

# Request for Proposal for

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## BOP Package for Overhaul of GMDC's 2X125 MW Akrimota Thermal Power Station (ATPS), Gujarat

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### Answer to Pre-Bid Queries and Corrigendum – IV



**Gujarat Mineral Development Corporation Limited  
Khanij Bhavan, 132-Ring Road, Gujarat University Ground,  
Vastrapur, Ahmedabad- 380052**

**Pre-Bid Meeting Date: 18<sup>th</sup> October 2023**

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## Responses to pre-bid queries

Sr. No.	Clause No.	Description	Pre-bid query/ Clarification	Response / Addendum / Corrigendum (If any)
1	1.1.1.1	Duration of Contract and Payment Milestones	<p>Please elaborate the role of PMC in the BOP Package.</p> <p>Duration of contract mentioned is T+45 weeks. Entity proposes duration of contract as T+70 (T+64+6 weeks for LD) considering the quantum of work, critical activity, dismantling of damaged equipment/components etc.</p> <p>Entity proposes hold up of 10% amount towards supply of material instead of 25% (10%+10+5%) after supply of material, otherwise there will be a negative cash flow and project execution will become unviable.</p>	<p>PMC shall play a supervisory role across all the packages for turnaround of GMDC's ATPS asset.</p> <p>Revised Payment Milestones (clause 10.2) for supply of material and overhaul execution is defined in Annexure 1 of this corrigendum. The revised Duration of the Contract (clause 2.2) is defined in Annexure 2 of this corrigendum</p>
2	1.1.1.1	Testing	Entity expresses that any kind of PG test of equipment/components will not be part of our scope as design and engineering is carried out by other agency/agencies/OEM's.	As per RFP
3	1.1.1.3 and 1.1.1.14	Statutory approvals permit	Please note for running plant, statutory approvals from any Govt. authorities/instrumentalities/agencies may not be required. However, if any such requirement arise post award of contract, then the same shall be duly arranged by the owner.	As per RFP
4	1.1.1.14	Permits	Entity wishes to inform that any kind of design and engineering, civil construction and PG tests shall not be in their scope.	As per RFP
5	1.1.2.3		Entity requests the owner to provide the following input details for preparation competitive proposal: 1. Drawings of all the equipment, components, parts, items as required. 2. Contact details of existing OEM/supplier/vendor.	Available drawings and supplier details are attached as part of Annexure 3 of this corrigendum.
6	1.1.2.3	Lignite handling system Dust suppression system	Entity requests the owner to provide the fugitive dust generation points and clearly demarcate in the layout/drawings for both Dust Suppression system and Dry Fog System.	Available drawings and details are attached as part of Annexure 3 of this corrigendum.

Sr. No.	Clause No.	Description	Pre-bid query/ Clarification	Response / Addendum / Corrigendum (If any)
		Dry fog system	Also provide the existing locations of pump house and compressor house for both the systems.	
7	1.1.2.3	Lime handling system Dust extraction system	<p>Entity wishes to inform that Dust extraction system is presently is not installed in lime handling system. Entity requests the owner to provide the fugitive dust generation points and clearly demarcate in the layout/drawings for Dust extraction system.</p> <p>Please provide the means of provision of instrument air as required for installing new Dust extraction system.</p> <p>Entity informs the owner that for effective working of Dust extraction system the existing skirt boards of all belt conveyors, all hoppers, all interconnecting chutes should be properly rectified and made good for suppressing the fugitive dust.</p>	Dust Extraction System present in 'Mechanical Plan 2: Lime Handling System' in Section 3.1.2.3 of Part 2 of the RFP, and Annexure 2 of the RFP hereby stands cancelled from the responsibilities of the Successful Bidder
8	1.1.2.3	Ash handling system	Entity requests the owner to provide existing ash data (Bed ash and Fly ash) consisting of ash temperature, particle size, ash quantity, bulk density, headroom, etc. for each ash discharge hopper.	<p>Make: Mcnally Bharat Engineering Co. Ltd.</p> <p>Bed ash bulk density: 1.2 T/M3 Fly ash Bulk density :0.75 T/M3 Bed Ash Transporter Size: Buffer hopper Transporter capacity :1100 Ltr IMBASilo Transporter Capacity :2000 Ltr IMBASilo for boiler bed ash make up silo Transporter Capacity :1100 Ltr</p> <p>Fly ash system Transporter Capacity: ESP 1st &amp; 2nd field: 3000 ltr ESP 3rd to 5Th field :600 ltr ESP 6ty to 7th field :200 ltr Stack transporter :200 ltr Below TAPH Transporter :1100 ltr.</p> <p>Fly Ash, ESP :110 TPH Bed ash, Buffer hopper system :12.5 X2 =25TPH</p>

