parts over 20 years (complete the Schedule 16)	Lot/ year											
	List of Membrane Replacement over 20 years (complete the Schedule 17)	Lot/ year											

			Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
Item No.	**Description**	**Unit**	**Base Cost ***	**GST**	**Total Cost (F)=(D)+(E)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Cost (J)=(G+H+I)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Cost N=(K+L+M)**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
	Administrative cost (attach details separately)	Lot/ year											
	Routine Maintenance (attach details separately)	Lot/ year											
	Any other fixed cost (such as Fuel, Vehicle maintenance, sludge disposal, Environmental monitoring and statutory compliance reporting etc. attach details separately)	Lot/ year											
	Sub Total Fixed Cost												
1.3	**Total O&M Price (1.1 + 1.2) - First year**												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Note:- Sub-total of Fixed Price should not be more than 30% of the Total O&M Price for each year. For Sludge disposal, the Bidder shall provide the per unit rate for disposal beyond 20 km.

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Note: Similar Sheets are to be filled for the rest of the year from 2nd year to 20th year.

Schedule 10: Summary of O&M Price

Year	Description	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
		Base Cost*	GST	Total Price (E)=(C)+(D)	Base Cost*	Customs Duty	IGST	Total Cost (J)=(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=(K+L+M)
A	B	C	D	E	F	G	I	J	K	L	M	N
1.	1st Year O&M Price											
2.	2nd Year O&M Price											
3.	3rd Year O&M Price											
4.	4th Year O&M Price											
5.	5th Year O&M Price											
6.	6th Year O&M Price											
7.	7th Year O&M Price											
8.	8th Year O&M Price											
9.	9th Year O&M Price											
10.	10th Year O&M Price											
11.	11th Year O&M Price											
12.	12th Year O&M Price											
13.	13th Year O&M Price											

14.	14th Year O&M Price											
15.	15th Year O&M Price											
16.	16th Year O&M Price											
17.	17th Year O&M Price											
18.	18th Year O&M Price											
19.	19th Year O&M Price											
20.	20th Year O&M Price											
TOTAL OF O&M PRICE (Total Carried out to Schedule 11)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 11: Grand Summary of Price Schedule (CAPEX & O&M Price)

		Total Cost Local Currency (INR)			**Total Cost Foreign Currency (USD)**				**Total Cost Foreign Currency (JPY)**			
Schedule	**Description of Works – Supply, Construction, Installation/ Erection, Testing, Commissioning and Process Proving and O&M for 20 years**	**Base Cost***	**GST**	**Total Cost (E)=(C)+(D)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Cost (J)=(G+H+I)**	**Base Cost***	**Customs Duty**	**IGST**	**Total Price N=(K+L+M)**
A	**B**	**C**	**D**	**E**	**F**	**G**	**I**	**J**	**K**	**L**	**M**	**N**
1	Surveys & Investigations, Design, Drawings and Documentation											
2	Intake and Outfall Pipeline Works											
3	Civil Works											
4	Mechanical Works											
5	Electrical and ICA Works											
6	Miscellaneous Works											
7	Process Proving											
9	Operation and Maintenance											
GRAND TOTAL OF PRICE SCHEDULE												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 12: Chemical Laboratory Items

Item No.	Description of Items to be Procured for Chemical Laboratory	Unit	Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=C*(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=C*(K+L+M)
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Electronic Balance	No.	4											
2	Bunsen Electric Heater	No.	4											
3	Magnetic Stirrer - 1MLH	No.	4											
4	Water bath with 6 to 8 concentric holes and discs, electrically heated	No.	2											
5	Muffle Furnace	No.	2											
6	Colour Comparator	No.	2											
7	Centrifuge system	Set	2											
8	Turbidity meter	No.	4											
9	Autoclave	No.	2											
10	Coagulation-Flocculation Simulator	No.	2											
11	COD Assembly	No.	2											
12	Distilled water plant	No.	2											
13	ORBECO Analytical System	No.	2											
14	ORBECO HELLIGE -975MP	No.	2											
15	Electric Oven	No.	2											

