

CORRIGENDUM – I

Tender No. – BSV0000046 dt. 16.09.2019

Item: CCTV System

Projects: Yadadri 5X800MW

Corrigendum is issued for below changes/clarifications –

Commercial terms –

1. Due date of tender is extended upto **13.00Hrs on 10.10.2019**

2. Payment terms applicable for the tender is as below –

Refer Clause “F” of Instructions to Bidder for BHEL standard Payment terms and loading factors applicable for non-compliance against payment terms:

Indigenous Scope: a) Supply with Erection & Commissioning (For Main supply) c) Supply only (For spares)

Imported Scope: d) Supply with Erection & Commissioning (For Main supply) f) Supply only (For spares)

High-Sea sales: g) Supply with Erection & Commissioning (For Main supply) i) Supply only (For spares)

It supersedes payment term mentioned in Sl. No. 03 in table on Pg. 42 of 84 of tender documents

General clarification on technical specification after pre-bid meeting

1. In case bidders are offering new (unapproved) makes of any item (other than camera), bidder should also offer approved make of the same item. Make and model of both approved and new should be clearly mentioned in priced as well as unpriced BOM. Technical compliance of both makes should be submitted. In case the offered new make is not meeting technical specification, the same will not be accepted and optional make mentioned in BOM will be considered for further evaluation. However, technically complying new makes will be acceptable subject to their acceptance/approval by customer (TSGENCO) during drawing approval (post ordering). In case, offered new makes are not accepted by customer, bidder shall supply alternate approved make without any cost implication and delay.
2. If bidder is offering new camera make (not among approved makes mentioned in technical specification), then bidder should submit all of following to take up with customer for approval
 - a. List of past supplies of offered new camera make having information like project name, quantity of camera, VMS make, Year of supply, year of commissioning, performance certificates issued by user of the system etc.
 - b. Technical compliance in tabular form for offered new make of camera

BHEL will submit the above documents (as furnished by bidder) to customer for approval. If the offered new make is not approved by customer, bidder will be given opportunity to change make of camera along with associated hardware configuration /software make etc to approved makes without any price impact.

3. Bidder shall provide detailed tabular compliance of PQR criteria mentioned at Section-B of technical specification. If all documents to substantiate PQR are not submitted, offer of such bidders will be liable for rejection.
4. **CI 3.02.01** - The redundant camera cum database server for each zone shall be of N:N redundancy.
5. **CI 3.02.01 & 8.06.17** - STP cables is to be offered. UTP cable mentioned in technical specification to be read as STP cable.
6. **CI 3.03.00.d** - The container in which the system is to be supplied shall be weather proof. Bidder should offer suitable container where the ambient inside temperature shall be within permissible storage temperature of their offered systems. The CCTV components shall be stored in the container till such components are taken out and installed & commissioned.
7. **CI 3.05.00** - Erection and commissioning of all items for the complete system, as detailed in technical specification, shall be in bidder scope, except specific exclusions in services mentioned at cl 3.05.00
8. **CI 8.01.06** - BHEL shall provide redundant 230V AC UPS supply to CCTV panel. All items required for power distribution within CCTV panel (including static switch) as well as for powering cameras/switches shall be in bidder's scope.
9. **CI 8.02.00** - Bidder should submit storage calculation for each server considering 24x7 recording for 10days and recording shall be done as per cl 8.06.02.e.
10. **CI 8.02.00** – Storage of video shall be in camera cum database servers as well as NAS.

