



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 04**

Ref: PSER:SCT: NKP-M1738:TCN-04

Date: 28-04-2016

Sub	<b>Tender Change Notice (TCN) - 04</b>	
Job	Design, Engineering, Manufacturing, Supply/Delivery, Erection, Commissioning, Trial Run, Handing Over to Customer etc of WATER TREATMENT PACKAGES (PRE TREATMENT PLANT, EFFLUENT TREATMENT PLANT & SEWAGE TREATMENT PLANT) including supervision of civil construction work for 3X 660 MW North Karanpura Super Thermal Power Project at Jharkhand.	
Ref	1.0	Tender No. PSER:SCT:NKP-M1738:16
	2.0	BHEL's NIT, vide reference no PSER:SCT: NKP-M1738:4966, Dated 05-04-2016.
	3.0	BHEL's TCN-01, vide reference PSER:SCT: NKP-M1738:TCN-01, Dated 06-04-2016
	4.0	BHEL's TCN-02, vide reference PSER:SCT: NKP-M1738:TCN-02, Dated 12-04-2016
	5.0	BHEL's TCN-03, vide reference PSER:SCT: NKP-M1738:TCN-03, Dated 23-04-2016
	6.0	All other pertinent issues till date.

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

1. Clarification of Bidders' queries attached vide **Annexure-A to TCN-04**.
2. Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder shall submit no deviation certificate as per enclosed format only.
3. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

SR.ENGR (SCT)

Encl

1.0 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 : (033) 2339-8000/ 2339-8236(D)

## ANNEXURE-A TO TCN-04

TENDER NO : PSER:SCT:NKP-M1738:16

Design, Engineering, Manufacturing, Supply/Delivery, Erection, Commissioning, Trial Run, Handing Over to Customer etc of WATER TREATMENT PACKAGES (PRE TREATMENT PLANT, EFFLUENT TREATMENT PLANT & SEWAGE TREATMENT PLANT) including supervision of civil construction work for 3X 660 MW North Karanpura Super Thermal Power Project at Jharkhand.

## CLARIFICATION OF BIDDERS' QUERY

SL NO	REFERENCE CLAUSE OF TENDER DOCUMENT	EXISTING PROVISION	BIDDER'S QUERY	BHEL'S CLARIFICATION
1.0	Taxes And Duties	Excise Duty	Excise Duty incurred by successful bidders sub vendor towards dispatch made from sub vendor's factory shall be reimbursed by BHEL.Please confirm.	Deemed Export Benefit is as per F.T.P (Foreign Trade Policy) . May Please refer F.T.P accordingly.
2.0	GLP		Please furnish layout plan for Water treatment plant Including Effluent & Sewage treatment plant with co-ordinates.	The Location of plants has already been furnished in Plot Plant. Refer Page 262 of 279-REFERENCE DRAWING (PLOT PLAN) for the same. Further the internal layout of each plant shall be developed by bidder.
3.0	No of Clarifier		Clarifier-2 nos for PT & 01 no.for DM as per tech spec. But as per P&ID 2 nos both cases which is contradictory. Please clarify.	Refer attached Amendment-1 (Spec No -PE-TS-405-158-A001).
4.0	Chlorination Plant		We understand that Chlorination system not bidder scope of work.	Refer attached Amendment-1 (Spec No -PE-TS-405-158-A001).
5.0	Pipe line	P&ID No.PE-DG-405-158-A001	We understand that pipe line for Potable water & colony distribution system not bidder scope of work.	Bidder to follow specification.
6.0	Pipe line	P&ID No.PE-DG-405-158-A001	We understand that pipe line from DM plant Feed water pumps to DM Plant not bidder scope of work.	Bidder to follow specification.
7.0	SludgePipe	P&ID No.PE-DG-405-158-A001	Please confirm that Sludge pit common for Water treatment / Effluent & Sewage treatment plant.	Bidder to follow specification.
8.0	Pipe line	P&ID No.PE-DG-405-158-A001	We understand that pipe line alongwith valve from Chlorinator to Stilling chambers of Clarifiers is employer scope of work.	Bidder to follow specification.
9.0	Pipe line	P&ID No.PE-DG-405-158-A001	Please furnish length of pipe line from Sludge disposal pump to Employers Ash slurry tank.	Bidder to follow specification.
10.0	Pipe line	P&ID No.PE-DG-405-164-A001	Please furnish length of pipe line from Acid dosing pump to CMB Pit.	Bidder to follow specification.
11.0	PTRO-DM plant		PTRO-DM plant system not bidder scope of work. Please confirm.	Bidder to follow specification.
12.0	Pipe line	P&ID No.PE-DG-405-158-A001	Please furnish length of pipe line from Supernatant tr. Pump to Employers Ash Water Tank.	Bidder to follow specification.
13.0	Pipe line–Acid	P&ID No.PE-DG-405-164-A001	Acid pipe line shall be SS/PP only	Bidder to follow specification.
14.0	Earthing		It is understood that equipments / structures Earthing & lightning protection is not in Bidder scope of work.	Bidder to follow specification.