Item No.	Description of Items to be Procured for Chemical Laboratory	Unit	Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=C*(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=C*(K+L+M)
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
16	BOD Incubator	No.	2											
17	TDS meter	No.	4											
18	Spectrophotometer-UV-UIS Spectrophotometer Latest Unit	No.	2											
19	Potable kit for pH/ORP/ Cond/TDS/Temp/DO meters	No.	4											
20	Weight Balance	No.	4											
21	pH meter- pH Scan2	No.	4											
22	Refrigerator and Freezer, 500 lts capacity of approved make	No.	2											
23	Burette, Pipette, Flask	Set	50											
24	Measuring Cylinders (1000 ml, 500 ml, 200 ml, 100 ml, 50 ml, 25 ml)	Set	6											
25	Chlorine analyzer (comparator)	No.	4											
26	Conductivity meter	No.	4											
27	Mercury Ioniser	No.	2											

Item No.	Description of Items to be Procured for Chemical Laboratory	Unit	Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
				Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=C*(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=C*(K+L+M)
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**
28	Dissolved Oxygen Meter	No.	4											
29	Colony counter	No.	2											
30	Membrane Filtration Assembly	No.	2											
31	Binocular Microscope	No.	2											
32	Jar test apparatus	No.	2											
33	Sampling Bottles (Reagent Bottles of 250 ml Capacity)	No.	100											
34	Wire Baskets	No.	10											
35	Suction Flask (1litre capacity)	No.	4											
36	TOC analyser – High Temp Combustion type	No.	1											
37	All types of laboratory glassware, accessories and other consumables and reagents for minimum two years requirement.	No.	Lot											
	Total Schedule 12 (to be carried to Schedule 6 – Miscellaneous)													

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 13: Workshop Items

Item No.	Description of Items to be Procured for Workshop	Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=C*(G+H+I)	Base Cost*	Custom Duty	IGST	Total Cost N=C*(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Heavy duty high speed lathes, 250 mm centre height, 1500 mm between centres including all features as per the specifications	1											
2	Heavy duty high speed lathes, 200 mm centre height, 1500 mm between centres including all features as per the specifications	1											
3	Heavy duty high speed vertical lathes, 2000 mm table diameter, working piece diameter 2300 mm, working piece height 1400 mm, working piece weight 20000 kg, with accessories	1											
4	Horizontal boring, drilling and milling machine, work spindle dia.100 mm, self-acting traverse of spindle at one setting 700 mm, with all features as per the specifications	1											
5	Surface grinding machine wet grinding, grinding wheel diameter/ width 250/25 mm, distance table to centre of	3											

	spindle approx. 500 mm, table clamping area 900 x 250 mm, steeples adjustable including electrical equipment with motor and standard accessories												
6	Column grinder, with 2 wheels 300 x 40 x 76 mm for wet grinding, left hand side with normal rest, right hand side with adjustable workpiece support table and angle stop, with all features as per the specifications	2											
7	Universal milling machine, table size 1300 x 400 mm, steeples feed drive in all three table directions, longitudinal travel of table 1000 mm, cross travel of table 340 mm with all features as per the specifications	2											
8	Vertical milling machine, table size 1900 x 400 mm, steeples feed drive in all three table directions, integrated automatic lubricating system, cooling system, main spindle drive, motor protection switch, controls integrated on panel, accessories.	1											
9	Heavy duty high speed shaping machine, 725 mm ram stroke, 725 x 340 mm table size, shaping width 600 mm, complete with electric motor equipment, automatic	1											