11. **CI 8.04.00** - The cameras are divided in different zones as per their location/function. However, all these zones are to be interconnected and it shall be possible to view any camera from any monitor irrespective of the zones.
12. **CI 8.06.17.q** - Mini UPS of minimum 1KVA shall be supplied for 60min backup for powering 3-4 camera and 1 edge switch
13. **CI 8.06.11**- Number of guard to be read as 10nos and number of check points to be read as 50nos.
14. **CI 8.06.11**- The video management software specification mentioned are not required for thermal cameras as the thermal cameras will be separate network and the purpose of these camera is to see hot spots in their view including advanced fire detection and temperature exceptions on monitor etc as specified 8.06.02.f.iii.
15. **CI 11.01.00** - Considering that the warranty asked of the system is for lesser duration than anticipated commissioning period, BHEL reserves right to conduct functional inspection of full quantity of all items (including imported) as per BOM during FAT (prior to dispatch). FAT of entire system is to be conducted at bidder's work.
16. **BOM:** Wherever quantity is called in sets, bidder should offer adequate quantity in nos to meet the complete intent of specification and functional requirement of their offered system.
17. **Software Licenses:** All types of licenses being offered for the complete system (as per technical specification and BOM) shall be valid for lifetime without requiring any need of extending the license at additional price. Necessary upgradation in these licenses software (as released from OEM time to time) shall be done by bidder till commissioning and handing over of the complete system without any cost implication to BHEL.
18. It is suggested and recommended that the JB's and Panels being supplied shall be pre-loaded with all electrical, optical and mechanical accessories in bidder's work before dispatch.
19. Power supply will be done using looping. However, it should be possible to electrically isolate any camera without effecting all other cameras in the loop. Similarly, short circuit in one power cable should not affect power of any other component in the entire loop. Necessary MCB and fuse shall be mounted in the JB's.
20. Power supply for camera shall preferably of same make as camera for electrical compatibility and reliability. However, bidder can offer other reputed make if power supply for camera is not in camera OEM manufacturing range.
21. Plot plan (as on today) for the project and tentative camera location list is enclosed. The location of camera can change as per site requirement.

UNIT AREA CAMERA LOCATION LIST

SL. NO.	AREA	LOCATION	QTY.
1	TG Hall	B-Bay	2
2	TG Hall at 8.5M	A/A0	2
3	Control Equip-ment Room	BC Bay	2
4	CCR	Power House Bldg	1
5	Turbine Oil Room	A-Bay	1
6	Switch Gear Room	B/C Bay	2
7	Cable Gallery	Power House Bldg.	4
8	Boiler Feed pump	B-Bay & Column near BFP	2
9	Condensate Extraction Pump	Near CEP	1
10	Transformer Yard	Power House Bldg.	2
11	Generator Seal Oil system	A0 Bay	1
12	Boiler Firing Floor	Boiler Area	4
13	Boiler Area at different elevation	Boiler Gallery	2
14	Coal Mill Area	Mill Bay	2
15	Coal Feeder Area	Mill Bay Op. Floor	2
16	ID Fan	Near ID	1
17	ESP Field Area	ESP Paint House	2
18	FD Fan	Near FD	1
19	PA Fan	Near PA	1
20	Air heater Area	Near PA	2
21	Hydrogen Filling Manifold	Hydrogen Filling Manifold	1
22	MCC Room	B/C Bay	1
23	Switch Gear Room	B/C Bay	1
24	Cable Spr. Room		2
25	Service Building		1
26	Chemical Dosing	Above Control Room	1
27	Deaerator Floor	Above Control Room	1
28	SWAS Room	BC Bay	1
29	Engineer's Room	B/C Bay	1
30	UPS Room	B/C Bay	1
31	Instrument Laboratory	B/C Bay	1
32	Other location to be finalised during erection		5
		TOTAL CAMERA PER UNIT	54
		TOTAL CAMERA FOR 5 UNITS	270

