



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-3-Oct-19

CORRIGENDUM- 05

PROJECT	:	1X660 MW BHUSAWAL TPS UNIT-6
PACKAGE	:	D.M. PLANT
ENQUIRY NO	:	E-6298/2019 Dated. 02.09.2019
SUBJECT	:	DUE DATE EXTENSION & PRE BID CLARIFICATION

Type of Corrigendum			
Technical Corrigendum -	☒	Commercial Corrigendum -	☐

Please note the following:

- 1. Due Date has been extended from 03.10.2019 to 10.10.2019 till 02:00 PM. Bid Opening shall be done at 03:00 PM on the due date.**
- 2. Pre-Bid Clarification (of 6 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

SL. No.	REF OF BIDDING DOCUMENT				Subject / Existing Provision	Deviations /Queries	Remarks	BHEL REPLY
	Document	Page	Section	Clause				
*		20 of 66	Variation of contract value :	6.0	Prices shall remain Firm (or with PVC as specified in NIT) for any increase or decrease in the Order/ Contract value (Ex-works) upto plus or minus 30% (for any amendment) within 2 years from the date of original PO unless specified otherwise in NIT. The Purchaser shall have the right to increase or decrease quantities and scope upto the above extent of value and Seller/ Contractor shall be bound to accept the same at the contracted prices without any escalation.	Prices shall remain Firm (or with PVC as specified in NIT) for any increase or decrease in the Order/ Contract value (Ex-works) upto plus or minus 10% (for any amendment) within 2 years from the date of original PO unless specified otherwise in NIT. The Purchaser shall have the right to increase or decrease quantities and scope upto the above extent of value and Seller/ Contractor shall be bound to accept the same at the contracted prices without any escalation.	PVC shall be applicable beyond 10% of the original contracted value	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06
1	BHEL- General Contract Conditions	24 of 66	Mode of payment	9.11	No interest shall be payable by the Purchaser on the security amount, bank guarantee amount or balance payment or any money which may become due owing to difference or misunderstanding or any dispute between the Purchaser and the Contractor, or any delay on the part of Purchaser in making periodical or final payment or any other aspects incidental thereto.	No interest shall be payable by the Purchaser on the security amount, bank guarantee amount or balance payment or any money which may become due owing to difference or misunderstanding or any dispute between the Purchaser .	Yellow highlighted part to be deleted.	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06
2		25 of 66	Contract Performance Bank Guarantee	11.5	Purchaser reserves the right to encash the bank guarantee in fulfillment of performance of the Order/ Contract.	Purchaser reserves the right to encash the bank guarantee in fulfillment of performance of the Order/ Contract. Provided that, the said encashment shall be initiated after failure of the contractor to justify its defaults on opportunity given to him vide as per the procedure.	Yellow highlighted part to be added.	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06

3		28 of 66	Material Despatch Clearance Certificate (MDCC)	15.3	Seller/ Contractor shall not dispatch any material before issue of MDCC by Purchaser/ Owner.	Seller/ Contractor shall not dispatch any material before issue of MDCC by Purchaser/ Owner. However, the issuance of the MDCC shall not be delayed unnecessarily in order to avoid delay in supply schedule or preventing Seller/Contractor from discharging its contractual obligations.	The yellow highlighted contents to be added in the clause.	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06
4		29 of 66	Delayed Delivery	16.2.1	Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent of the total contract price per week or part thereof, subject to a maximum of ten (10) percent of the total contract price excluding elements of taxes, duties and freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/ Contract.	Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to 0.1 percent of the price of undelivered portion per week or part thereof, subject to a maximum of five ten (5) percent of the total contract price excluding elements of taxes, duties and freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/ Contract.	Changes as per yellow highlighted part.	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06
5		29 of 66		16.2.1 (Note-3)	If Order/ Contract involves two or more Units/ Sets/ Lots, then Liquidated Damages shall be levied on for order/ contract value of the delayed Unit/ Set/ Lot, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot wise, however total LD amount shall be limited to 10% of total order value (excluding taxes, duties and freight).	If Order/ Contract involves two or more Units/ Sets/ Lots, then Liquidated Damages shall be levied on for order/ contract value of the delayed Unit/ Set/ Lot, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot wise, however total LD amount shall be limited to 5% of total order value (excluding taxes, duties and freight).	Maximum LD to be 5% instead of 10%	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06
6		29 of 66		16.2.3	Purchaser reserves the right to cancel the Order/ Contract or a portion thereof for the stores not so delivered at the risk and cost of the	Purchaser reserves the right to cancel the Order/ Contract or a portion thereof for the stores not so delivered at the risk and	The risk purchase/excess cost cannot be more than 10%.	As per GCC Rev-06 & GST related Corrigendum to GCC Rev 06

