



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-13-Sep-19

CORRIGENDUM- 12

PROJECT	:	3×800 MW PVUNL Patratu TPP Phase-I
PACKAGE	:	EFFLUENT TREATMENT PLANT
ENQUIRY NO	:	E-6234/2018 Dated. 18.06.2019
SUBJECT	:	DUE DATE EXTENSION & REPLY TO PRE BID QUERY

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☒

Please note the following:

- 1. Due Date has been extended from 13.09.2019 to 27.09.2019 till 02:00 PM. Bid Opening shall be done at 03:00 PM on the due date.**
- 2. Reply to Pre Bid Query (of 2 Page) 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

	PROJECT	3 X 800 MW PATRATU STPP STAGE-I ETP		BHEL REPLY
	SUB	PREBID QUERIES.		
Sr. NO.	REFERENCE CLAUSE OF TENDER DOCUMENT	EXISTING PROVISION	QUERY	
1	CORRIGENDUM-09 , DATASHEET A , REVERSE OSMOSIS SYSTEM, (Page 30 OF 65)	REVERSE OSMOSIS SYSTEM RECOVERY	Feed water quality for RO is changed and the balnce feed TDS is coming to 17500 ppm. With this water quality maximum possible recovery is 70 %. Request you to review the same.	Technical specification is clear in this regard. kindly follow tender technical specification.
2	CORRIGENDUM-09 ,INFLUENT QUALITY, (Page 51 OF 65)	LAMELLA CLARIFIER/TUBE SETTLER 2 INLET WATER QUALITY	Inlet TSS of 10000 cant be treated in Lamella clarifier. Request you to review the same.	Technical specification is clear in this regard. kindly follow tender technical specification.

	Volume	Section	Clause No	Page No	Specification Requirement	Clarification	Reasons for Clarification	BHEL REPLY
1	Corrigendum -09, Technical Amendment	Sub section-1A	11.1(d)	340 of 1005	Effluent Tss concentration to Tube settler 2 -50 ppm to 10000 ppm	Wide range of TSS concentration	Tube settler 2 is insufficient for treating inlet effluent concentration of 10000 ppm TSS	Technical specification is clear in this regard. kindly follow tender technical specification.
2	Corrigendum -09, Technical Amendment	Sub section-1A	11.1	340 of 1005	(f),(g),(i) mentions about the TDS in the cooling tower blowdown, TDS from DM water regeneration waste , TDS from AC Plant reject waste. What TDS should be considered for the waste water flowing from E25 to E26	TDS of waste water flowing from E25 to E26 is not provided	Required to calculate composite TDS that will further be treated in the RO System.	Kindly refer Water Analysis R1/Techincal Amendment -1. Clarified water is being used for floor wash. TDS of clarified water can be derived by bidder using Raw Water Analysis provided in Water Analysis. Technical specification is clear in this regard. kindly follow tender technical specification.
3	Corrigendum -09, Technical Amendment	ANNEXURE VI WATER ANALYSIS	Note 2	Page 340 of 1005	f) TDS IN CT (COOLING TOWER) BLOWDOWN: AS PER WATER ANALYSIS ATTACHED IN ANNEXURE VI. Note 2) Circulating water analysis shall be derived by bidder considering cycle of Concentration of Cooling water is 5.	as per statement f) in clause 11.1 TDS of cooling tower blowdown is 400 ppm. However as per note 2 TDS of cooling tower blowdown is 5 times of 400 ppm (tds of the raw water) , after necessary adjustment in TDS increase due to dosing chemicals in cooling tower.	Required for composite TDS to be considered for RO System design.	Technical specification is clear in this regard. kindly follow tender technical specification.
4	Corrigendum -09, Technical Amendment	Data sheet A	116		Separate tanks and agitator for PE dosing for centrifuge and Thickener	Both centrifuge and thickener has PE dosing rate of 20 ppm and 5 ppm respectively	There is a requirment of separate dosing system for both including separate agitators ,tanks etc	Technical specification is clear in this regard. kindly follow tender technical specification.
5	Corrigendum -09, Technical Amendment	Data sheet A	114		Thickened sludge transfer pump in Thickened sludge sump (E9)	Sludge will be transfer by screw pump,given pump is vertical centrifugal pump.	As the solid concentration of sludge in thickened sludge sump is 5%,it couldn't be transferred by vertical centrifugal pump	Bidder is to select the type of pumps as per the intended application of thickened sludge sump.
6	Corrigendum -09, Technical Amendment	Data sheet A	115		Centrifuge Capacity	More capacity is required for the given centrifuge	As there is a increase in inlet TSS concentration to tube settler 2,it will result in increase of sludge flow rate to centrifuge and capacity of centrifuge will be more compare to the capacity mentioned in data sheet	Technical specification is clear in this regard. kindly follow tender technical specification.
7	IIB	SECTION I/ SUB SECTION IA/ ANNEXURE IX - INPUT DRAWINGS / P&ID FOR EFFLUENT TREATMENT PLANT	P&ID FOR EFFLUENT TREATMENT PLANT	360 of 1005	P&ID FOR EFFLUENT TREATMENT PLANT R0 has been replaced with P&ID FOR EFFLUENT TREATMENT PLANT R1.	Treated water from E25 is being pumped @ 250m3/hr and further gets divided into 4 streams. Based on the oil in water analyzer and turbidity analyzer the control logic will operate to either recirculate the entire 250 m3 to E24 (WSWS Sump) or if within the limits of Oil and turbidity analyzer will divide into 3 streams to CMB E26 , CHP area,Service water area. In this scenario only 1/3rd of the 250 m3/hr will flow to CMB - E26.	Clarification required to understand the control logic to be provided also exact flow rate of waste water available at E26(Central monitoring basin) for dilution of high TDS effluent from DM Regeneration waste and AC Plant reject and ACW blowdown.	Whole flow from E25 (Treat water Sump) is envisaged to pump to CMB, except in exigency conditions when flow from E25 shall be diverted to CHP area and Service Water area. However, it is to be noted that various inlet to Lamella clarifier is intermittent in nature and may come together or separately, hence the system shall be designed considering this fact.
8	IIB	SECTION – IIA	3.11.00	739 of 1005	5) 5. REVERSE OSMOSIS PLANT FOR WASTE WATER 1) A UF+RO Plant for waste water treatment shall be designed considering an inlet TDS of 5000 ppm minimum.	Can this TDS of 5000 ppm be considered as the maximum TDS to the RO System.	Required to understand the limits of the composite TDS which would be generated in the CMB after mixing of DM regeneration waste water, AC Plant reject , ACW blowdown	Technical specification is clear in this regard. kindly follow tender technical specification.