COMMON PLANT AREA CAMERA LOCATION LIST

SL. NO.	AREA	LOCATION	QTY.
1	DG & Compressor House	Compressor House	2
2	ESP Pent House Roof	ESP area	2
3	AHP Compress. Building	AHP Bldg	2
4	FGD Plant	FGD Plant area	2
5	Mill Reject area	Mill Reject area	6
6	Ash Handling Elect Room	Ash Pump Building	1
7	Ash Slurry Pump House area	Ash Pump Building	1
8	HFO-LDO-Pump House	Fuel Oil loading area	2
9	Transformer yard	Transformer yard	6
10	400KV Switch yard	Switch yard area	6
11	Switch yard Control Room	Switch yard area	6
12	Condensate Storage Tank	Condensate Storage Tank area	1
13	Raw Water Storage Reservoir		2

14	Cooling Water Pump House		2
15	NDCT		2
16	DM Plant Building	DM Plant area	3
17	Clarified Water Pump House		2
18	Chemical House		1
19	Filtered Water & DM Water Storage Tank	Filtered Water Storage Tank area	2
20	DM Water Pump House	DM Plant area	2
21	Bulk Chemical Area	DM Plant area	2
22	Storage Area		5
23	Site Office		4
24	Canteen		2
25	Fire Station		2
26	Admin Building		8
27	Service Building		5
28	Workshop		4
29	Air Washer room		2
30	TG Trnaformers in Power House		25
31	CPU Generation Area	CPU Generation Area	2
32	Ash Water Pump House	Ash Water Pump House	2
33	AHP Control room	AHP Bldg	2
34	Vaccum Pump House	Vaccum Pump area	2
35	Fly Ash Silo area	Fly Ash Silo area	5
36	HCSD Pump House and areas	HCSD Pump House areas	5
37	Ash Slurry Pump House	Ash Slurry areas	2
38	CW Treatment area		4
39	Filtered Water Tank	Filtered Water Tank	2
40	Filtered Water Tank	Filtered Water Tank	2
41	Main entry Gate-	Main Gate	5
42	Other location to be finalised during erection		3
		TOTAL CAMERA FOR CPA	148

THERMAL CAMERA CAMERA LOCATION LIST

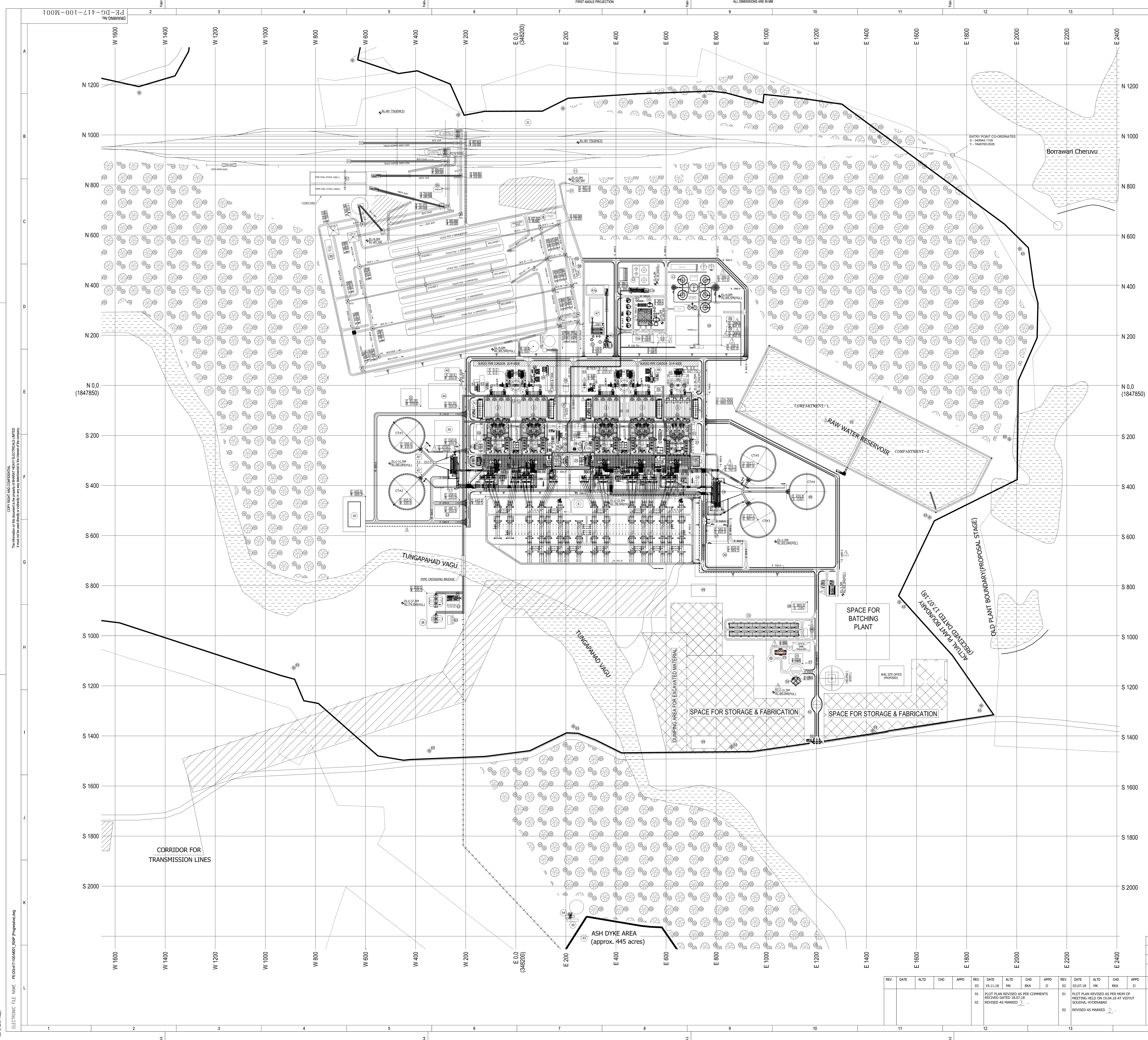
SL. NO.	AREA	LOCATION	QTY.
1	Transformer are		12
2	Switchyard area		10
		TOTAL THERMAL CAMERAS	22