					Seller/ Contractor and the Seller/ Contractor shall be liable to the Purchaser for any excess cost thereof.	cost of the Seller/ Contractor and the Seller/ Contractor shall be liable to the Purchaser. However the cost for the said supply shall not be exceeded than 10% of the contracted amount.		
7		34 of 66	Default/ Breach Of Contract, Insolvency And Risk Purchase	26.2 (a)	Excess of new purchase cost over old purchase cost, where the total value of new PO is more than total value of old PO.	The actual cost or up to 10% more than the contracted value for the particular material/item, whichever is lesser.	The clause to be modified.	As per GCC Rev-06 , GST related Corrigendum to GCC Rev 06 & NIT
8		34 of 66		26.2 (b)	And b. Additional 30% overheads as departmental charges on the ex-works value of new PO".		Entire contents / clause to be deleted.	As per GCC Rev-06 , GST related Corrigendum to GCC Rev 06 & NIT

Sr. No.	Volume	PDF Page No.	Tender Page No.	Section	Existing Clause	Deviation / Comments / Remarks / Amended Clause	BHEL REPLY.
	Mechanical						
1	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5) VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	13 of 100 & 42 Of 100	11 of 485 & 140 of 485	C	4) Complete valves, fittings, instrumentation and all other accessories required for one (1) no. Overhead Backwash Water Storage Tank (MOC-RCC) for Dual Media Filter Units.	Bidder understands that Overhead Backwash Water Storage Tank (MOC-RCC) will be provided by M/s BHEL	Bidder to follow Tender Technical Specification.
2	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	15 of 100	13 Of 485	C	44) One (1) no. Acid Dosing System (for dosing Acid in UF backwash line to UF System) consisting of 2 Nos. (2 x 100%) Acid Measuring Tank and 2 nos. (2 x 100%) Hypo Dosing Pumps along with motor, piping, valves, fittings, instrumentation and associated accessories.	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
3	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	15 of 100	13 Of 485		C	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
4	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	15 of 100	13 Of 485	C	46) One (1) no. Hypo Dosing System (for dosing Hypo in UF backwash line to UF System) consisting of 2 Nos. (2 x 100%) Hypo Measuring Tank and 2 nos. (2 x 100%) Hypo Dosing Pumps along with motor, piping, valves, fittings, instrumentation and associated accessories.	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
5	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	16 of 100	14 Of 485	C	67) All pipes, fittings etc required for hand railing, platforms, and ladders shall be in the scope of bidder.	Bidder understands that, hand railing, platforms, and ladders shall be in the scope of bidder's supplied equipment only. The RCC Tanks / Equipment provided by M/s BHEL, hand railing, platforms, and ladders will be in the scope of M/s BHEL.	Bidder to follow Tender Technical Specification.
6	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	17 of 100	15 Of 485	C	3) 600 meter DM plant feed piping from Clarified water pump house where (DM Feed pumps are located) to DM plant. For details, please refer plot plan.	Bidder requested to confirm whether piping will be above ground or Below Ground.	Bidder to follow Tender Technical Specification.
7	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	17 of 100	15 Of 485	C	7) 800 meter neutralize effluent disposal piping from Neutralization pit in DM plant area to Central monitoring basin in Effluent treatment plant area.	Bidder requested to confirm whether piping will be above ground or Below Ground.	Bidder to follow Tender Technical Specification.
8	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	17 of 100	15 Of 485	C	8) 800 meter neutralize effluent disposal piping from DMF, ACF and UF Backwashed Water Pit in DM plant area to Central monitoring basin in Effluent treatment plant area.	Bidder requested to confirm whether piping will be above ground or Below Ground.	Bidder to follow Tender Technical Specification.
9	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	23 Of 100	21 of 485	C	14. Preparation of drawings / document / P&ID's in 3D modelling software and providing soft copy of same to BHEL.	Bidder will provide drawings / document / P&ID's in 3D modelling in AutoCad 3d software.	Bidder to follow Tender Technical Specification.
10	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-1 OF 5)	31 Of 100	29 of 485	C	Make Of Resin Mention DOW / Lanxess	Bidder requested to provide the additional Vendor Purolite for the Resin.	Bidder to follow Tender Technical Specification.