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SL NO	REFERENCE CLAUSE OF TENDER DOCUMENT	EXISTING PROVISION	BIDDER'S QUERY	BHEL'S CLARIFICATION
15.0	Pipe line	P&ID No.PE-DG-405-673-01000-A— A001,R0	Please furnish length of pipe line from Clear water disposal Pump to Employers Irrigation point.	Bidder to follow specification.
16.0	Pipe line	P&ID No.PE-DG-405-673-01000-A— A001,R0	Please furnish length of pipe line from Clear water disposal Pump to Employers additional provision point.	Bidder to follow specification.
17.0	FlushingPumps	P&ID No.PE-DG-405-164-A001	Please furnish technical spec for Flushing Pumps	Bidder to follow specification.
18.0	Verticalsump pump	P&ID No.PE-DG-405-158-A001	Please furnish technical spec for Vertical sump pump (Sludge feed pumps / Back wash water pumps/ Supernatant transfer Pumps)	Bidder to follow specification.
19.0	Sludge disposal	P&ID No.PE-DG-405-158-A001	Please furnish technical spec for Single Screw Vertical pump (Sludge disposal pumps)	Bidder to follow specification.
20.0	Power/ControlCable		We understand supply, laying, testing & commissioning of Power / control & Instrumentation cable is not in Bidder scope of work. Please confirm.	Bidder to follow specification.
21.0	Boundarywall		Water treatment plant package shall be constructed within BHEL / NTPC plant boundary wall.	Bidder to follow specification.
22.0	Mandatory spares		Mandatory spares - shall be supplied by the bidder by supplying the main equipment / item. Pleaseconfirm.	Bidder to follow specification.
23.0	Pre bid meeting		Please furnish Pre bid date & place.	The same shall be intimated later, if required.
24.0	Time extension		Considering the volume of engineering and estimation, we require additional time for compiling and preparing a detailed offer and so request you to please extend the due date of submission of the tender by atleast 15 days i.e.10th May 2016.	DDS has already been extended upto 05-05-2016 vide TCN-03.Bidders are requested to submit their offer by extended due date positively.
25.0	Clause No 4 Section C3A Volume-IIB Page 119 of 279	All instruments shall be terminated on JB / LCP in field and both instrument and JB / LCP are in bidder Scope.	As per electrical scope we understand that all cables are in BHEL Scope. Kindly confirm.	Bidder to follow specification requirement.
26.0	Clause No 28 Section C3A Volume-IIB Page 119 of 279	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system / drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder.	We understand that Redundancy to be considered is only For measurement instruments; no redundancy for analysers is envisaged. Kindlyconfirm.	Refer attached Amendment-1 (Spec No -PE-TS-405-158-A001).

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Design, Engineering, Manufacturing, Supply/Delivery, Erection, Commissioning, Trial Run, Handing Over to Customer etc of WATER TREATMENT PACKAGES (PRE TREATMENT PLANT, EFFLUENT TREATMENT PLANT & SEWAGE TREATMENT PLANT) including supervision of civil construction work for 3X 660 MW North Karanpura Super Thermal Power Project at Jharkhand.