CHP AREA CAMERA LOCATION LIST

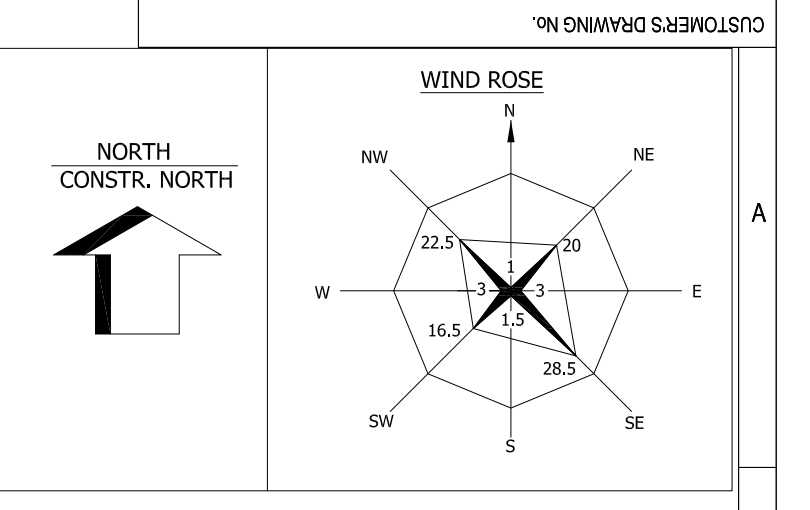
SL. NO.	AREA	LOCATION	QTY.
1	CHP Area		32
2	CHP Control Room		3
3	Crusher House & MCC Room	Crusher Control room	15
4	Tracker Hopper Area	Tracker Hopper Area	10
5	Conveyor & Transfer Point	CHP Area	60
		TOTAL CAMERA FOR CPA	120