Sr. No.	Clause No.	Description	Pre-bid query/ Clarification	Response / Addendum / Corrigendum (If any)
				Bed ash size: (-) 400 micron
9	1.1.2.3	Turbine auxiliaries	<p>Entity requests the owner to provide the applicable painting specifications for indoor, outdoor, underwater, etc. equipment, components, parts, items in detail for our due consideration.</p> <p>Entity wishes to inform that painting scope shall be limited to structural items as mentioned in Annexure-2, Spares for BOP overhaul.</p>	<p>Painting specifications: External blast cleaning Sa 2.5, two coat at 100 micron, Phenalkamine high performance epoxy, one topcoat 100-micron, acrylic polyurethane, and painting with one coat meral primer and two more coat 200 micron of synthetic enamel paint of required shade OR kenteck high build pro coat (KHBP-308)</p>
10	1.1.2.3	CW system CW treatment facility	Entity requests the owner to provide the necessary design inputs (DBR), selection criteria/basis, technical specifications as required for supplying new anti-scalant cooling tower dosing system.	Available specifications mentioned in Annexure 4 of this corrigendum
11	1.1.2.3	Desalination system MED structure	<p>Entity requests the owner to provide the applicable painting specifications for indoor, outdoor, underwater, etc. equipment, components, parts, items in detail for our due consideration.</p> <p>Entity wishes to inform that painting scope shall be limited to structural items as mentioned in Annexure-2, Spares for BOP overhaul.</p>	<p>Painting specifications: External blast cleaning Sa 2.5, two coat at 100 micron, Phenalkamine high performance epoxy, one topcoat 100-micron, acrylic polyurethane, and painting with one coat meral primer and two more coat 200 micron of synthetic enamel paint of required shade OR kenteck high build pro coat (KHBP-308)</p>
12	1.1.2.3	Seawater treatment plant	Entity requests the owner to provide details of corrocoating available with you. Also, beyond 20% of internal surface area for 1500NB & 2200 NB sea water line, patching and corrocoating shall be at an extra cost.	Kirloskar Coro-coating specification: Kirloskar corrocoat make vinyl ester glass flake filled coating Polyglass VEF/VEHA average @ 1mm DFT. The quantity of patch up, strengthening & Coro-coating is 20% of total area of the pipes. Detail breakdown of the quantity calculation is mentioned in Annexure 5 of this corrigendum.
13	1.1.2.3	RO Plant Nutrient dosing system	Entity requests the owner to provide motor details for Polyelectrolyte dosing station and agitator motor details for nutrient dosing station.	Motor specification: Geared motor 0.5 HP, 4 pole, TEFC, 415 V, 50HZ, 3 phase AC, class B insulation.
14	1.1.2.3	Air conditioning system	Kindly elaborate the revival of AC system in main building.	<p>Brief description of scope of work in revival of AC system in main building:</p> <p>1. Overhauling of chiller compressor, condenser, cooler and Air handling unit fins cleaning,</p>

