



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-7-Dec-22

CORRIGENDUM- 02

PROJECTs	:	2 x 660 MW NTPC TALCHER TPP, STAGE - III
PACKAGE	:	DM PLANT
ENQUIRY NO	:	PE/PG/HER/E-7113/2022 Dated 22.11.2022
SUBJECT	:	REPLIES TO PRE BID QUERIES AND COMMERCIAL CLARIFIATION

Type of Corrigendum			
Technical Corrigendum -	<input type="checkbox"/>	Commercial Corrigendum -	<input checked="" type="checkbox"/>

Bidders are requested to go through the following -

- SI no 2.1 of Price Schedule i.e. Annexure I to NIT shall be read as-

SI no 2.1 of Annexure I to NIT (Price Schedule)	Shall be read as
Total lump sum firm price for SUPPLY PART comprising of manufacture, fabrication, assembly, inspection & testing at vendor's & sub-vendor's works, painting, maintenance tools & tackles (as applicable), fill of lubricants & consumables(excluding chemicals), along with spares for erection ,start up and commissioning as required, forwarding, proper packing, shipment and delivery at site, preparation of drawings in 3D, e-learning module for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	Total lump sum firm price for SUPPLY PART comprising of manufacture, fabrication, assembly, inspection & testing at vendor's & sub-vendor's works, painting, maintenance tools & tackles (as applicable), fill of lubricants & consumables(including chemicals), along with spares for erection ,start up and commissioning as required, forwarding, proper packing, shipment and delivery at site, preparation of drawings in 3D, e-learning module for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.

- Please find attached annexure for replies of the pre bid queries raised till date.

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

Yours faithfully,

For and on behalf of BHEL

SUMEET SAHAY
Manager/BOP

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SR. NO.	DOCUMENT NO.	PDF PAGE NO.	DOCUNET PAGE NO.	CLAUSE	TENDER SPECIFICATION	CLARIFICATION / DEVIATION	BHEL REPLY DATED-02/12/2022
COMMERCIAL							
1	GCC Revision No. 07	20 of 28		27	Risk and cost of Seller in this clause shall be limited to an incremental value of 10% of the original price of the undelivered portion of the equipment.	The risk and cost needs to be limited to the undelivered portion and should not be imposed on the entire contract value.	NIT terms will prevail
2	GCC Revision No. 07	21 of 28		28.1	Purchaser shall have the right to terminate the contract by giving 30 days notice. In case of cancellation/termination Seller shall be entitled for the payment of work which has already been completed and accepted by the Purchaser.	Payment of Seller for the works already been completed should be protected in case of termination.	NIT terms will prevail
3	New Clause					Neither party shall be responsible for any indirect or consequential damages to the other. Either party's aggregate maximum liability shall be limited to the maximum of 100% of the total contract value.	NIT terms will prevail
