



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 09

Ref: PSER:SCT:RKL-M1847:TCN-09

Date: 16-09-2017

Sub	Tender change notice (TCN) 09	
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	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.

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

- 1.0 Amendment No#1 to Technical Specification as attached.
- 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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	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	BHEL's TCN-08, vide reference no PSER:SCT:RKL-M1847:TCN-08, Dated 15-09-2017
	11.0	BHEL's TCN-09, vide reference no PSER:SCT:RKL-M1847:TCN-08, Dated 16-09-2017
	12.0	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)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

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

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : (033) 2339-8000/ 2339-8231



AMENDMENT ON TECHNICAL SPECIFICATION FOR WATER TREATMENT PACKAGES (PTP / ETP / STP / DM PLANT (R&M)) FOR 1X250 MW NSPCL ROURKELA STPP.

SPECIFICATION NO.: PE-TS-427-158A-A001

AMENDMENT NO # 1

REV. NO. 00

DATE: 15/09/2017

Page 1 of 2

The following modifications with respect to Technical Specification for **WATER TREATMENT PACKAGES (PTP / ETP / STP / DM PLANT (R&M)) FOR 1X250 MW NSPCL ROURKELA STPP**, technical specification no **PE-TS-427-158A-A001** shall apply.

Bidder to note that existing clauses/details as appearing in the specification stands deleted and clauses/details as mentioned in "Modified to or Read as" column shall be applicable and complied by the bidder as listed below in **SCHEDULE A**.

In addition, new clauses are also added as listed below in **SCHEDULE B** and shall be a part of tender specification. Bidder to comply the same.

SCHEDULE A

MODIFIED CLAUSES/PAGE NUMBERS.

Sl no.	Vol. No.	Section/ Description	Clause no	Page no	Existing clause/details	To be Read as
1.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	01.00.00 (B) II, CASCADE AERATOR	151 of 2158	Suitable to handle the flow rate equal to sum of 775 m ³ /hr + 20% over loading	Suitable to handle the flow rate equal to 721 m ³ /hr + 20% over loading
2.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	01.00.00 (B) IV, CASCADE AERATOR	151 of 2158	Height of each steps = 300 mm	Height of each steps = 350 mm (Maximum)
3.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	03.00.00 (A), PARSHALL FLUME	151 of 2158	Two (2), one for connecting channel from aerator to stilling chamber and one for connecting channel to CW storage tank with isolation gates as indicated in P&ID drawing.	Two (2), one no each for connecting channel from stilling chamber to individual inlet chamber of clarifier as indicated in P&ID.
4.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	03.00.00 (B) III, PARSHALL FLUME	151 of 2158	Effective Capacity m ³ /hr : Suitable to handle the flow rate equal to sum of 775 m ³ /hr + 20% over loading.	Effective Capacity m ³ /hr : Suitable to handle the flow rate equal to sum of 510 m ³ /hr + 20% over loading.
5.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	04.00.00, DISTRIBUTION CHAMBER	152 of 2158	Distribution chamber	Inlet Chamber
6.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	04.00.00 (B) III, DISTRIBUTION CHAMBER	152 of 2158	Effective capacity, each, m ³ : Suitable to handle the flow rate equal to sum of 387.5 m ³ /hr + 20% over loading	Effective Capacity m ³ /hr : Suitable to handle the flow rate equal to sum of 510 m ³ /hr + 20% over loading
7.	IIB	SECTION 1/ DATASHEET -A FOR PRE TREATMENT PLANT	05.00.00 (B) II, REACTOR TYPE CLARIFIERS	152 of 2158	Output Capacity for each at rated Condition, m ³ /hr : Rated output capacity shall be not less than 440 m ³ /hr + 20 % overloading.	Effective Capacity m ³ /hr : Suitable to handle the flow rate equal to sum of 510 m ³ /hr + 20% over loading
8.	IIB	SECTION 1/ P&ID FOR PRE TREATMENT PLANT	P&ID FOR PRE TREATMENT PLANT	169 of 2158	P&ID FOR PRE TREATMENT PLANT RV00	P&ID FOR PRE TREATMENT PLANT RV00 has been replaced with P&ID FOR PRE



AMENDMENT ON TECHNICAL SPECIFICATION FOR WATER TREATMENT PACKAGES (PTP / ETP / STP / DM PLANT (R&M)) FOR 1X250 MW NSPCL ROURKELA STPP.

