



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 08

Ref: PSER:SCT:RKL-M1847:TCN-08

Date: 15-09-2017

Sub	Tender change notice (TCN) 08	
Job	Design, Engineering, Manufacturing, Supply, Erection, Testing, Commissioning, R&M Etc. Of Water Treatment Packages (PTP, ETP, STP, DM Plant (Renovation & Modernization) For 1x250 MW Units At PP-II Expansion, NSPCL, Rourkela, Odisha.	
Ref	1.0	Tender no PSER:SCT:RKL-M1847:17
	2.0	BHEL's NIT, vide reference no PSER:SCT:RKL-M1847:5814, Dated 20-07-2017.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:RKL-M1847:TCN-01, Dated 26-07-2017
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:RKL-M1847:TCN-02, Dated 08-08-2017
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:RKL-M1847:TCN-03, Dated 11-08-2017
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:RKL-M1847:TCN-04, Dated 23-08-2017
	7.0	BHEL's TCN-05, vide reference no PSER:SCT:RKL-M1847:TCN-05, Dated 24-08-2017
	8.0	BHEL's TCN-06, vide reference no PSER:SCT:RKL-M1847:TCN-06, Dated 01-09-2017
	9.0	BHEL's TCN-07, vide reference no PSER:SCT:RKL-M1847:TCN-07, Dated 12-09-2017
	10.0	All other pertinent issues till date.

With reference to above, following points/ documents, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Clarification to bidder's query as per attached Annexure-A.
- 2.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder shall submit no deviation certificate as per enclosed format only.
- 3.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

DY.MGR (SCT)

Encl : As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211691, 23211798, 23211796

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
 Power Sector - Eastern Region,
 Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
 Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Design, Engineering, Manufacturing, Supply, Erection, Testing, Commissioning, R&M Etc. Of Water Treatment Packages (PTP, ETP, STP, DM Plant (Renovation & Modernization) For 1x250 MW Units At PP-II Expansion, NSPCL, Rourkela, Odisha.	
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	9.0	BHEL's TCN-07, vide reference no PSER:SCT:RKL-M1847:TCN-07, Dated 12-09-2017
	10.0	BHEL's TCN-08, vide reference no PSER:SCT:RKL-M1847:TCN-08, Dated 15-09-2017
	11.0	All other pertinent issues till date.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted/uploaded offer/documents in accordance with tender instructions with acceptance of the terms & conditions of the tender by us and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

<p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय) POWER SECTOR EASTERN REGION DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091 फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : (033) 2339-8000/ 2339-8231</p>

ANNEXURE-A TO TCN-08

Design, Engineering, Manufacturing, Supply, Erection, Testing, Commissioning, R&M Etc. Of Water Treatment Packages (PTP, ETP, STP, DM Plant (Renovation & Modernization)) For 1x250 MW Units At PP-II Expansion, NSPCL, Rourkela, Odisha.