MECHANICAL							
1	NIT DM PLANT TALCHER	2 of 28	2 OF 5	33	Construction Power & Construction water shall be as per Clause No 23 of SCC Rev-00.	As per Clause No 23 of SCC Rev-00, bidder requested to provide the construction power & construction water near Water Treatment Plant boundary at a distance of maximum 1 meter.	Please refer Corrigenda 01
2	NIT DM PLANT TALCHER	6 of 28	1 OF 5	1	fill of Chemicals,	As per ANNEXURE 1 TO NIT, Sr No. 2.1, Chemicals are excluded from bidder scope of supply. Bidder request to reconfirm the scope of supply.	First fill all type of chemical including HCl and NaOH are in bidder scope. ANNEXURE 1 TO NIT, Sr No. 2.1 shall be read as "..... fill of lubricants & consumables (including chemicals),.....".
3	NIT DM PLANT TALCHER	6 of 28	1 OF 5	1	Storage at sight	Noted. However bidder requested to provided the space for storage at site maximum 1 meter distance from battery limit of DM Plant.	Please refer cl no 24 of SCC for storage
4	NIT DM PLANT TALCHER	6 of 28	1 OF 5	1	preparation of drawings in 3D,	As per tender page no. 29 of 700, All the layouts shall be made using computerized 3D modelling system (SP3D)., bidder requested to confirm the 3D software to be used.	3D model made in SP3D with oracle database only. Bidder to take confirmation of software version from BHEL during detailed Engg. before proceeding for 3D modeling.
5	NIT DM PLANT TALCHER	6 of 28	1 OF 5	2.5	Total lump sum firm price for operation & maintenance for one (1) year including spares for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	Bidder understands that operation & maintenance spares required during operation & maintenance of plants are additional spare required over & above mandatory spares as per Annexure- I).	Bidder's understanding is correct.
6	NIT DM PLANT TALCHER	7 of 28	2 OF 5	2.e	Strainers for Strong Acid Cation Exchanger or Header lateral No / Set / Min.100 nos or whichever is more	Bidder understands that for No / Set, strainers needs to be provided for One (1) Cation vessel only.	Bidder to follow NIT.
7	NIT DM PLANT TALCHER	7 of 28	2 OF 5	3. b	Weak Base Anion resin	As per sr. no. 2.b & 2 c for cation exchanger resin required is, 1.1 times of One (1) full charge of One (1) cation vessel where as for Weak Base Anion resin it is mention 1.1 times charge of vessel. Bidder understands that the requirement is 1.1 times of One (1) full charge of One (1) Anion vessel. Please confirm.	Bidder's understanding is correct.
8	NIT DM PLANT TALCHER	7 of 28	2 OF 5	3.c	Strong Base Anion resin	As per sr. no. 2.b & 2 c for cation exchanger resin required is, 1.1 times of One (1) full charge of One (1) cation vessel where as for Weak Base Anion resin it is mention 1.1 times charge of vessel. Bidder understands that the requirement is 1.1 times of One (1) full charge of One (1) Anion vessel. Please confirm.	Bidder's understanding is correct.