11	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	37 Of 100 & 38 Of 100	135 of 485 & 136 Of 485	C	CLARIFIED WATER ANALYSIS (DM PLANT FEED WATER) (TABLE-4) The clarified water analysis shall be derived considering following dosing at PT plant: a) Alum Dosing @ 60 ppm. b) Lime Dosing @ 25 ppm. c) Poly Electrolyte Dosing @ 5 ppm. d) Ozon Dosing @ 2 ppm.	As per Page No. 135 mention that clarified water Analysis i.e DM Plant Feed Water where as Page no. 136 mentions that The The clarified water analysis shall be derived considering following dosing at PT plant.... Bidder understands that the analysis given on Page No. 135 is clarified water Analysis i.e DM Plant Feed Water after all the PT Plant Dosing as mention on Page No. 136 & same need to be considered (i.e As per Page No. 135) while designing the DM Plant.	Bidder to follow Tender Technical Specification.
12	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	40 Of 100	138 Of 495	C	Design Outlet Suspended solids, in ppm Not more than 1.0	Design Outlet Suspended solids, in ppm Not more than 5.0	Bidder to follow Tender Technical Specification.
13	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	52 Of 100	150 of 485	C	Layer Bed Type	Bidder requested to provide the option of Individual Vessels for WAC & SAC instead of Layer Bed	Bidder to follow Tender Technical Specification.
14	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	66 of 100	164 of 485	C	Layer Bed Type	Bidder requested to provide the option of Individual Vessels for WBA & SBA instead of Layer Bed	Bidder to follow Tender Technical Specification.
15	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	81 of 100	179 of 485	C	Acid Storage Tank Adequate to hold the quantity of regenerant required for regeneration of the plant at full load operation for 15 days + 20% margin	Bidder understands that Acid Storage Tank Adequate to hold the quantity of <u>only working stream</u> regenerant required for regeneration of the plant at full load operation for 15 days + 20% margin	Bidder to follow Tender Technical Specification.
16	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-2 OF 5)	91 of 100	189 of 485	C	Cauatic Storage Tank Adequate to hold the quantity of regenerant required for regeneration of the plant at full load operation for 15 days + 20% margin	Bidder understands that Cauatic Storage Tank Adequate to hold the quantity of <u>only working stream</u> regenerant required for regeneration of the plant at full load operation for 15 days + 20% margin	Bidder to follow Tender Technical Specification.
17	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	17 of 100	215 of 485	C	UF CIP Tank	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
18	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	17 of 100	215 of 485	C	UF CIP Pumps	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
19	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	18 of 100	216 of 485	C	UF CEB Dosing Systems	Bidder requested to provide the same as per UF Membrane Manufacturer Recommendation.	Bidder to follow Tender Technical Specification.
	ELECTRICAL & INSTRUMENTATION						
20	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	32 of 100	230 of 485	C	Multi channel silica analyzer	We have considered common silica analyzer at MB outlet instead of individual analyzer of SBA & MB outlet.	Bidder to follow Tender Technical Specification.
21	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	32 of 100	230 of 485	C	Silica analyzer	We don't envisage any requirement of silica analyzer at UF permeate as per process.	Bidder to follow Tender Technical Specification.
22	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	33 of 100	231 of 485	C	LT-Acid & alkali regeneration tank	We have considered redundancy of LT instead of triple redundancy of LS.	Bidder to follow Tender Technical Specification.
23	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	31 of 100	228 of 485	C	Triple redundancy in critical application	We ensure that as per process double redundancy system are sufficient to take process.	Bidder to follow Tender Technical Specification.
24	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	31 of 100	228 of 485	C	Clear water application	We have considered with chemical instruments for clear water application except corrosive/chemical application.	Bidder to follow Tender Technical Specification.
25	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	24 of 100	221 of 485	C	Reagent for silica analyzer	At present we have considered reagent for 3 month during plant commissioning.	Bidder to follow Tender Technical Specification.
26	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	29 of 100	225 of 485	C	Hand held configurator	We have considered 1 No HHC for complete plant.	Bidder to follow Tender Technical Specification.
27	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	46 of 100	241 of 485	C	2 Wire instruments	We have considered 4 wire instruments instead of 2 wire instruments subjected to client approval and as per manufacturer standard case to case basis selection of instruments.	Bidder to follow Tender Technical Specification.
28	VOLUME: II-B PE-TS-415-163-A001 (TECH SPEC FOR DM PLANT)-REV-0 (PART-3 OF 5)	33 of 100	231 of 485	C	Acid to Mixed bed exchanger at ejector line -Density indicator	We have considered density indicator only as per tender P & ID i.e not density transmitter.	Bidder to follow Tender Technical Specification.