COMMON PLANT AREA CAMERA LOCATION LIST

SL. NO.	AREA	LOCATION	QTY.
1	Power plant boundary wall	Distributed	90
		GRAND TOTAL OF CAMERA QTY	650



S.No.	DESCRIPTION	CONFIG	SCOPE	ZONE	
1	POWER HOUSE BLDG	-	BHEL	F-4.783	
2	BOILER	-	BHEL	F-4.783	
3	ESP	-	BHEL	E-4.783	
4	ESP CONTROL BUILDING	-	BHEL	E-4.783	
5	CHIMNEY	2x21	BHEL	E-6.783	
6	TRANSFORMER YARD	-	BHEL	E-4.783	
7	SWITCHYARD & SWMT CONT. ROOM	-	BHEL	F-7	
8	SERVICE BLDG	2 Nos.	TSGENCO	F-7 & F-8	
9	DG BUILDING	3 Nos.	BHEL	F-8.85	
10	SPACE FOR AIR WASHER	-	BHEL	F-8.7.8.8	
11	DM PLANT	COMMON	BHEL	D-8	
12	CFU REGEN PLANT	COMMON	BHEL	E-8	
13	FUEL OIL UNLOADING BY RAIL/PSU	COMMON	BHEL	D-7	
14	FUEL OIL TANK FARM AREA	COMMON	BHEL	D-8	
15	FUEL OIL FORWARDING PH	COMMON	BHEL	D-8	
16	PRE-TREATMENT PLANT	COMMON	BHEL	D-9	
17	SW OVERHEAD TANK	1 No.	BHEL	F-9	
18	FIRE WATER PH CUM TANK	COMMON	BHEL	E-8	
19	CLARIFIED WATER PH CUM TANK	2 + 3	BHEL	D-9	
20	WASTE WATER PLANT & COOLERS SHED	COMMON	BHEL	F-8.8.9	
21	OW PH & FOREWAY	2 + 3	BHEL	F-8.8.9	
22	CHLORINATION & OXID. TREAT. PLANT	2 + 3	BHEL	F-8.8.9	
23	EFFLUENT TREAT. PLANT	COMMON	BHEL	E-9	
24	SEWAGE TREAT. PLANT	COMMON	BHEL	F-8	
25	ADMIN. BUILDING	COMMON	TSGENCO	H-10	
26	FIRE STATION BUILDING	COMMON	TSGENCO	G-10	
27	CANTEEN	2 Nos.	TSGENCO	F-7 & G-10	
28	FLY ASH BLD AREA	COMMON	BHEL	D-8	
29	CHEMICAL LAB. (PART OF PT PLANT)	COMMON	TSGENCO	G-10	
30	WORKSHOP	COMMON	BHEL	TSGENCO	G-10
31	COMPRESSOR HOUSE	2 + 3	BHEL	F-8.8.9	
32	COAL STOCK AREA	COMMON	BHEL	E-4.7 & C-47	
33	MANSHANG YARD, WMS TSGENCO	COMMON	TSGENCO	B-1 TO B-7	
34	GATE COMPLEX CUM SECURITY BLDG.	COMMON	TSGENCO	L-10	
35	PERMANENT STORES (WAREHOUSE)	184	TSGENCO	H-8.10	
36	AUXILIARY BOILER	COMMON	BHEL	E-7.88	
37	CHP ELECTRICAL BLDG. 1	1 No.	BHEL	B-8.8	
38	CHP ELECTRICAL BLDG. 2	1 No.	BHEL	B-8.8	
39	CHP ELECTRICAL BLDG. 3	1 No.	BHEL	G-4	
40	CHP ELECTRICAL BLDG. 4	1 No.	BHEL	E-7	
41	CHP ELECTRICAL BLDG. 5	1 No.	BHEL	E-7	
42	CHEMICAL LAB (PCR)	2 Nos.	TSGENCO	D-9	
43	JACOBI (HUMAN SHED)	2 Nos.	BHEL	F-7.8.8.9	
44	CST + PUMP HOUSE	2 Nos.	BHEL	F-7	