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9	NIT DM PLANT TALCHER	7 of 28	2 OF 5	3.d	Strainers for Strong Base Anion Exchanger or Header lateral No / Set / Min.100 nos or whichever is more	Bidder understands that for No / Set, strainers needs to be provided for One (1) Anion vessel only.	Bidder to follow NIT.
10	NIT DM PLANT TALCHER	9 of 28	4 OF 5	1	Mandatory spares listed above is bare minimum requirement. In case any additional mandatory spares requirement is covered elsewhere in the tender specification apart from specified above, same shall be deemed to have been covered in bidders scope of supply.	Bidder has considered Spare list which is mentioned on tender page no. 208 of 350 onwards in Technical Specification document	Bidder to follow NIT.
11	NIT DM PLANT TALCHER	28 of 28	4 OF 4	24	Storage infrastructure by vendor	Noted. However the space provided for the same will be maximum 1 meter distance from battery limit.	Please refer cl no 24 of SCC for storage
12	Technical Specifications	4 of 350	2 OF 700	1.1	fill of lubricants & consumables and chemicals,	As per Sr No. 2.1, Chemicals are excluded from bidder scope of supply. Bidder request to reconfirm the scope of supply.	First fill all type of chemical including HCl and NaOH are in bidder scope. ANNEXURE 1 TO NIT, Sr No. 2.1 shall be read as "..... fill of lubricants & consumables (including chemicals),.....".
13	Technical Specifications	13 of 350	11 OF 700	16	TDS - 190 ppm	After balancing total anion and total cation it is 231 ppm. Bidder has considered the same for design purpose.	Bidder to drive the final water analysis based on the input given in page no 222 of 700 of Technical Specification.
14	Technical Specifications	26 of 350	24 OF 700	53, 55, 56	All vessels as per 'Flow Diagram-1' & Data Sheet-A complete with inlet and outlet connections, bed support cum under drain system, inlets water distributors, all fittings and appurtenances etc. as specified and as required. All tanks as per 'Flow Diagram-1' & Data Sheet-A complete with inlet and outlet connections, drain system, inlets water connection, all fittings and appurtenances etc. as specified and as required. Bidder to note that the equipment, valves, instruments indicated in the 'Flow Diagram-1' attached in the technical specification are minimum and are in bidder's scope. During detailed engineering, bidder to furnish complete and detailed scheme in all respects including all valves, equipment's etc. for smooth, safe, efficient and trouble free operation of the plant meeting the specification requirement and also considering the applicable statutory requirement	Bidder understands that, Flow Diagram -1, first sheet i.e page no. 262 of 700, is not applicable for DM Package.	Bidder to follow NIT. The scope is clearly indicated in first sheet of Flow Diagram-1.
15	Technical Specifications	27 of 350	25 OF 700	63	Mandatory spares as indicated elsewhere in the specification.	Bidder has considered Spare list which is mentioned on tender page no. 208 of 350 onwards in Technical Specification document	Bidder to follow NIT.
16	Technical Specifications	27 of 350	25 OF 700	67	All pipes, fittings etc required for hand railing, platforms, and ladders shall be in the scope of bidder.	Noted, bidder has considered the same for Bidder supplied equipments only.	Bidder to follow NIT.
17	Technical Specifications	27 of 350	25 OF 700	69	8 mm thick MS strip at bottom as toe guard all along the length of railing in horizontal plane. For RCC stairs, hand railing with 20 mm square MS bar balustrade with suitable MS flat and Aluminium / Teakwood handrail shall be provided, unless specifically mentioned otherwise.	Bidder understands that, it is not applicable for DM package.	Bidder's understanding is correct.
18	Technical Specifications	28 of 350	26 OF 700	82	First fill all type of chemical including HCl and NaOH are in bidder scope	As per ANNEXURE 1 TO NIT, Sr No. 2.1, Chemicals are excluded from bidder scope of supply. Bidder request to reconfirm the scope of supply.	First fill all type of chemical including HCl and NaOH are in bidder scope. ANNEXURE 1 TO NIT, Sr No. 2.1 shall be read as "..... fill of lubricants & consumables (including chemicals),.....".
19	Technical Specifications	28 of 350	26 OF 700	3	350 meter DM plant feed piping from Filtered water pump house where (DM Feed pumps are located) to DM plant.	Bidder requested to confirm the piping routing will be underground or above ground.	Bidder to consider 50% piping as underground piping.
20	Technical Specifications	28 of 350	26 OF 700	7	1500 meter neutralize effluent disposal piping from Neutralization pit in DM plant area to Ash Slurry Sump	Bidder requested to confirm the piping routing will be underground or above ground.	Bidder to consider 50% piping as underground piping.
21	Technical Specifications	28 of 350	26 OF 700	8	350 meter neutralize effluent disposal piping from Neutralization pit in DM plant area to CMB at ETP (Effluent Treatment Plant).	Bidder requested to confirm the piping routing will be underground or above ground.	Bidder to consider 50% piping as underground piping.
22	Technical Specifications	28 of 350	26 OF 700	9	400 meter waste water disposal piping from ACF and UF Backwashed Water Pit in PT Plant (at DM Clarifier Stilling Chamber).	Bidder requested to confirm the piping routing will be underground or above ground.	Bidder to consider 50% piping as underground piping.