## CLARIFICATION OF BIDDERS' QUERY

SL NO	REFERENCE CLAUSE OF TENDER DOCUMENT	EXISTING PROVISION	BIDDER'S QUERY	BHEL'S CLARIFICATION
27.0	Clause No 4 Section C3A Volume-IIB Page 123 of 279	All instruments shall be terminated on JB/LCP in field and both instrument and JB/LCP are in bidder scope.	As per electrical scope we understand that all cables are in BHEL'Scope. Kindlyconfirm.	Bidder to follow specification requirement.
28.0	Clause No 28 Section C3A Volume-IIB Page 123 of 279	Local control panel required for operation shall be in bidder scope.	We understand from sewage treatment plant is operated directly from DCS(BHEL'sScope), ideally LCP not required. Kindlyconfirm.	Bidder to follow specification requirement.
29.0	Annex-III, Volume-II, Page 12 of 279	TSS Value in Raw Water is not given.	Please provide inlet TSS	Bidder to follow specification.
30.0	Clause No. 11.6 , Volume-II, Page 57 of 279	The Value for Sludge Concentration 7% given as per NIT is on the higher side.	Please review and confirm the same	Bidder to follow specification.
31.0	Volume-ID- Page 7 of 22 -SCC	All required chemicals upto trial run of the complete system including posttrial-run operation of the system for maximum duration of 12 months periods shall be in the supply scope of vendor.	As per Mechanical Scope Chemicals are in Exclusion part Clause No.9.5 Page No.68 of 1120 Kindlyconfirm.	All required chemicals upto trial run of the complete system are in the supply scope vendor. Chemicals requirement for post trial-run operation is excluded from the supply scope of the vendor.



**AMENDMENT TO TECHNICAL SPECIFICATION FOR  
WATER TREATMENT PACKAGE (PRE TREATMENT PLANT, EFFLUENT  
TREATMENT PLANT AND SEWAGE TREATMENT PLANT)  
3X660 MW NTPC NORTH KARANPURA STPP**

SPECIFICATION NO.: PE-TS-405-158-A001

AMENDMENT NO # 1

REV. NO. 00

DATE: 22.04.2016

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The following modifications with respect to Technical Specification for WATER TREATMENT PACKAGE (PRE TREATMENT PLANT, EFFLUENT TREATMENT PLANT AND SEWAGE TREATMENT PLANT), BHEL's Technical specification no PE-TS-405-158-A001 shall apply.

Bidder to note that existing clauses/page numbers as appearing in the specification stands deleted and clauses/page numbers as mentioned in "Modified to" column shall be applicable and complied by the bidder.

**MODIFIED CLAUSES/PAGE NUMBERS.**

SI no.	Vol. No.	Section/ Description	Clause no	Page no	Existing	Modified to
1.	IIB	SECTION – C1A	20)	24 of 1119	Bidder to note that continuous chlorine will be dosed in all aerators, all stilling chamber & Filtered water sump of potable water (Chlorine solution strength shall not be more than 2500 ppm). Bidder to take care while selection of MOC due to effect of chlorine.	Bidder to note that continuous chlorine will be dosed by BHEL in all aerators, all stilling chamber & Filtered water sump of potable water (Chlorine solution strength shall not be more than 2500 ppm). Bidder to take care while selection of MOC due to effect of chlorine.
2.	IIB	SECTION – C1A	15.0/Exclusions	34 of 1119	Clause Added	6) Gas Chlorination Plant.
3.	IIB	SECTION – C1A	[Zone-E-7] P&ID No. PE-DG-405-158-A001-Rev-00	62 of 1119	PT-DM Clarifier (2 Nos.)	PT-DM Clarifier (1 No.)
4.	IIB	SECTION – C3A	28	121 of 1119	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder.	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder. (iii) No redundancy for analyser is required.
5.	IIB	SECTION – C3B	28	124 of 1119	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder.	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder.