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Sl no.	Volume	Section	Clause No.	Page No.	Specification Requirement	Clarification	Reasons for Clarification	BHEL Reply
1.	II-C	Section - 3.0	1.01	432 of 2158	Scope of Work	We understand that River Water Intake well cum Pump House, Electric switch gear, Power Supply System to Substation, Control Room, Portable type Fire Protection System, HVAC, GRP cross country pipeline of 8 km, Conducting sump model study for intake well sump, Conducting Water hammer study for cross-country pipeline; and all other details mentioned in the clause is only for bidder's information. Our scope of work & services are for only for the PT, ETP, STP and R & M of existing DM plant.	Kindly confirm.	Noted
				& 427 of 1120				
2.	II-C	Section - VI	7	14	The bidder shall also supply ClO2 (Chlorine di oxide dosing system) dosing system. The system shall be installed adjacent to the clarifier under structural shed.	Please clear scope of supply of chlorine di oxide for Pre-treatment Plant bidder.	Kindly confirm.	ClO2 is not part of present tender enquiry.
				& 445 of 2158		We understand same is not in our scope.		
				& 440 of 1220		In general we understand that no chlorination plant either gas based or electrolyser based or direct generation based type plant is in our scope.		
3.	Bid Doc. No. CC&M-C-347-211	--	Sr. No. 73	24 of 99	Amendment No. 1 to Technical Specification - The Water PT Plant shall consist of desilting basin with pumps	We understand desilting basin is not part of PT plant & our battery limit and scope of works shall be as per tender Drawing No. PE-DG-427-158-A001, Rev 00.	Kindly confirm	Desilting basin in not in bidder scope. However technical scope of tender is governed with technical specification no PE-TS-427-158A-A001, R0 issued by BHEL.
4.	II-F	Section- VI	19.00.00	486 of 2158	A permanent sewage treatment plant (extended aeration type) is to be provided to cater to the sewage discharge of the plant area.	As per Technical Specification for Sewage Treatment Plant given in Sub Section IIA, Page 1578 of 2158, it is mentioned that the STP shall be based on bio digester system.	Kindly confirm	Bio digester based sewage treatment plant shall be provided by bidder.
				& 481 of 1220		Please confirm the technology to use for the STP, either extended aeration type or bio digester based?		
5.	PE-TS-427-158-A001	Sub Section I	2.22	14 of 2158	Two (2) numbers parshall flumes as per P & ID	As per tender Drawing No. PE-DG-427-158-A001, Rev 00. One (1) parshall flume is shown.	Kindly confirm	There are two parshall flume in P&ID as well as in specification.
				& 9 of 1220		Please confirm the number of parshall flume to be considered.		
6.	PE-TS-427-158-A001	Sub Section I	2.22	15 of 2158	One (1) number Hypochlorite Solution dosing Tanks (HDPE) for Pretreatment plant with motorized stirrer	Market concentration of NaOCl is 8 - 12%. For this stirrer/agitator is not recommended. Please review the requirement.	Kindly confirm	Bidder to follow tender specification.
				& 10 of 1220				
7.	PE-TS-427-158-A001	Sub Section I	2.64	18 of 2158	Two (2) numbers weighing scale.	Please inform the capacity to be considered.	Kindly confirm	Pl refer specification cl no 8.6 sl no (iv) on page no 24 of 2158.
				& 13 of 1220				
8.	PE-TS-427-158-A001	Sub Section I	6.11	19 of 2158	Trial run for requisite period.	Please inform the time period for trial run.	Kindly confirm	Duration of trial run shall be 72 Hrs.
				& 14 of 1220				
9.	PE-TS-427-	Sub	7.5	20 of 2158	Plant shall be designed considering	Please inform the available grade pressure at battery limit.	Kindly confirm	Pressure at Raw water inlet terminal