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23	Technical Specifications	29 of 350	27 OF 700	SCOPE OF SERVICES 1	Erection and Commissioning, unloading, storage and handling at site.	Noted. However bidder requested to provided the space for storage at site maximum 1 meter distance from battery limit of DM Plant.	Please refer cl no 24 of SCC for storage
24	Technical Specifications	29 of 350	27 OF 700	SCOPE OF SERVICES 8	Operation & maintenance for one (1) year including spares.	Bidder understands that operation & maintenance spares required during operation & maintenance of plants are additional spare required over & above mandatory spares as per Annexure- I).	Bidder's understanding is correct.
25	Technical Specifications	30 of 350	28 OF 700	10 TREATED WATER QUALITY	Water Quality at the outlet of UF SiO ₂ (Colloidal) - <0.01 ppm as SiO ₂	As Reactive Silica Value at outlet of MB is 0.01 ppm. And at UF outlet colloidal Silica value is 0.01 ppm. Hence Total Silica will be < 0.02 ppm at outlet of UF system.	Bidder to follow NIT.
26	Technical Specifications	31 of 350	29 OF 700	13	BIDDER TO PREFERABLY USE DEFAULT LIBRARY OF SP3D FOR CREATION TO PRIMITIVES/MODEL/LAYOUT SO THAT IT CAN BE INTEGRATED WITH 3D MODEL OF THE MAIN PLANT	As per tender page no. 29 of 700, All the layouts shall be made using computerized 3D modelling system (SP3D)., bidder requested to confirm the 3D software to be used.	3D model made in SP3D with oracle database only. Bidder to take confirmation of software version from BHEL during detailed Engg. before proceeding for 3D modeling.
27	Technical Specifications	224 of 350	222 OF 700		Bidder Understands that, CLARIFIED WATER ANALYSIS (DM PLANT FEED WATER) is derived after considering Lime, Alum, Poly & PAC dosings.	Bidder Understands that, CLARIFIED WATER ANALYSIS (DM PLANT FEED WATER) is derived after considering Lime, Alum, Poly & PAC dosings.	In page number 222 of 700 the Water analysis given is Raw Water analysis feeding to Clarifier. The clarified water analysis shall be derived after considering the dosing of chemicals as indicated in page 222 of 700 of NIT.
28	Technical Specifications	261 of 350	259 OF 700	Ion Exchange Unit	Design flow (net) x 12 m ³ /hr and for mixed bed (net) x 108 m ³ /hr of treatment water.	Bidder understand that this is 12 hrs. instead of 12 m ³ /hr.	Bidder's understanding is correct.
29	Technical Specifications	261 of 350	259 OF 700	Flow Diagram -1		Bidder understands that, Flow Diagram -1, first sheet i.e page no. 262 of 700, is not applicable for DM Package.	Bidder to follow NIT. The scope is clearly indicated in first sheet of Flow Diagram-1.
30	Technical Specifications-2	53 of 352	401 OF 700			Bidder has considered the scope of supply as per clause no. 2.0 SCOPE OF SUPPLY, document "Technical Specifications" tender page no. 22 of 700 onwards.	Bidder to follow NIT.
31	Technical Specifications-2	58 of 352	406 OF 700	5.05.00 (4)	Temperature of 60 deg. C (Minimum)	As per Resin manufacturing guideline the anion resin shall be able to withstand a temperature of 60 Deg C (maximum) continuously.	Bidder to follow NIT.
32	Technical Specifications-2	59 of 352	407 OF 700	5.07.00	Gross flux 60 lmh.	As it is Polishing UF coming after MB Unit. Hence bidder requested to consider design Flux 100 LMH instead of 60 LMH.	Bidder to follow NIT.
31	Technical Specifications-2	61 of 352	409 OF 700	General		Bidder has considered the scope of supply as per clause no. DATASHEET-A, document "Technical Specifications" tender page no. 224 of 700 onwards.	Bidder to follow NIT.
ELECTRICAL							
1	II B		24/700	51	1 No central sampling rack	Please confirm whether same is applicable for instrumentation or not.	Bidder to follow NIT.
2	II B		25/700	64	Special tools & tacksels	We don't envisage any requirement.	Bidder to follow NIT.
3	II B		210/700	13	Mandatory spares	We shall provide 1 no each type & model for mechanical gauges.	Bidder to follow NIT.
4	II B		210/700	17	Analyzers spares	We understand that 1 set of means -1 no of complete assembly of analyzers without any chemical solution as provide mandatory spares.	Bidder to follow NIT.
5	Process flow diagram		262/700	4540-136-POM-A-006	LG for small capacity dosing tanks	As per process & operation point of view shall provide LT only. No need of separate LGR.	Bidder to follow NIT.
6	Process flow diagram		262/700	8	Pressure gauge for small capacity dosing pumps discharge	Small capacity electronic pump there is no need of pressure gauge & PT at common discharge. The same pumps are directly monitoring through client DCS as per feedback.	Bidder to follow NIT.
7	Process flow diagram		264/700		LI - Level indicator on tanks	We understand that level indicator as mechanical gauge. No kind of indication in DCS.	Bidder's understanding is correct.
8	Process flow diagram		264/700		Silica analyzer at UF permeate	We propose 6 channel multi silica analyzer instead of separate silica analyzer at UF Permeate.	Bidder to follow NIT.
9	Process flow diagram		264/700		Conductivity analyzer at SBA & MB rinse line	We propose to locate 1 No conductivity analyzer at suitable position to avoid 2 nos. quantity.	Bidder to follow NIT.
10			284/700	2	Profibus compatible protocol (PT, DPT, LT , TT & FT)	Please confirm whether required or not. Can we go with HART protocol	Bidder to follow NIT.