45	SWMP, CLAMPER, CHEM. BLDG & MCC	COMMON	BHEL	D-7	
46	MOCT	1 No.	BHEL	E-8.8 & F-8.10	
47	RAW WATER RESERVOIR	COMMON	TSGENCO	E-10.11	
48	PLY CONTAMINATION STONE	COMMON	TSGENCO	L-10	
49	ASH DYKE AREA (WMS TSGENCO)	-	TSGENCO	L-7.8	
50	AMMONIA STORAGE & HANDLING PLANT	COMMON	BHEL	E-8	
51	FGS	COMMON	BHEL	E-8.7.8.8.9	
52	LIME STONE PREPARATION AREA	COMMON	BHEL	D-7.88	
53	OTYRUM GENERATORS & STORAGE	COMMON	BHEL	D-7.88	
54	LIME STONE STORAGE SHADE	COMMON	BHEL	D-7.88	
55	FGS MCC & CONTROL ROOM	2 Nos.	BHEL	E-8.8.8.8.9	
56	RAW WATER HARVESTING PONDS	3 Nos.	TSGENCO	G-8.8.8.8.9	
57	ASH SLURRY PUMP HOUSE	3 Nos.	BHEL	F-8.8.7.8.8	
58	VACUUM PUMP HOUSE	5 Nos.	BHEL	G-8.7.8	
59	CLAMPER & CHEM. BLDG.	COMMON	BHEL	D-7	
60	ASH WATER P/WITH TANK	COMMON	BHEL	D-7	
61	AHP COMPRESSOR HOUSE	2 Nos.	BHEL	-	
62	AHP ELECTRICAL BLDG. 1	1 No.	BHEL	E-7.8.8.8.9	
63	AHP ELECTRICAL BLDG. 2	1 No.	BHEL	F-8.8.8.9	
64	AHP ELECTRICAL BLDG. 3	1 No.	BHEL	F-8.8.8.9	
65	AHP ELECTRICAL BLDG. 4	1 No.	BHEL	-	
66	AHP ELECTRICAL BLDG. 5	1 No.	BHEL	-	
67	AHP ELECTRICAL BLDG. 6	1 No.	BHEL	-	
68	HELIPAD (EXEMPTED BY TSGENCO)	-	TSGENCO	-	
69	GRVY	03 Nos.	BHEL	C-4.7.8.7.7	
70	RAW COAL STOCKYARD	-	BHEL	C-4.5	
71	COAL PILE RUN UP POND	-	BHEL	D-7	
72	SIMULATOR CUM TRAINING BLDG.	COMMON	TSGENCO	H-10	
73	WEIGH BRIDGE (ITEM)	1 No.	BHEL	H-10	
74	11KV & 33KV SWGR	2 Nos.	BHEL	F-8.8.8.9	
75	FLY ASH EQUIPMENT TOWER	5 Nos.	BHEL	E-6.7.8	
76	HOT TAP ROSE OR RELEVANT EQUIPMENT	1 No.	BHEL	H-9	
77	HOT TAP ROSE OR RELEVANT EQUIPMENT	1 No.	BHEL	H-9	
78	BA OVER FLOW TANK CUM DRAIN SUMP	1 No.	BHEL	F-8.7.8.8	
79	WATCH TOWER	2 Nos.	TSGENCO	G-8.8.8.8.9	



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CUSTOMER:
TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA INDIA
YADADRI TPS (5X800 MW)

CONSULTANT:
TATA CONSULTING ENGINEERS LIMITED
BANGALORE INDIA

CLIENT:
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR PROJECT ENGINEERING MANAGEMENT
NOIDA

TITLE	SCALE	DRAWING NO.	REV.
PLOT PLAN	1:5000	PE-DG-417-100-M001	03