**AMENDMENT TO TECHNICAL SPECIFICATION FOR  
WATER TREATMENT PACKAGE (PRE TREATMENT PLANT, EFFLUENT  
TREATMENT PLANT AND SEWAGE TREATMENT PLANT)  
3X660 MW NTPC NORTH KARANPURA STPP**

SPECIFICATION NO.: PE-TS-405-158-A001

AMENDMENT NO # 1

REV. NO. 00

DATE: 22.04.2016

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						(iii) No redundancy for analyser is required.
6.	IIB	SECTION – C3C	31	127 of 1119	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder.	Redundancy of sensors shall be provided by bidder (i) Triple redundancy for all analog and binary inputs required for protection of system/drives. (ii) For all other control functions dual redundancy of the sensors shall be provided by the bidder. (iii) No redundancy for analyser is required.
7.	IIB	SECTION – D1	3.03.00	141 of 1119	SYSTEM OPERATION AND CONTROL PHILOSOPHY (FOR PT & CW CHLORINATION SYSTEM)	Stands deleted.
8.	IIB	SECTION – D1	1.03.17 (e)	237 of 1119	Chlorination Plant	Stands deleted.
9.	IIB	SECTION – D1	DRAWING DOCUMENTS SUBMISSION PROCEDURE	277 of 1119	Bidder to also furnish the auto cad copy/MS-Excel/MS-word (as applicable) of the following documents after award of contract. However any other auto cad copy/MS-Excel/MS-word of any other document as per the insistence of BHEL and customer will also be submitted by the bidder without any delivery and commercial implication to BHEL and customer. <ul style="list-style-type: none"> <li>• P&amp;IDs.</li> <li>• Equipment lay out of chlorination plant.</li> <li>• Equipment Cable tray layout of chlorination plant.</li> <li>• Equipment earthing layout of chlorination plant.</li> <li>• Civil assignment drawings.</li> <li>• Piping lay out drawing of chlorination plant and yard piping layout</li> </ul>	Bidder to also furnish the auto cad copy/MS-Excel/MS-word (as applicable) of the following documents after award of contract. However any other auto cad copy/MS-Excel/MS-word of any other document as per the insistence of BHEL and customer will also be submitted by the bidder without any delivery and commercial implication to BHEL and customer. <ul style="list-style-type: none"> <li>• P&amp;IDs.</li> <li>• Equipment lay out of Water Treatment Package..</li> <li>• Equipment Cable tray layout of Water Treatment Package.</li> <li>• Equipment earthing layout of Water Treatment Package.</li> <li>• Civil assignment drawings.</li> <li>• Piping lay out drawing of Water Treatment Package and yard piping layout</li> </ul>
10.	IIB	SECTION – D3A	3.03.00	840 of 1119	SYSTEM OPERATION AND CONTROL PHILOSOPHY (FOR PT & CW CHLORINATION SYSTEM)	Stands deleted.

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/Delivery, Erection, Commissioning, Trial Run, Handing Over to Customer etc of WATER TREATMENT PACKAGES (PRE TREATMENT PLANT, EFFLUENT TREATMENT PLANT & SEWAGE TREATMENT PLANT) including supervision of civil construction work for 3X 660 MW North Karanpura Super Thermal Power Project at Jharkhand.
01	Tender no PSER:SCT:NKP-M1738:16
02	BHEL's NIT, vide reference no PSER:SCT:NKP-M1738:4966 Date: 05-04-2016
03	BHEL's TCN-01, vide reference PSER:SCT: NKP-M1738:TCN-01, dated 06-04-2016
04	BHEL's TCN-02, vide reference PSER:SCT: NKP-M1738:TCN-02, dated 12-04-2016
05	BHEL's TCN-03, vide reference PSER:SCT: NKP-M1738:TCN-03, dated 23-04-2016
06	BHEL's TCN-04, vide reference PSER:SCT: NKP-M1738:TCN-04, dated 28-04-2016
07	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 offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

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