



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT

PROJECT : 2x660 MW SEZ ENNORE STPP
PACKAGE : Effluent Treatment Plant
TENDER ENQUIRY NO.: PE/PG/EN1/E-5594/2017 dtd. 21.04.2017

DATE: - 15.05.2017

Corrigendum-01

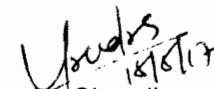
In reference to the above mentioned tender enquiry for Effluent Treatment Plant package, there are following changes in tender enquiry:

1. There are changes in technical specification. The amendment to the technical specification is enclosed herewith.
2. Reply of pre-bid queries is enclosed herewith.
3. Due date of tender submission is extended from 15.05.2017 (10:00 AM) to 23.05.2017 (10:00 AM).
4. Vendors who have submitted the offers are requested to submit the revised offer (if desire so).

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Bidders are requested to ensure submission of offer on or before due date.

Regards


Upendra Chaudhary
Dy. Mgr/ PG-BOP



**AMENDMENT TO TECHNICAL SPECIFICATION FOR EFFLUENT
TREATMENT PLANT 2 X 660 MW ENnore SEZ STPP**

SPE **NN** . PE-TS-412-164-A001

AMENDMENT NO # 1

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The following modifications with respect to **TECHNICAL SPECIFICATION FOR EFFLUENT TREATMENT PLANT** BHEL's Technical specification no **PE-TS-412-164-A001** shall apply. Bidder to note that existing clauses/ details as appearing in the specification stands deleted/ replaced and clauses/ details as mentioned in "Modified to or Read as" column shall be applicable and complied by the bidder as listed below in **SCHEDULE A**.

In addition, new clauses and scope are also added as listed below in **SCHEDULE B** and shall be a part of tender specification (**PE-TS-412-164-A001**). Bidder to comply the same.

SCHEDULE- A

E L SES/ P E N BERS

S. No.	Section	Sub-Section/ description	Clause no	Page no	Existing clause/ details	Modified to or Read as
1.	I	Sub-Section: IA	2 m)	27 of 403	The pond will have at least 24 hour's detention period calculated based on average hourly flow of total effluents. The total effective capacity will be 8000 cum.	The guard pond's effective capacity shall be 5000 m ³ .
2.	I	Sub-Section: IA/ P&ID for Effluent Treatment Plant (PE-DG-412-164-A001)	----	140 of 403	Guard pond capacity: 28000 m ³ .	The guard pond's effective capacity shall be 5000 m ³ .
		Sub-Section: IA/ Data Sheet-A	----	141 of 403		
3.	I	Sub-Section: IA/ DATASHEET-A FOR EFFLUENT TREATMENT PLANT.	----	141 of 403	Capacity of each Guard Pond Pump: 1000 m ³ / hr.	Guard pond effluent transfer pumps capacity shall be 1200 m ³ / hr.
4.	I	Sub-Section: IA/ P&ID for Effluent Treatment Plant (PE-DG-412-164-A001)	---	140 of 403	P&ID for Effluent Treatment Plant	The pipe size for horticulture is revised to 65 NB. Bidder to refer additional requirement of Horticulture Water Transfer Pumps indicated at S. No. 1 / Schedule-B below.



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SCHEDULE-B

NE L SES/ S PE E

S. No.	Section No.	Sub-section	Clause / Clause no.	Page no.	Description
1.		Sub-Section IA/ Scope of supply	Cl. No. 2.67	15 of 403	Two (2 x 100%) nos. of Horticulture Water Transfer Pumps (Vertical centrifugal type) of 20 m3/hr. each along with complete with all instrumentation, valves, piping, fittings, motor etc. Valves, instruments to be provided by the bidder as indicated/ provided for other vertical pumps in P&ID. - MOC: Casing, Column Pipe, Impeller, Shaft, Line Shaft Coupling, Line Shaft Bearing, Wearing Ring, Shaft Sleeve, All hardware under Water: Duplex SS 2205 UNS 31803; Thrust Pad: Carbon steel with white metal lining; Discharge Pipe & flanges: Fabricated steel as per IS: 2062 with epoxy painting outside and glass coating or cement mortar coating inside; Gland Packing: Impregnated Teflon; Stuffing Box Housing: SS 316 or 13.5 to 17.5 % Ni Ci. - Head: as per system requirement. Bidder to select head of the pump considering 300 meter piping length and 8 meter static head. However, TP shall be as per technical specification only.
2.	I	Sub-Section– I-A	Cl. No. A GUARANTEE S UNDER CATEGORY I	86 & 87 of 403	In addition to the listed working drives to be considered for effluent treatment plant for guaranteed auxiliary power consumption, following drive shall also be included by the bidder for guaranteed auxiliary power consumption: Horticulture water transfer pumps Further, bidder to note that Guaranteed Aux. Power consumption value shall remain unchanged.
3.	I	Sub-Section– I-A	Cl. No. 11.1/ INFLUENT QUALITY	18 of 403	Following is added in this clause: FREE OIL & FLOATING OIL AT TPI INLET: 500 ppm.