	vertical feed of the tool holder, main switch, motor protection switch, rotary concentric machine vice, with standard accessories.												
10	Screw threading machine, with solid steel frame, including pole- changing 3-phase motor for pipe and whitworth thread from 1/4 to 2", metric threads M6 to M52, with motor protection switch and standard accessories.	1											
11	Heavy duty power hacksaw, fully hydraulic 4 stroke, cutting range in round material 225 mm, for metering from 450 mm, complete with electric motor equipment, stock support 500 mm high with heavy material Toller, accessories.	2											
12	Heavy duty circular column drilling machine, drilling capacity in steel up to 35 mm, in cast iron up to 45 mm, 350 mm column-spindle distance, column diameter approx. 160 mm, stepless, with at least.3 kW electric motor, motor protection switch, coolant supply pump, accessories.	1											
13	Bench drilling machine, drilling capacity in steel up to 10 mm, radius 200 mm, with high-capacity high-speed	2											

	chuck to 10 mm, adjustable rectangular table, drilling depth 60 mm, column diameter 70 mm, base plate 170 x 170 mm, complete with electrical equipment and motor, motor protection switch and standard accessories.												
14	Electric pipe bender, complete with all necessary tooling required for cold bending heavy gauge steel pipe of up to 100 mm inside diameter to the smallest radic possible, limited only by the pipe bore and wall thickness, without flattening.	2											
15	Universal folding press, for hand operation, including base frame, for 3 mm plate thickness, 2000 mm working width, 45° angle bar, 3 mm rad. round bar, steel rail for the bending beams, accessory holders with standard accessories.	2											
16	Combined plasma welding and metal cutting set, cutting range from 2 to 25 mm in steel, provisions for connecting to argon, nitrogen or hydrogen gas bottles complete with welding and manual cutting torches, pressure regulators and one	2											

	year's supply of welding rods and gas bottles.												
17	Mobile work benches 1500 x 700 mm surface area, suitable for containing one set of mobile work bench tools each.	2											
18	Steel tool cupboards 500 x 500 x 1000 mm high, including 125 mm leg height, with upper steel drawer and two removable trays, door latch for padlock, including lock.	4											
19	Steel tool cupboards with double doors, 1000 x 500 x 1000 mm high including 125 mm leg height, with centre partition, each side separately lockable with two steel drawers and two removable trays, door latches for padlocks, including padlocks.	6											
20	Work benches with 1500 x 700 x 50 mm plywood top, backboard, angle iron supporting frame, one steel plate drawer, with safety lock and two keys, one shelf underneath of extra strong construction, with six (6) all-steel parallel vices, 150 mm jaw width with bolts for through attachment to the benches.	10											
21	Vertical drilling machine	2											

22	Hacksaw machine	2											
23	Bench Grinder	2											
24	Miscellaneous items and hand tools with safety equipment	Lot											
25	Toolboxes	10											
26	Portable Noise level tester	4											
27	Portable vibration tester	4											
28	Magnetic base dial gauge	4											
29	Portable temperature meter	4											
30	Filler gauge	4											
31	Precision spirit level	4											
32	415V, 3 phase, 50hz, 40kVA portable DG set (trolley mounted) including all necessary metering & protection unit, battery, manual control panel, plug & socket, etc., with cable and accessories. Acoustic enclosure which complies with all environmental regulations shall be included as a part of the supply.	2											
33	Toolbox with all necessary tools fixed spanner, ring spanners, screwdrivers, adjustable jaw spanners, etc.	5											
34	Hand trolley (500kg capacity)	4											
35	Tripod with chain pulley blocks of 1 Ton capacity (6.0m legs)	4											