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11			284/700	2	HART Protocol for analyzers except silica & sodium or any special analyzers	Please confirm our understanding.	Bidder to follow NIT.
12			284/700	3	AMC for analyzers - 3 years	We propose up to 1 year.	Bidder to follow NIT.
13			285/700	10 (b)	Digonestic tools for profibus instruments- 2 Nos of each make	Please clarify	Bidder to follow NIT.
14			285/700	10 (b)	Digonestic tools for profibus instruments- related licensed (Laptop/ tablet)	Please confirm whether it is required or not. If yes please provide laptop configuration details & version of software.	The same shall be decided during detailed engineering.
15			286/700	14	LIE/LIR	We have not considered any rack arrangement for transmitters.	Bidder to follow NIT.
16			286/700	16	Local analyzer shelter with AC arrangement	We confirm that silica & sodium analyzer have analyzer shelter and same are kept in control room. No need for separate AC arrangement.	Bidder to follow NIT.
17			General		Plant operation through DCS	We understand that plant shall operate through client DCS.	Bidder's understanding is correct.
18			General		Acid & alkali regeneration area operation	We have not considered any seprate LCP for this operation.	Bidder to follow NIT.
19			284/700	8	Redundancy philosophy of instruments	Bidder understand that critical centrifugal pumps & storage tanks shall have double redundancy philosophy for transmitters.	Bidder to follow NIT.
20			284/700	8	Redundancy philosophy of instruments	Bidder understand that tripple redundancy philosophy for transmitters for 3(2w+1s) philosophy pumps.	Bidder to follow NIT.
OTHERS							
1	TenderNotice_4 Technical Pre - Qualification Requirements		1	1	The Bidder should have designed, supplied, erected and commissioned at least one (1) number of ion exchange based demineralizing plant, consisting of at least two (2) streams each of minimum 60 CuM/Hr capacity, capable of producing outlet water quality of silica and conductivity not more than 0.02 ppm as SiO2 and 0.2 micromho/cm respectively, which should have been in successful operation for at least one (1) year on the date of 06/06/2022.	It is requested that Technical PQR is relaxed as under: The Bidder should have designed, supplied, erected and commissioned at least one (1) number of ion exchange based demineralizing plant, consisting of at least one (1) stream of minimum 60 CuM/Hr capacity OR two (2) streams each of minimum 30 CuM/Hr capacity, capable of producing outlet water quality of silica and conductivity not more than 0.02 ppm as SiO2 and 0.2 micromho/cm respectively, which should have been in successful operation for at least one (1) year on the date of 06/06/2022. In order to have healthy competition for the bid, the relaxation in Technical PQR is proposed. An organisation having experience in supplying one stream DM Plant of capacity 60 m ³ /hr can easily install a second stream of similar specification/requirement. Further, experience of two parallel streams of DM Plant of a lower capacity should also be considered for qualifying the experience of an organisation.	BIDDER TO COMPLY THE NIT REQUIREMENT.
2						The QR seeks qualification with resin based conventional DM plant. Alternatively, RO based DM plant experience may also be considered towards meeting the QR which is allowed by NTPC. May we request you to consider RO based qualifications to enable our participation.	Please follow NIT conditions as the same will prevail.