SPECIFICATION NO.: PE-TS-427-158A-A001

AMENDMENT NO # 1

REV. NO. 00

DATE: 15/09/2017

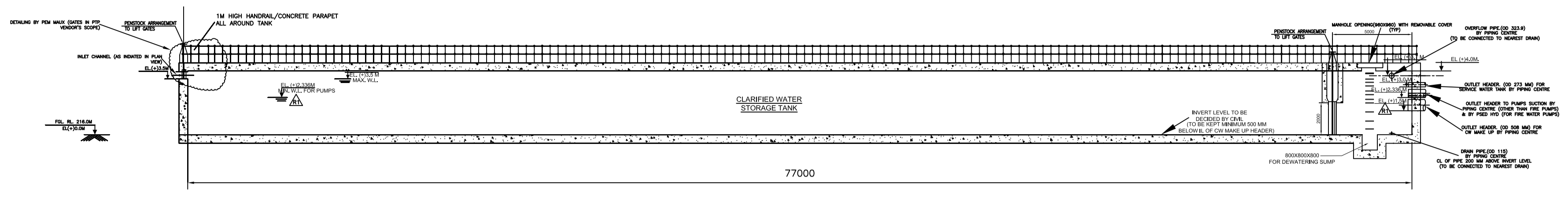
Page 2 of 2

						TREATMENT PLANT RV01. R01 shall be referred wherever R00 of P&ID is mentioned in BHEL technical specification no PE-TS-427-158A-A001 wrt PRE TREATMENT PLANT.
9.	IIB	SECTION 1/ P&ID FOR SEWAGE TREATMENT PLANT	P&ID FOR SEWAGE TREATMENT PLANT	1546 of 2158	P&ID FOR SEWAGE TREATMENT PLANT RV00	P&ID FOR SEWAGE TREATMENT PLANT RV00 has been replaced with P&ID FOR SEWAGE TREATMENT PLANT RV01. R01 shall be referred wherever R00 of P&ID is mentioned in BHEL technical specification no PE-TS-427-158A-A001 wrt SEWAGE TREATMENT PLANT.