36	Welding set, 400 amp, three-phase regulator type, air-cooled, wheel mounted with 15 m welding cable, 2 m. welding cable for earthing, one welding holder, one welding screen with glass and 3 cable lugs, one pair hand gloves and one wire brush	2											
37	Portable hand drill (heavy duty) of capacity 13 mm to 23 mm with ½" drill chuck but with drill bits and drill stand	4											
38	Tong tester, 1000 Amp	4											
39	Hand crimping tool with dies suitable for cable joining up to 95 sq. mm.	2											
40	Hydraulic crimping tool, suitable for cable joining from 25 to 400 sq. mm.	4											
41	Hydraulic jack, 5 Ton capacity	4											
42	De-watering pump sets of 5 kW with 50 meters hose pipe	4											
43	Motorized and handle operated insulation resistor tester, 5 kV (multi-range setting), with battery pack	4											
44	Handle-operated insulation resistor tester - 1000 Volts	4											
45	Megger, 1000 volt	2											
46	Megger, 5000 volts (motorized)	2											
47	Insulating oil tester and filter	2											

48	Hand grinder (Angle 7")	2											
49	Clamp-on Digital Meter (0 - 1000 Amperes)	2											
50	Multi-meter (Digital)	2											
51	Micro-Ohm meter	2											
52	Portable vacuum cleaner/blower (industrial type)	4											
53	Aluminium folding ladder - 8 meters	4											
54	4 terminal Earth Tester (digital)	4											
55	Rubber gloves (110 kV rating)	12											
	Total Schedule 13 (to be carried to Schedule 6 – Miscellaneous)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

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Schedule 14: Chemical Consumption Cost during O&M Period

Item No.	Description of Chemical Consumption (Yearly) during O&M Period	Unit (as supplied)	Guaranteed Quantity	Base Cost* (INR)	GST (INR)	Total Cost (INR)/ Annum G= (D x E) +F
A	B	C	D	E	F	G
(a)	Hypochlorite for Shock Chlorination	Tons / year				
(b)	Hypochlorite for Pre Chlorination	Tons / year				
(c)	Sulfuric acid for Pre-Chlorination	Tons / year				
(d)	FeC13 solution dosing (40%)	Tons / year				
(e)	Anionic Polymer dosing for flocculation (Food grade)	Tons / year				
(f)	Cationic Polymer for Thickener	Tons / year				
(g)	Cationic Polymer for BFP (Non Food grade)	Tons / year				
(h)	Antiscalant	Tons / year				
(i)	Sodium Bisulphite	Tons / year				
(j)	Any other chemical for biofouling control	Tons / year				
(k)	CO_2 for remineralization	Tons / year				
(l)	CaCO3 for remineralization	Tons / year				
(m)	Hypochlorite for Post Chlorination	Tons / year				
(n)	NaOH for pH adjustment pre/post RO system	Tons / year				
(o)	Citric Acid for CIP	Tons / year				
(P)	HCl for CIP & Neutralization	Tons / year				
(q)	NaOH for CIP & Neutralization	Tons / year				
(t)	Any other Chemicals	Tons / year				
	Total Schedule 14 (to be carried to Schedule 9)					

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.
Note : Chemical quantity shall not be more than the Functional Guarantee.

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Schedule 15: Manpower Cost during O&M Period

Item No.	Designation of Manpower during O&M Period	No. of Staff#	Basic Salary/ year (INR)	Other Benefits/year (INR)	Income Tax / year (INR)	Gross Salary (INR)*/Annum
A	B	C	D	E	F	G = D + E
1.	Plant Manager					
2.	Sr. Operation Manager					
3.	Operation Manager/ Shift-in-charge					
4.	Maintenance Incharge					
5.	Maintenance Personnel					
6.	SCADA Operator					
7.	Field Operator					
8.	Admin Staff					
9.	Chemist					
10.	Lab Assistant					
11.	Helpers					
12.	Safety Officer					
13.	Security Guards					
14.	Drivers					
15.	Gardener/Cafeteria cleaning					
16.	Any other staff					
17.						
18.	**Total Schedule 15 (to be carried to Schedule 9)**					

Note: ** Total Price includes all taxes, benefits etc. to the staff.*
 # please refer minimum requirements for staffs and qualifications at Part-2 Clause 13.4.2 Operation and Maintenance

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Schedule 16: List of Asset Replacement and Spare Parts Over 20 years