Project: DM Plant For 1X660 MW Bhusawal TPS Unit-6
Tender No: PE/PG/BHU/E-6298/2019 dated September 02, 2019

Sr. No.	Section	Clause No.	Page No.	Specification requirement	Clarification	BHEL Reply
1	PE-TS-415-163-A001, Vol-II-B, Sec-C	44,45,46	13 of 485	UF dosing tank	Please confirm the number of dosing tanks for UF CEB as it mentioned one number tank as per Datasheet Spec. no. PE-TS-415-163-A001, Vol-II-B, Sec-C, Page no. 216 of 485 clause no. 10.0	Refer Data sheet-A.
2	PE-TS-415-163-A001, Technical Spec part I of V, List of sub-vendors	3.4	29 of 485	Resin	We are requesting you to add Ion Exchange (India) limited as a sub-vendor for resin. Note That Our Offer is based on INDION resin (IEIL Make)	Follow tender technical specification.
3	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	DM Plant feed pump	Please confirm the pump type (vertical or horizontal) as it is mentioned as vertical type in datasheet (Page No. 143 of 485) but in tender P & ID it shows horizontal. Please confirm	Refer Data sheet-A.

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Sr. No.	Section	Clause No.	Page No.	Specification requirement	Clarification	BHEL Reply
1	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Valves)	Please confirm the valve type of individual vessel (inlet, Outlet, rinse outlet, vent, B/W inlet, B/W Outlet etc.)	Bider to follow tender specification.
2	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Valves)	DGT inlet valve is shown as "FCV". We feel that it is "LCV". Please confirm	Bider to follow tender specification.
3	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Conductivity Comparator)	Conductivity Comparator also shown for anion exchanger and MB exchanger. The conductivity meter will be applicable. Please confirm	Bider to follow tender specification.
4	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (SiO2 analyser)	SiO2 analyser shown in each anion and MB exchanger. We feel that the silica analyzer will be multichannel type and one for anion exchanger and one for cation exchanger.	Bider to follow tender specification.
5	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Na analyser)	Na analyser shown in each Cation exchanger. We feel that the silica analyzer will be multichannel type and common for both cation exchanger	Bider to follow tender specification.
6	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Resin transfer vessel)	In resin transfer vessel resin inlet and outlet valves shown as diaphragm. We feel that it will be ball valve of SS 316 make. Please confirm	Bider to follow tender specification.
7	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Resin transfer vessel)	Resin line shown as CSRL. We feel that it will be SS 304 make.	Bider to follow tender specification.
8	PE-TS-415-163-A001 (Part 3 of 5)	-	229-232	Tender P & ID (Exchanger Units)	No Resin inlet and outlet valve shown in individual vessel. We feel that resin inlet and outlet require for each vessel	Bider to follow tender specification.
9	PE-TS-415-163-A001, Vol-II-B, Sec-C	44,45,46	13 of 485	UF dosing tank	Please confirm the number of dosing tanks for UF CEB as it mentioned one number tank as per Datasheet Spec. no. PE-TS-415-163-A001, Vol-II-B, Sec-C, Page no. 216 of 485 clause no. 10.0	Bider to follow tender specification.