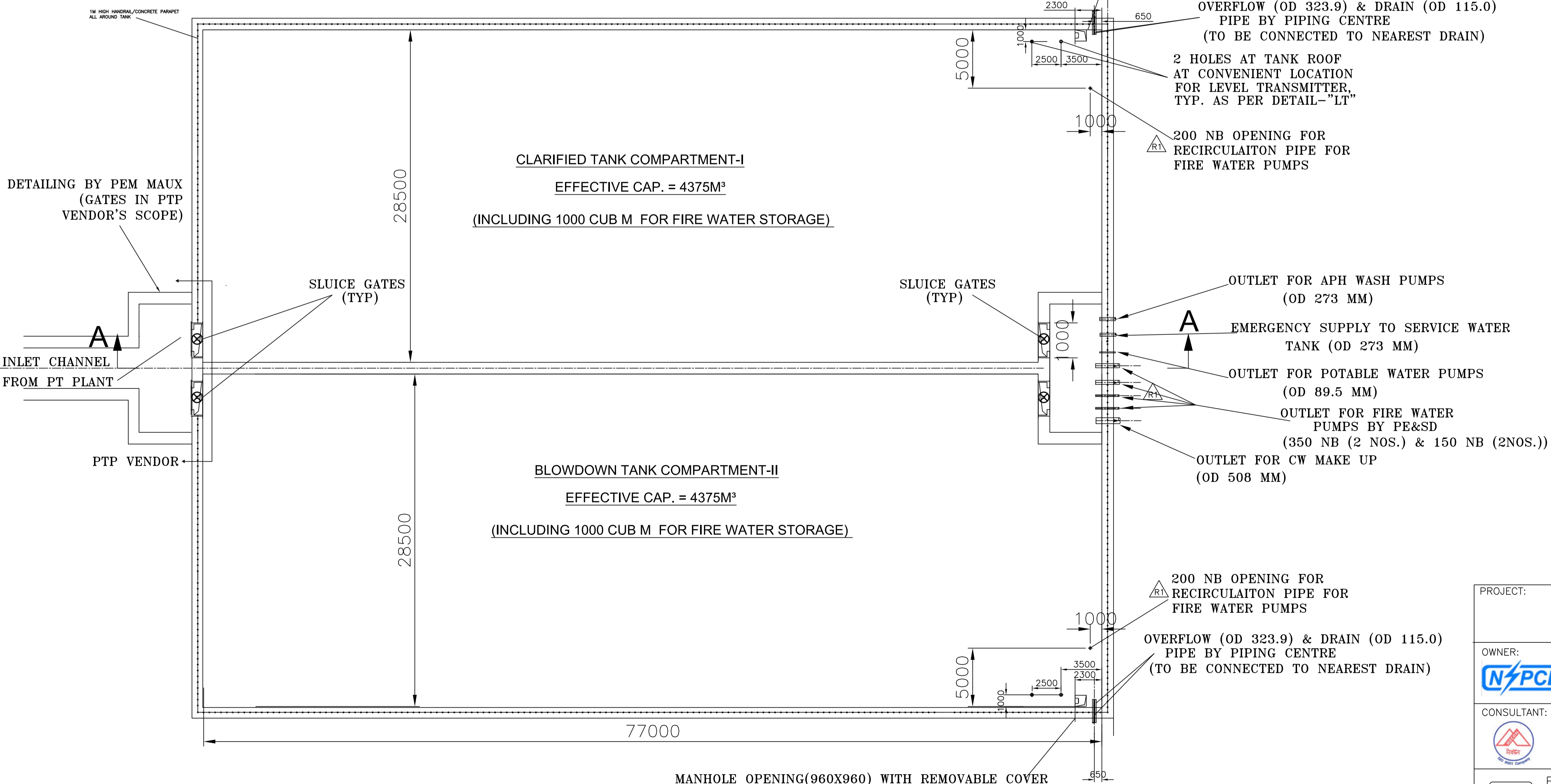
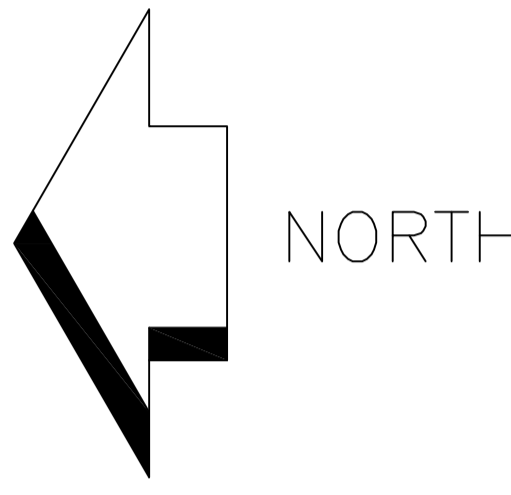
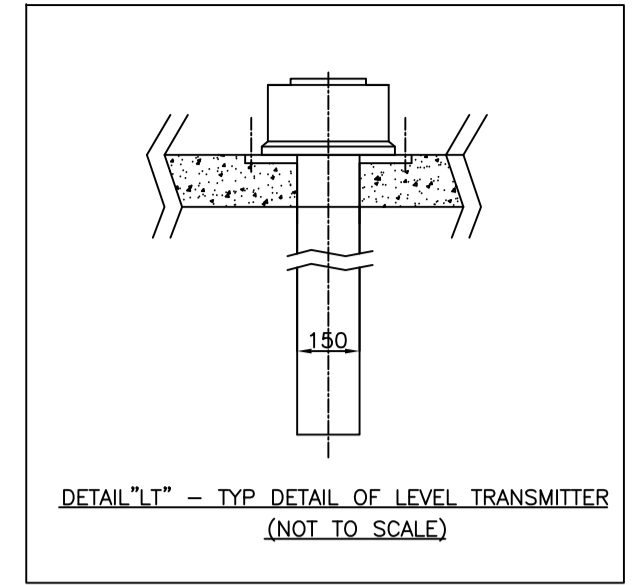
SCHEDULE B

NEW CLAUSES / SCOPE ADDED:

Sl no.	Vol. No.	Section/ Description	New Clause no	Page no	Description
1.	IIB	SECTION- I/I-A (PTP)			GA of Clarified water tank is attached for bidder reference. Same shall be used for designing of PT plant.
2.	IIB	SECTION- C1-A	2.1.47	1139 of 2158	Two (2) nos. (2X100%) vertical centrifugal pumps of capacity 30 cub M/Hr for boiler blow down shall be provided by bidder. Bidder shall select the MOC of pump suitable for 80 Deg C water temperature. Basic MOC of pump Casing: Cast Iron FG 260 Impeller: SS-304 Shaft: SS-410 Boiler blow down shall be fed to CW fore bay by bidder. Bidder shall include discharge valve, NRV, pressure gauges and pressure transmitters, piping and fitting as per required and suitable for 80 deg C temperature application.
3.	IIB	SECTION- C1-A			Pipe routing for ETP system is shown in ETP pipe routing drg. Pipes marked on pipe rack shall be routed on pipe rack, balance shall be buried pipes. Routing given is tentative, bidder shall consider 20 % margin on pipe length.