Sr. No.	Clause No.	Description	Pre-bid query/ Clarification	Response / Addendum / Corrigendum (If any)
				discharge filter replacement and duct checking/strengthening.  2. Supply, installation & commissioning of ESP1/2 and Lime compressor AC.
15	1.1.2.7 and 1.2.1		Entity requests the owner to provide separate amended PO for the extra/additional cost incurred for procurement of additional items to be mentioned in 'Procurement register' which will be identified items over and above the items mentioned in Annexure-2, Spares for BOP overhaul.	As per RFP
16	General		Please note the phrases like "as needed", "but not limited to", "if required", "as necessary", "if necessary", "if likely", "if needed" and any other phrases containing "if" and "but" should be removed from the RFP as they are vague, ambiguous, and open ended. Therefore, entity requests the owner to provide "specific and to the point" activities/works only. Any additional work apart from scope mentioned is not envisaged.	As per RFP
17	General		Entity wishes to inform the owner that there might be necessity of opting for alternate makes for few equipment, components, parts, items as the existing makes would have become obsolete or non-existent as on date.	The Successful Bidder shall identify any obsolete / outdated / non-existent items in the scope of work and recommend potential alternative solutions and / or items to ensure feasibility and timely execution of the Overhaul. The Successful Bidder shall submit detailed justification note for alternative solutions, considering the interchangeability, reliability, safety, and ensuring that are matching the OEM (Original Equipment Manufacturer) / OES (Original Equipment Supplier) specification. The Successful Bidder shall obtain approval of the potential alternative solutions and / or items from the PMC and the Owner before initiation of the Overhaul
18	General		Please provide the GA drawing of GI gratings and handrails as applicable for various packages.	Available drawings attached as part of Annexure 3 of this corrigendum.
19	6.2	Desired Outcome Parameters	The Successful Bidder shall adhere to the desired outcome parameters defined below in order to ensure	The Successful Bidder shall strive to demonstrate the performance of Boilers for both units post

Sr. No.	Clause No.	Description	Pre-bid query/ Clarification	Response / Addendum / Corrigendum (If any)
			successful completion of the Overhaul and obtain an 'Operation Acceptance Certificate' by the PMC.	completion of Overhaul.  In case of any deviation observed between the demonstrated performance and outcome parameters defined below, the Successful Bidder shall provide a justification of the deviation through appropriate means like correction curves, fuel characteristics, or any other relevant material/ data, as required, to the Owner and the PMC
20	Annexure 2 of RFP	Supporting functions Plan 2: Chemical laboratory		Revised Annexure 2 of RFP with updated descriptions/ specifications, for Plan 2: Chemical Laboratory in supporting functions, is mentioned in Annexure 6 of this corrigendum.
21	Part 2 section 3.1.2.6 of RFP and Annexure 2 of RFP	Supporting functions Plan 2: Chemical laboratory		Digital bomb calorimeter present in 'Supporting Function Plan 2: Chemical Laboratory in Section 3.1.2.6 of Part 2 of the RFP, and Annexure 2 of the RFP hereby stands cancelled from the responsibilities of the Successful Bidder.
22	Part 2 Section 3.1.2.3 of RFP Plan 14: RO Plant			The Successful Bidder shall supply and install Secondary RO Plant as per the details attached as part of Annexure 7 of this corrigendum.

## Annexure 1: Payment Milestones

Revised Clause 10.2 of Part 2 of the RfP:

T – date of acceptance of LOA

Category	Activity	% of total contract value	Timelines
<b>Supply of material</b>	Advance payment for procurement of spares, after submission of Performance Security and submission of item-wise price list	10%	T + 2 weeks
	Placement of POs for procurement of spares	25% (pro-rated <sup>1</sup> )	T + 10 weeks
	Delivery of material on site with physical verification, certification, and sign-off by the PMC	55% (pro-rated <sup>1</sup> )	T + 26 weeks; 6 weeks of contingency considered; LD applicable beyond T+32 weeks
	Completion of SATs for equipment across both units and issue of certificate by PMC	5%	T + 28 weeks; 6 weeks of contingency considered; LD applicable beyond T+34 weeks
	Completion of defect liability (warranty period)	5%	18 (eighteen) months from the date of Completion of the Overhaul or 12 (twelve) months from the date of Operational Acceptance of the equipment, whichever first occurs
<b>Overhaul execution</b>	Mobilization fee	10%	T + 2 weeks
	Monthly payments against progressive installation of equipment on site	15% (per month)	Monthly payments in equal installments for 3 months during Overhaul execution
	Completion of the Overhaul	15%	T + 40 weeks; 6 weeks of

<sup>1</sup> Bidders to provide detailed item wise price for the required spares detailed in Annexure 2 of this document within 14 days from date of acceptance of LoA. The payment on delivery of material on site shall be prorated as per the items delivered against the required spares, upon certification by the PMC.