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SI no.	Volume	Section	Clause No.	Page No.	Specification Requirement	Clarification	Reasons for Clarification	BHEL Reply
	158-A001	Section I		& 15 of 1220	the available head at the terminal point			point shall be 1.5 Kg/cm2.
10.	PE-TS-427-158-A001	Sub Section I	7.5	20 of 2158 & 15 of 1220	The GA drawing of Clarified water storage tank is also enclosed elsewhere in the technical specification	The GA drawing is not available with the tender specifications. Requesting you to share the same. Also please clear the scope of instruments for CWST, as only Level Transmitter is asked. What is the scope of instrumentation for BHEL scope water retaining structure's & rotating equipment's' within our battery limits; as same is not clear from tender P & ID's.	Kindly confirm	GA of clarified water tank is attached along with amendment, bidder to refer the same. Clarified water tank is excluded from bidder scope. However instrumentation scope is governed as per specification cl no 2.29 of page no 15 of 2158.
11.	PE-TS-427-158-A001	Sub Section I	8.6, i), d)	24 of 2158 & 19 of 1220	Hypo Dosing Tank for Pre Treatment plant: One (1) number of tanks of HDPE construction. Effective capacity of each tank shall not be less than 120% of the quantity required at discharge of ACF at rated design output capacity for twenty four (24) hours of continuous full load operation. Concentration of lime solution shall be about 6% W/ W lime solution. Tanks shall be provided for dissolving lime basket motorised stirrer, level indicator, level transmitter, dissolving basket etc.	We understand lime solution concentration of 6% in description of Hypo dosing tank is a typo error. Please inform the concentration required for NaOCl.	Kindly Confirm	Cl no 8.6 (d) shall be read as follows : Hypo Dosing Tank for Pre Treatment plant: One (1) number of tanks of HDPE construction. Effective capacity of each tank shall not be less than 120% of the quantity required at discharge of ACF at rated design output capacity for twenty four (24) hours of continuous full load operation. Concentration of hypo solution shall be about 6% W/ W hypo solution. Tanks shall be provided with motorised stirrer, level indicator, level transmitter etc.
12.	PE-TS-427-158-A001	Sub Section I	8.9,c)	26 of 2158 & 21 of 1220	Two (2) numbers air blowers (2x100%) shall be used for the air agitation system of the sludge pit and backwash pit to avoid settlement of solids.	We understand no dedicated air blowers are required for sludge pit. Air agitation shall be done using the common air blower for Filter Backwash Pit, Sludge Pit & PSF.	Please confirm	Bidder's understanding is correct.
13.	Bid Doc. No. CC&M-C-347-211	General			Amendments related to CW & PT Chlorination	We understand same are for information purpose only for WTP bidders. These are excluded from WTP bidders' scope of works.	Kindly confirm	Noted
14.	PE-TS-427-164A-A001	Sub Section I	4	1139 of 2158 & 13	All the piping as listed below shall be in bidder's scope. The below indicated pipes shall be designed, supplied, erected, laid and tested by the bidder. Elbows, tees, flanges, fittings, hangers and supports, embedment plates with lugs etc required for the below given piping shall also be provided by the bidder.	Since majority of civil works is excluded from Bidders' scope, we request BHEL to allow us use of existing pipe rack/trench for laying the pipelines which are outside & inside our plant battery limits. We request BHEL to provide primary & secondary support structure, civil pedestals etc. for laying the pipelines.	Kindly confirm	Bidder to refer amendment number 1 regarding routing of ETP pipes to BHEL technical specification issued along with pre bid replies.
15.	PE-TS-427-164A-A001	Sub Section I	C	1143 of 2158	Design conditions for tube settlers/lamella clarifier:	We inlet turbidity of 1000 ppm & inlet oil of 500 ppm; the outlet guarantees cannot be met with Tube Settler/Lamella clarifier alone.	Kindly confirm	Bidder to comply the specification requirement.