VIEW - 'AA'



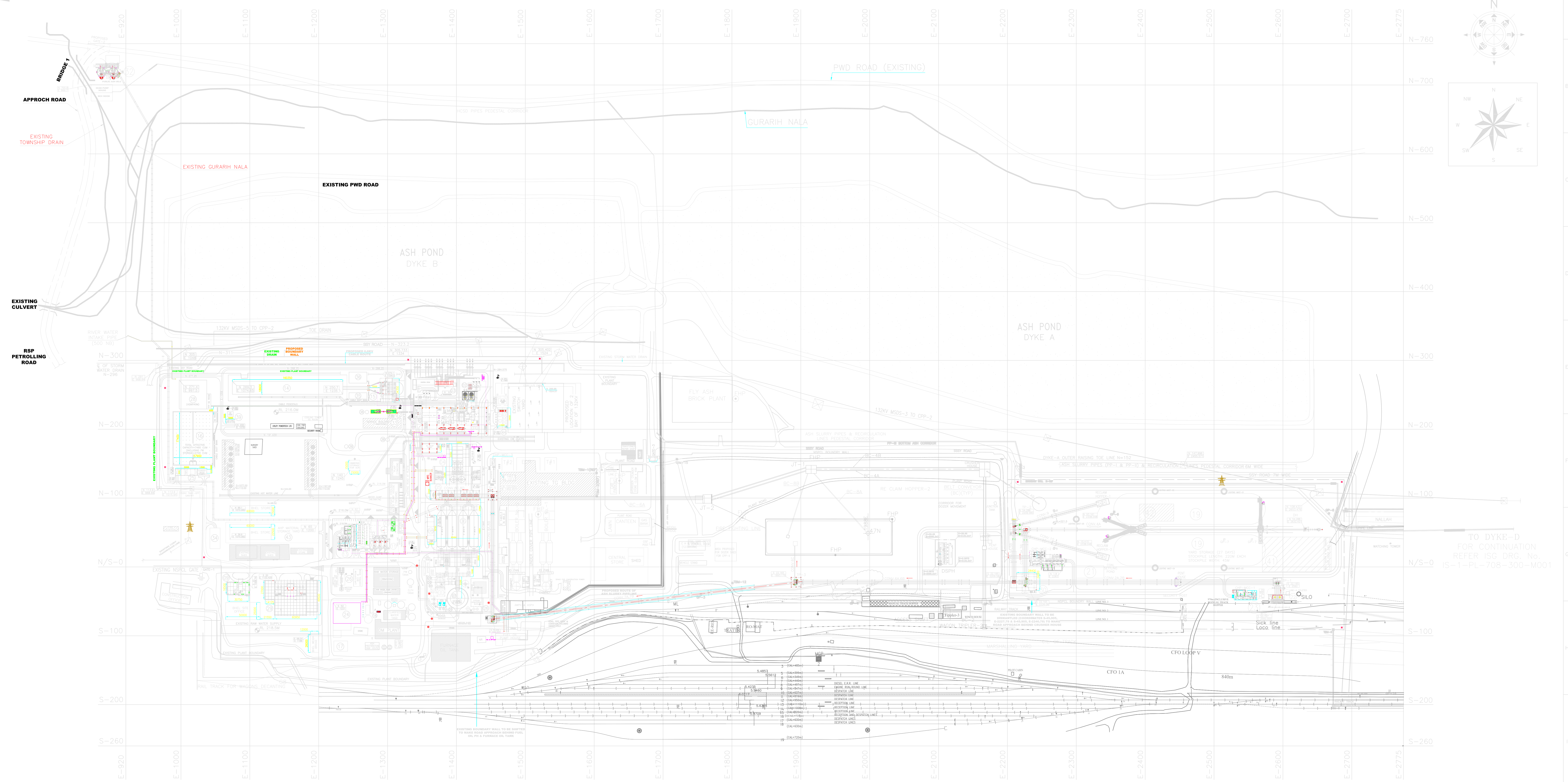
PLAN VIEW

NOTES :-

1. ALL DIMENSIONS ARE IN MM. AND ELEVATIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. ELEVATION 0.0M CORRESPONDS TO FINISHED GROUND LEVEL NEAR CLARIFIED TANK IS RL.216.0M i.e. EL(+0.0M)
3. APPROACH LADDER TO TANK ROOF FROM OUTSIDE TO BE PROVIDED BY CIVIL.
4. MPL TO PROVIDE SUPPORTS FOR ALL THE PIPES.
5. PIPE INSERTS/EMBEDMENT WITH SUITABLE INTERFACE WITH BHEL PIPING BY CIVIL CONTRACTOR.
6. STOP LOG GATES (2 NOS.) WITH DOUBLE SEALING ARRANGEMENT TO BE SUPPLIED BY CIVIL CONTRACTOR.

PROJECT:		ROURKELA PP-II EXPANSION PROJECT (1X250 MW)			
OWNER:		NTPC SAIL POWER COMPANY (P) LIMITED			
CONSULTANT:		 मेकॉन लिमिटेड MECON LIMITED			
TITLE:		MECHANICAL GA OF CLARIFIED TANK			
DEPT:		DRN	ADK	SIGN	DATE
SIGN:		CHD	VKY		06.06.17
DATE:		APPD	AK		06.06.17
DRAWING NO.:		PE-DG-427-172-N100			
SHEET:		SHEET 01 OF 01 REV 01			

SH(ROURKELA-BONDAMUNDA)