Category	Activity	% of total contract value	Timelines
	activities for Balance of Plant Systems and issue of Completion Certificate by the PMC		contingency considered; LD applicable beyond T+46 weeks
	Completion of Guarantee Tests for both units and issue of Certificate by the PMC	15%	T + 44 weeks; 6 weeks of contingency considered; LD applicable beyond T+50 weeks
	Submission of final 'Overhaul Completion Report' approved by Authority	10%	T + 46 weeks; 6 weeks of contingency considered; LD applicable beyond T+52 weeks
	Completion of defect liability (warranty period)	5%	18 (eighteen) months from the date of Completion of the Overhaul or 12 (twelve) months from the date of Operational Acceptance of the equipment, whichever first occurs

## Annexure 2: Duration of the Contract

The Contract shall be deemed to have come into force and effect 7 (seven) days from the date of acceptance of the Letter of Award (LOA) by the Owner to the Successful Bidder and the Successful Bidder shall execute the scope of work for provision of services and supply of material as covered in Section 3 within a period of 46 weeks from the date of acceptance of LoA. In the said duration, the Successful Bidder shall complete the following key activities in the Package as per the stipulated timelines, where T shall mean the date of acceptance of the LOA:

S. No	Activity	Duration
1	Mobilization	T + 2 weeks
2	Completion of procurement of supplies for both units	T + 26 weeks
2	Completion of SATs for equipment across both the units	T + 28 weeks
3	Completion of Overhaul activities for Balance of Plant Systems	T + 40 weeks
4	Completion of Performance Guarantee Testing for both units	T + 44 weeks
5	Submission of final 'Overhaul Completion Report'	T + 46 weeks

The Contract shall be deemed to be successfully executed post completion of the aforementioned activities, as certified by competent authority from the PMC and Owner. The Successful Bidder shall strive to complete the execution within the stipulated period of 46 weeks, however, in case of a delay, the Successful Bidder shall ensure completion of its contractual obligations as early as possible, while the Owner reserves the right to levy penalties/liquidated damages as described in Section 8.1 of Part 2 of the RFP.

## **Annexure 3: General Arrangement Drawings and Technical Data Sheets**

Bidders can refer to the drawings uploaded in the below link to access the documents, drawings, and technical data sheets for BOP package.

Link:

[https://gmdcltd-my.sharepoint.com/:f/g/personal/jndave\\_gmdcltd\\_onmicrosoft\\_com/EgQjzaKkGIdAqdEaW8AYI-EBdwzi2AqkcA\\_h2Mf6Dc8-eQ?e=GGrj6j](https://gmdcltd-my.sharepoint.com/:f/g/personal/jndave_gmdcltd_onmicrosoft_com/EgQjzaKkGIdAqdEaW8AYI-EBdwzi2AqkcA_h2Mf6Dc8-eQ?e=GGrj6j)

## Annexure 4: Sea Water Treatment Anti-Scalent chemical specifications

Sea water treatment Anti scalent Chemical Specifications		
1	<b>3DT 120</b>	
A)	<b>Polymeric Dispersant: PHYSICAL AND CHEMICAL PROPERTIES</b>	
1	Appearance	Clear Yellow
2	Odor	None
3	Form	Liquid
5	Specific Gravity @ 68°F (20°C)	1.58 - 1.68
6	pH (neat )	2.70-3.30
7	Viscosity @ 68°F (20°C)	39.93-42.69 csp
8	Solubility in Water	Complete
9	THSP-2	Active 28%
11	Active Function	<p>Polymeric Dispersant. Also support to Next Gen 3D TRASAR real-time monitoring system.</p> <p>Product must be compatible with on-line real time monitoring system to measure and display the product residual online in the system at any given point in time and feed automatically to maintain the desire levels.</p>
12	Residue measuring criteria	<p>Chemical consumption loss based on hydraulic losses from the system and real time basis MS corrosion in the system and to automate the dosing to compensate the depletion of residue.</p> <p>Recommended product should be measured under LED UV Spectrum 500 - 600 nm.</p>
13	Sample submission	The submitted product sample should be measured for TRASAR 3DT 120/Equivalent value 40 +/- 5 ppm mg/lit, when excited by LED UV spectrum 300-400 nm
14	Product Control	Based on the Tagged value in the Next Gen 3D TRASAR system.
2	<b>YIN000215/N1393T</b>	