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SI no.	Volume	Section	Clause No.	Page No.	Specification Requirement	Clarification	Reasons for Clarification	BHEL Reply
				& 17	Outlet Quality: Turbidity - 10 ppm & Oil - 10 ppm	Please review the specification requirement.		
16.	II	Annexure VIII		No 144 of 1120		Please provide month wise details for turbidity & suspended solids for raw water analysis	Please provide	Bidder to comply the specification requirement.
17.	II		6.0 0, A	148 of 1120	General	Please confirm epoxy painting for sludge pit scope of Client or Bidder	Kindly confirm	Please note that Painting on civil structure related to PT plant is not in bidder scope.
18.	II		6.0 0, A	148 of 1120	General	Please confirm air scouring rate for each cum of sludge Volume	Kindly confirm	Bidder to select the rate of air scouring so as to meet outlet guarantee.
19.	II		11	152 of 1120	General	Please confirm whether screw pump can be considered for lime dosing	Kindly confirm	Bidder to follow tender specification.
20.	General				General	PI confirm velocity of 2.4 m/sec can be considered for filter backwash water inlet	Kindly confirm	Bidder to follow tender specification.
21.	--	--	--	--	--	we have crossed checked the drg given in tender nad details in tender, but one no clear water collection sump-1 of 2 m3 capacity (RCC) with level transmitters and all asociated accessories and one no. clear water collection sump-2 of 1 m3 capacity (RCC) with level transmitters and all associated accessories shall be located where is not specified and where in tende. Kindly calrify.	--	Bidder to refer revised P&Id attached alog with Prebid clarifications. Clauses 2.1.17 & 2.1.19 shall be read as follows: 2.1.17 One no. clear water collection sump-1 of 5 m3 capacity (RCC) with level transmitters and all associated accessories required for proper functioning of the system. 2.1.19 One no. clear water collection sump-2 of 3 m3 capacity (RCC) with level transmitters and all associated accessories required for proper functioning of the system.
22.	--	--	--	--	--	Distance between bio digester 1 to Reed bed 1-?	--	Reed beds 1,2 (RCC) are adjacent to biodigesters 1 & 2 (RCC) respectively.
23.	--	--	--	--	--	Distance between bio digester 2 to Reed bed 2-?	--	
24.	--	--	--	--	--	Distance between bio digester 5 to Reed bed 4-?	--	Bidder to measure distance from Plot plan attached with the techincal specification of sewage treatment plant.
25.	--	--	--	--	--	Distance between bio digester 6 to Reed bed 5-?	--	Location of bio digester 6 and reed bed 5 is near to raw water pump house. Bio digester 6 and reed bed 5 are placed adjacent to each other.
26.	--	--	--	--	--	We understance reed bed systems & treated water collection sump are located side by side. Kindly clarify.	--	Bidders understanding is correct.
27.	--	--	--	--	--	Whether Number of persons waste water to considered for selecting each bio digestor or given Capacity. Please confirm.	--	As per page no 1578 of 2158 of technical specification, Capacity of Bio digester is already indicated. Bidder to consider the same.

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28.	--	--	--	--	--	Whether Waste water generation is in day time only or within 24 hours. Kindly confirm	--	Bidder to note that Bio digester has been sized considering 3 days retention time and reed bed capacity been indicated in table provided page no 1578 of 2158 of technical specification . Accordingly Bidder to consider the size the system. Further pump capacities has been defined in P&ID of sewage treatment plant bidder to consider the same.																															
29.	--	--	--	--	--	Is there any labour / workers washing area connected to the bio digester. Kindly confirm ?	--	Bidder to follow the tender specification for the same. The sewage treatment plant has been considered for sewage waste generated from the toilet and cleaning waste of toilets.																															
30.	--	--	--	--	--	Water usage per person in selecting each bio digester is different. Kindly confirm	--	Bidder to note that Bio digester has been sized considering 3 days retention time and reed bed capacity has been has been indicated in table provided page no 1578 of 2158 of technical specification																															
						<table border="1"> <thead> <tr> <th>Sr no</th> <th>Bio digester Capacity m3</th> <th>no of person</th> <th>LPCD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10</td> <td>65</td> <td>154</td> </tr> <tr> <td>2</td> <td>5</td> <td>35</td> <td>143</td> </tr> <tr> <td>3</td> <td>15</td> <td>100</td> <td>150</td> </tr> <tr> <td>4</td> <td>5</td> <td>35</td> <td>143</td> </tr> <tr> <td>5</td> <td>20</td> <td>45</td> <td>138</td> </tr> <tr> <td>6</td> <td>3</td> <td>20</td> <td>150</td> </tr> <tr> <td>7</td> <td>1.5</td> <td>20</td> <td>75</td> </tr> </tbody> </table>	Sr no		Bio digester Capacity m3	no of person	LPCD	1	10	65	154	2	5	35	143	3	15	100	150	4	5	35	143	5	20	45	138	6	3	20	150	7	1.5	20	75
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6	3	20	150																																				
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31.	--	--	--	--	--	Invert level of each Bio digester.	--	Invert level shall be provided during detailed engineering stage																															
32.	--	--	--	--	--	Kindly confirm PIPING from CMB to ash water tank shall be underground or above ground ?	--	Bidder to refer the plot plan attached along with amendment for underground and above ground scope clarity. Bidder shall consider 20% margin over indicated length in plot plant both for underground and overground pipes. The pump head shall be calculated considering 10 m static head over and above the pressure drop calculated as per routing.																															