Item No.	ITEMS (Asset Replacement and Spare Parts Over 20 years)	Guaranteed Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)				Total Cost Foreign Currency (JPY)			
			Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total Cost (J)=C*(G+H+I)	Base Cost*	Customs Duty	IGST	Total Cost N=C*(K+L+M)
A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.		1											
2.													
3.													
4.													
5.													
6.													
	Total Schedule 16 (to be carried to Schedule 9)												

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Note: Total cost in this Schedule 16 shall be equal to the additional of Asset Replacement Costs of Schedule-9 over 20 years. Bidders may provide separate sheet for every year during O&M period of 20 years.

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Schedule 17: List of Membrane Replacement Over 20 years

Item No.	ITEMS	Guaranteed Qty	Total Cost Local Currency (INR)			Total Cost Foreign Currency (USD)			
			Base Cost*	GST	Total Cost F=C*(D+E)	Base Cost*	Customs Duty	IGST	Total (J)=C* +I
A	B	C	D	E	F	G	H	I	J
1.	RO membrane (type -1)	1							
2.	RO membrane (type -2)								
3.	Micron Cartridge Filters								
4.									
5.									
	Total Schedule 17 (to be carried to Schedule 9)								

* Base Cost includes all costs including freight, port storage, insurance and stamps for delivery of items on the project site except GST, IGST and customs duty.

Note: Total Cost in this Schedule 17 shall be equal to the addition of Membrane Replacement Costs of Schedule-9 over 20 years. Bidders may provide separate sheet for every year during O&M period of 20 years.

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Schedule 18: Payment Terms

Payment Schedule shall be regulated as under:

All payment shall be done deducting the Retention Money as per contractual provisions.

Survey & Investigations, Designs, Drawings and Documentation		
Sl. No.	**Description**	**%age Payment**
1	Against submission of Drawing / document	30%
2	Against approved with comment category	20%
3	Against final approval	40%
4	Against completion of "As Built" drawings.	10%

Intake Outfall Pipeline Works		
Sl. No.	**Description**	**%age Payment**
1	Supply of intake and outfall HDPE pipe, Heads and Diffusers at site	20%
2	Complete installation of pipeline, Heads and Diffusers. Payment based on progress achieved in laying of the pipeline on a pro-rata basis	60%
3	Completion of satisfactory Testing & Commissioning	15%
4	On successful Performance Test and issue of Commissioning Certificate.	5%
Civil Works		
Sl. No.	**Description**	**%age Payment**
1	Supply of civil items and Completion of Sub-structure/piling/raft up to plinth level on pro-rata basis.	20%
2	Completion of super structure on pro-rata basis.	40%
3	Completion of allied items such as handrail, painting, epoxy coat etc. on pro-rata basis.	10%
4	Completion of satisfactory Testing & Commissioning	20%
5	On successful Performance Test and issue of Commissioning Certificate.	10%
This mode of payment of Civil Works will be applicable only for concrete works such as Tanks & Buildings but not for Road Works, Boundary Walls Works, Landscape works.		
Mechanical Works, Electrical Works & ICA Works		
Sl. No.	**Description**	**%age Payment**
1	Receipt of material on site	60%
2	Completion of Erection on pro-rata basis	10%
3	Completion of satisfactory Testing & Commissioning	20%
4	On successful Process Proving Test and issue of Commissioning Certificate.	10%

Miscellaneous Works		
Sl. No.	**Description**	**%age Payment**
1	Receipt of material on site	50%
2	Completion of Erection on pro-rata basis.	20%
3	Completion of satisfactory Testing & Commissioning	20%
4	On successful Process Proving Test and issue of Commissioning Certificate.	10%

Process Proving		
Sl. No.	**Description**	**%age Payment**
1	Successful completion of First Month	25%
2	Successful completion of Second Month	25%
3	Successful completion of Third Month	25%
4	On successful Process Proving Test and issue of Commissioning Certificate.	25%