B)	<b>Scale Inhibitor: PHYSICAL AND CHEMICAL PROPERTIES</b>	
1	Appearance	Clear Colorless to yellow aqueous Liquid
2	Odor	None
3	Form	Liquid
4	Density@ 77oF (25oC)	1.32 - 1.37 kg/L
5	Specific Gravity @ 77°F (25°C)	1.32 - 1.37
6	pH (1% Aq Solution)	<2 of 1%
7	Viscosity @ 73°F (23°C)	46.0/20.2/10.3/5.0 mPa.s
8	Solubility in Water	Complete
9	Phosphonate	Active 54% as organic PO4
10	Active Function	Calcium carbonate and Calcium sulfate Scale inhibitor. Also support to Next Gen 3D TRASAR real-time monitoring system.
3	<b>Nalco 7308</b>	
C)	<b>Bio dispersant: PHYSICAL AND CHEMICAL PROPERTIES</b>	
1	Appearance	Clear
2	Odor	Sweet
3	Form	Liquid
4	Density	1.22 kg/l
5	Specific Gravity @ 60°F (15°C)	1.22
6	pH (neat)	6.0
7	Viscosity @ 60°F (15°C)	700 cp
8	Solubility in Water	Complete
9	Non-Ionic surfactant	Active 90%
10	Active Function	Non-ionic surfactant, Oil/Grease/Microbiological dispersant. Also support to Next Gen 3D TRASAR real-time monitoring system.

## Annexure 5: 1500/2200 NB CW piping strengthening details

1500/2200 NB CW piping strengthening						
SR No	Piping	Inlet pipe in meters	Outlet pipe in meters	Total Qty in running meters	Total Area SQ Meters	Required patch up approx. 20%
1	2200NB	1304	1304	2608	18016.064	3603.2128
2	1500NB	10	10	20	94.2	18.84
3				2628	18110.264	3622.0528
Scope of work for one unit						
SR No	Work item description					
1	800NB Manhole opening (03 nos location X 02 nos manhole)					
2	Dewatering of header with required dewatering pump					
3	Internal inspection					
4	Inside piping patch up by welding strengthening					
5	Inside piping Coro coating					
6	Mobilization & Demobilization charges					

## Annexure 6: Revised Annexure 2 of RFP – Spares for BOP Overhaul (Supporting functions Plan 2: Chemical Laboratory)

Item / Component	Make	SPECIFICATION	UOM	Qty
<b>Double Beam Spectrophotometer</b>	HACH	Double Beam Spectrophotometer <u>Model:</u> DR 6000 UV Spectrophotometer including Sipper set, DRB Reactor, Chemicals & Reagent.	Nos	1
<b>KF colorimeter titration</b>	METTLER - TOLEDO	KF colorimeter titration <u>Model:</u> C10S Compact KF Coulometer <u>Specification:</u> Titrator Dimensions: Width X Depth X Height/ Weight (201X 340x 312mm/ 3.3 kg) <u>Measurement Range:</u> 10 ug to 200mg <u>Resolution:</u> 0.1 ug	Nos	1
<b>PAMAS Particle Count Analyzer</b>	PAMAS, 3E Saleserv (OES)	PMAS Particle Count Analyzer <u>Make:</u> PAMAS S40 Portable Particle counter with integrated sampling pump for contamination analysis of Oil (Up to 350cst). <u>Pressure range:</u> 0 to 420 bar including PAMAS HCB -LD- 50/50 Light extinction sensor.	Nos	1
<b>Furnace</b>	Amabassador, B.P. Industries	<u>Furnace Temperature Range:</u> Up to 1000 Degrees, Outer Body made of Stainless Steel, Including Digital Timer of 99.59 hours	Nos	1
<b>Both Unit Cooling Tower NextGen 3D TRASAR automation equipment</b>	NALCO	Both Unit Cooling Tower NextGen 3D TRASAR automation equipment <u>Make:</u> NALCO Water India Limited <u>Model:</u> 3D TRASAR Automation for Cooling water online analyzer.	Nos	1

## Annexure 7: Technical specifications of the Secondary RO Plant

Secondary RO plant Capacity – 30m<sup>3</sup>/ hr

Reverse Osmosis System – 1

Table 1: Feed Water Characteristics

Sr no	Description	Value
1	Total feed water	33.3 m <sup>3</sup> /hr.
2	Total Product water	30 m <sup>3</sup> /hr.
3	Total Reject water	3.3 m <sup>3</sup> /hr.
4	No of streams	2 nos.
5	Feed water TDS	700 ppm
6	Total recovery	90 %.
7	Product TDS	<20 ppm.
8	Reject TDS	7000 ppm.