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33.	--	--	--	--	--	Kindly confirm SLUGE from ETP to ash slurry sump shall be underground or above ground ?	--	Bidder to refer the plot plan attached along with amendment for underground and above ground scope clarity. Bidder shall consider 20% margin over indicated length in plot plant both for underground and overground pipes. The pump head shall be calculated considering 10 m static head over and above the pressure drop calculated as per routing.
34.	--	--	--	--	--	One (1) No. Slope oil Drum with Trolley of FRP make is to be provided common after Lamella and TPI. Capacity are not specified for Drum. kindly confirm	--	100 liter drum capacity shall be provided.
35.	--	--	--	--	--	Any special type of cable like compensating, co-axial, prefab, MICC, optical fibre etc. C&I portion of specification for scope of fibre Optical cables if used between PLC/ microprocessor & DCS is in IEI Scope. Please Confirm the Distance between Proposed ETP Plant area and PLC.	--	Bidder to note that ETP is DCS controlled.
36.	--	--	--	--	--	Kindly Clarify Location of PLC & MCC for proposal ETP PLANT .	--	PLC system is not applicable for ETP. Effluent Treatment plant shall be operated from integrated DCS (In BHEL scope)located in control room. The control shall be remote manual and operation will be carried out from the control panel.
37.	--	--	--	--	--	2.1.23 Two (2) Nos. (1W+1S) of sludge transfer pumps along with motors, piping, valves, fittings, instrumentation and accessories associated with the same. Capacity mentioned in Tender is 5 m3/hr (each), but as per drawing it is 1 m3/hr. Please confirm	--	Please consider 5 m3/hr capacity of the sludge transfer pumps.
38.	--	--	--	--	--	Buried piping protection of all the buried pipe is also in bidder's scope. Vendor to consider 70 % of the piping as buried for estimation purpose. Please let us know Underground piping to be considered for which AREA (TG/FO/Boiler/Transformer)?	--	Bidder to refer the plot plan attached along with amendment for underground and above ground scope clarity. Bidder shall consider 20% margin over indicated length in plot plant both for underground and overground pipes.
39.	--	--	--	--	--	Please confirm Inlet TSS value For Designing TPI ?	--	Inlet TSS for TPI shall be considered as 100 ppm.
40.	--	--	--	--	--	Kindly provide the P&ID and Layout for the above as the same is not clear as per the drawings enclosed with the tender.	--	Please note that P&ID is available in the specification and technical requirement is clearly mentioned in scope of work.
41.	--	--	--	--	--	Also please provide the location of control Room from DM plant.	--	DM plant control room is located in existing building itself.

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SI no.	Volume	Section	Clause No.	Page No.	Specification Requirement	Clarification	Reasons for Clarification	BHEL Reply
42.	--	--	--	--	--	We are considering of Capacity of PT Plant is 775 m3/hr + 20% hydraulic loading. Kindly confirm	--	PI refer to the amendment shall be issued separately.
43.	--	--	--	--	--	location of control room/ddmics from PT plant	--	PT plant control room is located in main plant control room.
44.	--	--	--	--	--	In tender documents volume ii Annexure C amendment (around 180 Points ,issued by NSPCL) has been enclosed . Kindly let us know which are relivent points for our Scope (PT,DM,ETP and STP pacakge) to be considered ?????	--	Bidder to note that amendment points applicable for ETP, STP, PTP & DMP shall be considered for present scope of tender.