



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-24-Jun-19

CORRIGENDUM- 01

PROJECT	:	3×800 MW PVUNL Patratu TPP Phase-I
PACKAGE	:	PRETREATMENT PLANT
ENQUIRY NO	:	E-6223/2019 Dated. 10.06.2019
SUBJECT	:	PRE- BID CLARIFICATION

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☐

In reference to the above mentioned tender enquiry for **PRETREATMENT PLANT** package

Please note the following:

- 1. Reply to Pre Bid Query (of 3 Pages) attached with this corrigendum shall be treated as part of NIT.**

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

Yours faithfully,

For and on behalf of BHEL

Sharad Chandra
Dy. Manager

S. No.	VOLUME/SECTION/CLAUSE No./PAGE NO	SPECIFICATION REQUIREMENT	CLARIFICATION	BHEL REPLY
1	General (PI Diagram)	-	Kindly confirm thickener supernatant recirculation to sludge pit . Recirculation of supernatant to Sludge pit would reduce sludge consistency. Reduction in consistency would reduce thickener performance.	The thickener supernatant shall be suitably led to clarifiers inlet.
2	General (PI Diagram)	-	Kindly confirm the Gravity filters (DM) Inlet flowrate whether it is 100 m3/hr+2%. Since Outlet of DM clarifier required is 360 m3/hr , and there is no provision for Water storage .DM clarifier outlet passing through channel would be the inlet for Gravity filter that is more than the required inlet. Kindly confirm.	Specification requirement is clear in this regard. Please refer Cl. No. 10.02.00. Page No. 1347 of 1565.
3	General (PE-TS-434-158A-A001;Pg.303/1565 ;CI23.4)	-	Kindly confirm filter backwash pit evacuation time. As 1 hour is considered for evacuation of complete pit , we might require to increase the size of stilling chamber & Clarifier at the inlet due to Shock load at the inlet for one hour.	Specification requirement is clear in this regard
4	General	-	Kindly specify the scope of dosing pumps for Lamella under our scope. If yes please specify the flowrate of lamella clarifier for us to design dosing pump capacity.	Alum Dosing pumps for Tube Settler/Lamella clarifier are excluded from Bidder's Scope.
5	General	-	Kindly specify the sludge flowrate of lamella clarifier for us to size Sludge pit.	The sludge flow rate of Lamella clarifier to sludge Pit shall be considered as approx 15 cum/hr (minimum).
6	General(PE-TS-434-158A-A001;Pg.302/1565 ;CI 22.5)	-	Kindly confirm coagulant aid and PAC dosing for Thickener. Since Coagulant aid is only considered for Centrifuge as per P&I diagram & PAC is considered for Clarifier which is contradictory with technical specification given in tender document.	PAC UNLOADING & DOSING SYSTEM shall be supplied to take care the requirement of all clarifiers.i.e. PT-CW & PT-DM Clarifier.
7	General	-	Kindly confirm the area for accommodating the sludge pit in layout. As Thickener supernatant is recirculated ,volume of sludge pit would increase.	The thickener supernatant shall be suitably led to clarifiers inlet.The layout requirement shall be finalised during detail engg.
8	General	-	Kindly confirm the scope of Filtered water overhead tank.	Please refer Cl. No. 50. Page No. 26 of 1565, as per which it is part of BHEL scope.
9	General	-	Kindly confirm the lime dosing pumps quantity.As per PI diagram 3 nos of lime tanks is given.	Specification requirement is clear in this regard
10	General	-	Kindly confirm the chemicals dosage load for sludge calculation.Dosage for dosing tanks sizing has been given. (Alum :70 ppm ,Lime :30 ppm , Poly:2 ppm) .Please confirm whether we should consider the same dosage for sludge calculation.	Bidder's understanding is correct.
11	-	-	Is walkway indicated in NTPC Drg. No. PE-DG-405-158A-A00A Rev 0 all round the PT plant is part of PT Plant civil works. Please clarify.	Yes it is part of bidder's scope, as per tender specification cl.no.1.0/Section-C4/Page No. 515 of 1565.
12	-	-	Under Cl. 5.05.01.22, the width of walkway indicated is 2 M, whereas in NTPC Drg. it is indicated as 3 M. Please clarify which width walkway is to be provided.	The width of walkway shall be 3 M.

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13	-	-	Specification vide Cl. No. 5.05.01.23 requires coating on RCC water retaining structures which is not required when structures are designed as per relevant IS:3370. In earlier executed Civil works by BHEL such as Kothagudem / Bhadradi etc, no such coating to RCC surfaces have been applied. Please clarify whether coating on RCC water retaining structures (Internally & Externally) is to be considered.	Specification requirement is clear in this regard
14	-	-	Please advise whether Clarified Water Distribution Chamber is of single compartment or double Compartment.	Clarified Water Distribution Chamber shall be single compartment. As indicated in P&ID.
15	-	-	Specification calls for Thickener MOC as M.S. Can the Thickener be offered in RCC MOC as per Standard practices.	Specification requirement is clear in this regard.
16	-	-	It is not clear from specification whether any shed is to be provided over PAC Bulk Storage Tanks. Please advise intent of specification.	No Shed is required.
17	-	-	P&I Drg. indicates provision of filtered water over Head Tank. This tank feed supplies to Chemical tanks as well to Filters. Provision of no such requirement is indicated in PT Plant Data Sheet. We assume that this Over Head Tank is being located over Chemical House and construction shall form part of Chemical House civil work.	Bidder's understanding is correct.
18	-	-	Centrifuge capacity has not been indicated. Please specify.	The capacity of each centrifuge shall be based on system requirement but not less than 5 cum/hr.
19	-	-	In Lay Out Drg. of NTPC Chemical Lab. Building is indicated Please clarify whether construction of Chemical Lab is part of PT Plant scope of work.	The chemical lab is excluded from Bidder's scope.
20	-	-	Vide Cl. 25.4 of Data Sheet Doc Page 304. Lime delivery pipe MOC indicated is CPVC. As per Standard Engineering practices, for lime solution conveyance M.S. pipes and specials are used. Lime Solution has cementation properties and have tendency to form Scale inside pipe. In Practice these pipes have to be lightly hammered once in a while as part of maintenance schedule to dislodge Scale formed. We request you to allow use of MS-Hvy class pipes for Lime solution.	Specification requirement is clear in this regard.
21	-	-	Completion period indicated is 16 months from the date of LOA for all activities including civil works. Please review and allow 24 months completion time for pre-commissioning of Plant.	Shall be as per NIT
	C&I			
1	Technical specification Part-3, Page No 356 of 1565		20) Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of the system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder. Above point mention Triple & Double Redundancy of sensors, same its not shown in P&ID, Please clarify its required or Not	Specification requirement is clear, bidder to follow specification. Bidder to note that the quantity shown in P&ID is the minimum requirement. During detail engineering if any additional instruments are required for the safe & reliable operation of plant, bidder shall supply the same without any price/delivery implication.

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2	Technical specification Part-4, Clause No (3.01.00) Page No 389 of 1565		The power supply to all the analysers/ monitors shall be supplied by Contractor from his UPS system with all necessary switches, fuses, wiring/cabling and other required accessories etc. for distribution to individual requirements. Bidder observation 415/230 & UPS Power supply is in client scope, only PDB is Bidder scope (Part-3, Page No 356 of 1565), please confirm	The specification requirement mention at point no. 15 & 21 in "SPECIFIC TECHNICAL REQUIREMENTS (C&I) WITH SCOPE OF SUPPLY" is to be followed. BHEL will provide the UPS power at single point. Further distribution is in bidder's scope.