Table 2: RO Feed Pump characteristics

Description	
Quantity	2 no (1 W + 1 Stand by)
Flow	35 m <sup>3</sup> /hr
Head	30mt
Motor	7.5kw
MOC	CI Body & Bronze impeller
Type	Monoblock
Make	Grundfoss

Table 3: Dosing System (Chlorination, SMBS, Anti Scalant)

Description	
Quantity	4 no.(3 W + 1 stand by)
Type	Diaphragm
Capacity	0 -6 lph.
Pressure	4 bar
End connection	4/6 mm
Max suction pressure	1.5 m
Make	Milton roy UC-11
HDPE storage tank	100 liters-3 nos

Table 4: Micron Cartridge Filter

Description	
Quantity	1 lot.(9 no Each)
Size	2.5" dia
Height	40"
Type	Cartridge filter
Pressure	2.5 kg/cm <sup>2</sup>
MOC	SS316

Table 5: High Pressure Pump

Description	Value
Quantity	2 no (1 W + 1 Stand by)
Flow	35 m <sup>3</sup> /hr
Pressure	16 kg
Motor	30 kw
MOC	CI-S S 304

Type	Vertical multistage
Make	GRUNDFOSS

Table 6: RO Skid

Description	Value
Qty	1 no
MOC	MSEP

Table 7: Pressure gauge

Description	Value
Qty	1 lot (7 nos)
Dial range	0-5 kg/cm2.
Size	2.5" dia & 4 dia
Make	POINTER

Table 8: ROTA meter

Description	Value
Qty	1 no
Range	0-2 kg/cm2.
Make	DENFOSS/equivalent.

Table 9: Low Pressure Switch

Description	Value
Qty	1 no

Range	0-2 kg/cm2.
Make	DENFOSS/equivalent.

Table 10: High Pressure Switch

Description	Value
Qty	1 no
Range	0- 12 kg/cm2.
Make	DENFOSS/equivalent.

Table 11: RO pressure vessel

Description	Value
Qty	5 no
Size	8" X 6 ele-5 no
MOC	FRP
MODEL	80S450
Make	Eco line PENTAIR

Table 12: RO Membrane

Description	Value
Qty	30 PC
Type	SWC5LD-8040
Size	8040
Make	HYDRANAUTICS.

Table 13: Micron Cartridge filter for cleaning

Description	Value
Quantity	1 Lot.
Size	2.5" dia
Height	40"-9 no
Type	Cartridge filter
Pressure	2.5 kg/cm2
MOC	PP

Table14: Cleaning Pump

Description	Value
Qty	1 no
Capacity	50 m3/hr @ 30 mt head
MOC	S S 304
Power	7.5 kw
Make	Grundfoss

Table 15: Cleaning tank

Description	Value
Qty	1 no
Capacity	2000 liters
MOC	LDPE
Make	Sintex/equivalent

Table 16: PIPING

Description	Value
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Interconnected pipes, valves, fittings	1 lot
MOC	U PVC upto High pressure pump& After S S 304 for High pressure line
Make	Astral/equivalent.

Table 17: Online monitoring system

Description	Value
Qty	1 no
Parameters	Phmeter, Conductivity, ORP meter.
Type	Online
Make	Aster/equivalent

Table 18: Electrical works

Description	Value
Quantity	1 no
Type	Non compartments.
Components make	Schneider/equivalent
PLC & HMI	DELTA/MITSUBISHI.
Electric panel to be supplied for the above-mentioned equipment.	

### Electrical Cabling

Distribution of cabling from panel to all equipment to be done by successful bidder.

Table 19: Interconnecting pipes

Description	Value
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Interconnected pipes, valves, fittings	1 lot
MOC	U PVC/MS
Make	Astral/equivalent.

Table 20: Raw Water Transfer piping

Description	Value
TRANSFER PUMP	1 lot
MOC	CI/SS
Make	GRUNDFOSS

Table 21: Tank

Description	Value
TANK	1 lot
MOC	HDPE
Make	SITAX / ORBIT

Table 22: Water shed

Description	Value
RO PLANT SHED	1 lot
MOC	MS ENGLE
Make	ORBIT