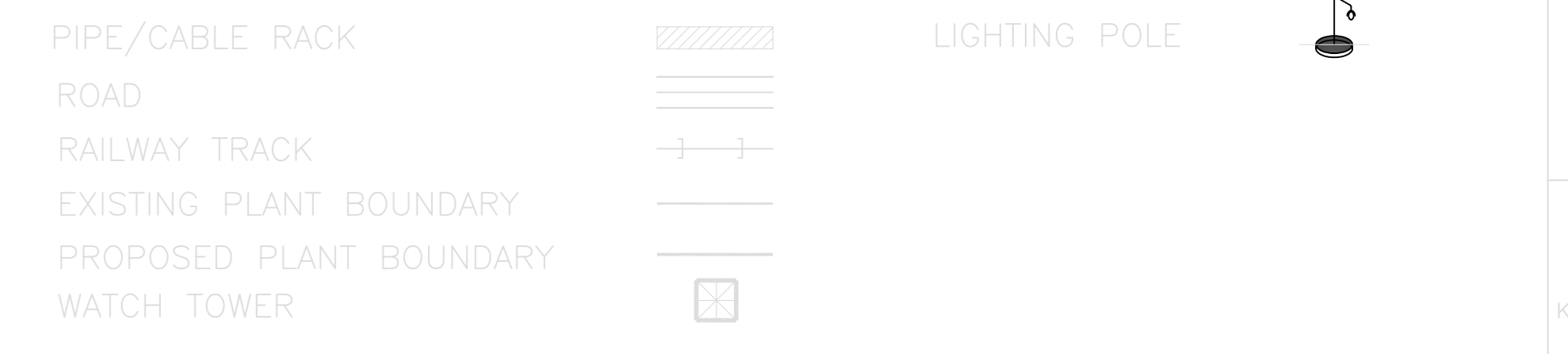
NOTES

1. ALL DIMENSIONS & LEVELS ARE IN METRES.
2. THE FINISHED FLOOR LEVEL OF POWER HOUSE GROUND FLOOR EL. 0.00M WHICH CORRESPONDS TO RL 219.0 M
3. DIMENSIONS OF ALL BUILDINGS/FACILITIES SHOWN IN THE GLP ARE INDICATIVE AND ARE SUBJECT TO DETAILED EQUIPMENT LAYOUT DRG.
4. DISMANTLING, REMOVAL /DISPOSAL, REROUTING OF UNDERGROUND / OVER GROUND ANY EXISTING FACILITY / STRUCTURE IN PROPOSED PLANT AREA SHALL BE DONE BY CUSTOMER ONLY. CUSTOMER SHALL HAND OVER THE LEVELLED GROUND (UP TO FINISHED GRADE LEVEL) TO THE BIDDER, FREE FROM ANY ENCUMBRANCES AND STRUCTURE.
5. LOCATION, SPACE REQUIRED ETC. OF EQUIPMENT & FACILITIES NOT IN BHEL SCOPE (FGD, SCR ETC.) AND SHOWN IN DRAWING ARE ONLY INDICATIVE.
6. FACILITIES MARKED "⊕" TO BE REROUTED BY CUSTOMER.
7. SSS ROAD WIDTH IS 7.5M.
8. THE RAILWAY SLIDING INCLUDING THE LOCATION OF WAGON TIPPLER IS SHOWN INDICATIVELY AND IS SUBJECT TO THE APPROVED DRP FOR RAILWAY SLIDING.
9. CUSTOMER SCOPE'S 6.6KV CABLE & 132KV TRANSMISSION LINE ROUTE AND TOWER LOCATIONS ARE INDICATED BASED ON CUSTOMER INPUT.
10. FACILITIES FOR FGD SYSTEM MARKED WITH "*" ARE INDICATIVE ONLY.

REFERENCES:

1. CUSTOMER PLOT PLAN (GENERAL LAYOUT): MEC/G24F/11/14/02 REV 06
2. CUSTOMER PRELIMINARY TOPOGRAPHICAL SURVEY OF PROPOSED PIPE LINE & SLURRY LINE.

LEGENDS:



LEGENDS:-

01	TG BUILDING	07	CHIMNEY	13	AMP COMPRESSOR CUM WATER PUMP HOUSE	19	COAL STOCK PILE	25	FIRE WATER P/H & CLARIFIED WATER PUMPS	31	DELETED	35	CW TREATMENT PLANT	41	CHP MATERIAL STORAGE YARD
02	TRANSFORMER YARD	08	ESP CONTROL ROOM	14	COOLING TOWER	20	CHP CONTROL ROOM	26	F.G.D. SYSTEM FACILITIES	32	FLY ASH SILO, DECANTING SYSTEM & HCS PUMP HOUSE AREA	36	CHLORINE DIOXIDE DOSING SYSTEM	42	STACKER RECLAIMER MATERIAL STORAGE/ ASSEMBLY YARD
03	GIS SWITCHYARD	09	NEW ADMINISTRATIVE BUILDING	15	CWPH	21	COAL SETTLING POND	27	AIR WASHER ROOM (ON ROOF OF CW PH)	33	DELETED	37	DELETED	43	AHP MATERIAL STORAGE YARD
04	BOILER HOUSE	10	INTERMEDIATE ASH SILO	16	CLARIFIED WATER STORAGE TANK	22	WAGON TIPPLER	28	PT PLANT	38	RAIN WATER HARVESTING POND	44	PLANT COMPRESSOR ROOM	45	CENTRAL LUBE OIL BUILDING
05	MILL BAY	11	ASH SLURRY PUMP HOUSE	17	STP (IN DMP & CHP AREA)	23	WAGON TIPPLER CONTROL ROOM	29	D&M STORE	39	SERVICE WATER TANK & PUMPS				
06	ELECTROSTATIC PRECIPITATOR	12	EMERGENCY DG STATION	18	DM STORAGE TANK & DM WATER TRANSFER PUMPS	24	ETP & GUARD POND	30	CRUSHER HOUSE	40	DELETED				

REV	DATE	ALTD	CHKD	APPRD	REV	DATE	ALTD	CHKD	APPRD
04	04.12.16	RK	SPU/AJK	JJ	03	12.08.2016	SK/ANU	SPU/AJK	JJ

REV	DATE	ALTD	CHKD	APPRD	REV	DATE	ALTD	CHKD	APPRD
06	12.08.17	RK	SPU/AJK	JJ	05	16.02.17	RK/ANU	SPU/AJK	JJ

CUSTOMER: **NTPC-SAIL POWER COMPANY LIMITED**

CUSTOMER'S CONSULTANT: **MECON LIMITED**

JOB No: **427**

STATUS: **CONTRACT**

PROJECT: **ROURKELA PP-II EXPANSION PROJECT (1X250 MW)**

CLIENT: **BHARAT HEAVY ELECTRICALS LTD**

PROJECT ENGINEERING MANAGEMENT: **INDIA**

TITLE: **PLOT PLAN**

SCALE: 1:2000

DRAWING No: **PE-DG-427-100-M001**

SHEET 01 OF 01