Queries Responses to Tender Document for 2 x 660 MW ENNORE SEZ SUPERCRITICAL THERMAL POWER PROJECT EFFLUENT TREATMENT PLANT

Page No.	Section (Name & No.)	Sub-Section	Statement as per tender document	Query by bidder	BHEL Response	Resolution / Query	BHEL Response
119 of 405	NIT 2	ANNEXURE VIII	SEA WATER ANALYSIS	Please furnish oily waste and Pre settling pit analysis with free and emulsified oil break up and TSS	Required details have already been indicated in the technical specification. Bidder to follow the same.	As per NIT 2 page no Ref . 8 of 405, 1.10.1 Source NCTPS Phase II 1.10.2 but in Page no 119 of 405 Sea water analysis is given where OIL is < 10 ppm. We request you to kindly furnish effluent characteristics to design TPI	Bidder to refer sea water analysis indicated in technical specification Sub section IA/ Annexure VIII page no. 117 of 403. Bidder to refer technical amendment 1 for oil content at TPI inlet.
144 of 405	NIT 2		Tube settler - 125 m3/hr	We propose DAF system instead of tube settler	Bidder to comply technical specification requirement.	Dissolved air flotation (DAF) is a proven and effective physical/chemical technology for treating a variety of industrial and municipal process and wastewater streams. DAF systems are commonly used for the removal of oils & greases along with suspended solids. Again, as per tender, we shall consider tube settler only.	Bidder to comply technical specification requirement.
51 of 405	NIT 2	ANNEXURE II	SUB VENDOR LIST	Please mention approved vendor for TPI	The sub-vendors list shall be finalized during detailed engineering in line	Point closed.	----

					with the Technical specification requirements.		
-	NIT 2	PE-V6-411-164A-A002	Layout	please provide auto cad layout indicating different area for waste collection points to power house oily sump, guard pond / CMB basin area	The plot plan indicating location of various sumps & ETP area has already been enclosed with the technical specification. Bidder to refer the same.	We have not received any Autocad drawing. Kindly mention the clause / page no reference.	AutoCAD copy cannot be provided however pdf copy is included in technical specification.
209 of 405	NIT 2	13.19.1	The valves shall be suitable for installation in any position (horizontal/vertical etc.) and shall be generally of double-flanged construction. However for sizes 600 NB and below the valves of Wafer construction are also acceptable.	Below 600 NB butterfly manual valves shall be wafer type, Not double flanged. Below 40 NB valves shall be ball type.	Bidder to comply technical specification requirement.	OK as per specs, it shall be wafer type only.	Bidder to comply technical specification requirement.
20 of 405	NIT 2	11.2	TSS AT LAMELLA CLARIFIER / TUBE SETTLER OUTLET: 10 ppm MAX.	Without filtration system TSS and Oil cannot be achieved < 10 ppm. We propose including Filtration system else	Bidder to comply technical specification requirement.	We shall guarantee < 35 ppm at settler outlet as schematic proposed in tender.	Bidder to comply technical specification requirement.

				TSS outlet of clarifier shall be < 35 ppm			
30 & 237 of 405	NIT 2		Vertical type pumps with 1500rpm.	As capacity of pumps are less, shall be with 2900 RPM not with 1500 RPM,also For dosing pumps and agitator IE 1 motor shall be used.	Bidder to comply technical specification requirement.	Wherever available we shall provide according to tender specs.	Bidder to comply technical specification requirement.
237 of 405	NIT 2		The pumps shall be of stiff shaft design. The minimum internal clearances should be sufficiently more than the max. Static deflection of the shaft. Shaft size selected must take into consideration the critical speed as specified in API-610.	API 610 Pumps are required for refinery services , here Non API 610 pumps shall be considered	Bidder to comply technical specification requirement	OK . Shall be considered as per tender.	Bidder to comply technical specification requirement.