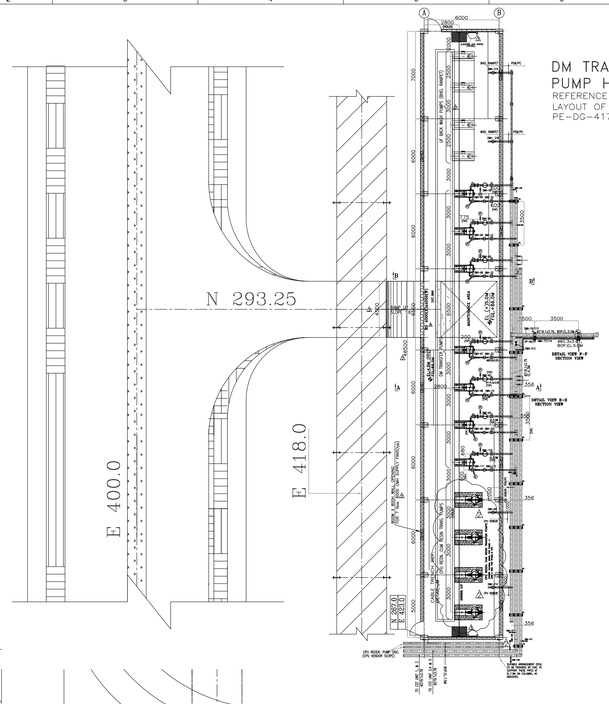
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DRAWING No.

CUSTOMER'S DRAWING No.



EQUIPMENT LIST :-

CPU REGENERATION BUILDING

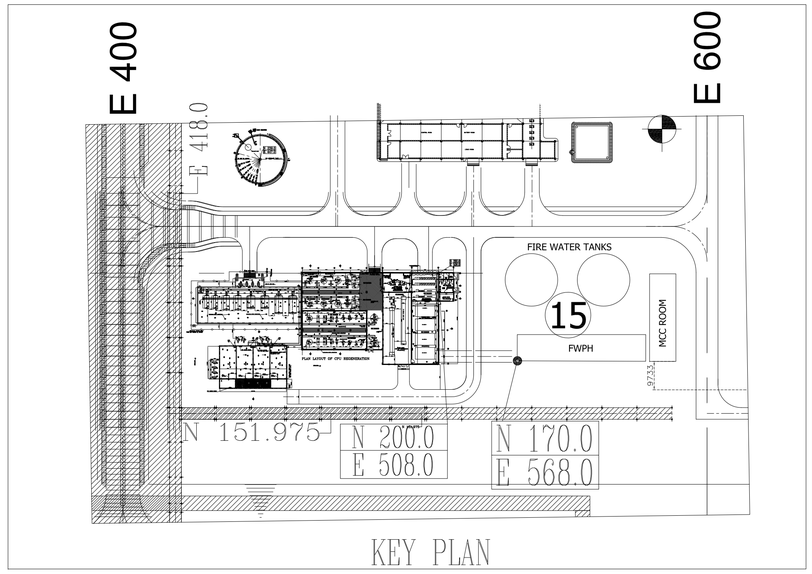
	S.No.	EQUIPMENT	APPROX. SIZE OF EQUIPMENT	Q'TY
#	01	MIXED RESIN STORAGE VESSEL	APPROX. 2200mmDia x 5000mmHOS	2 Nos.
#	02	SEPERATION/CATION REGENERATION VESSEL	APPROX. 2150mmDia x 4800mmHOS	2 Nos.
#	03	ANION REGENERATION VESSEL	APPROX. 2200mmDia x 4600mmHOS	2 Nos.
#	04	RESIN MAKEUP HOPPER	APPROX. 900mm x 900mm x 900mm(H)	2 Nos.
	05	CPU REGENERATION CUM RESIN TRANSFER PUMPS (LOCATED IN LAYOUT OF DM TANK & P/H)	APPROX.1800mm(L)x850mm(W)	4 Nos.
	06	REGENERATION AIR BLOWERS	APPROX.2000mm(L)x1500mm(W)	4 Nos.
	07	NEUTRALIZATION PIT	APPROX. 11M(L) x 5.5M(W) x 3.6M(H) (1 COMP.)	4 Nos.
	08	HOT WATER TANK	APPROX. 2600mmDia x 2900mmHOS	2 Nos.
#	09	ACID MEASURING TANK FOR CATION	APPROX. 2050mmDia x 1800mmHOS	2 Nos.
	10	ACID DOSING PUMPS	APPROX.2000mm(L)x900mm(W)	4 Nos.
#	11	ALKALI MEASURING TANK FOR ANION	APPROX. 1250mmDia x 1200mmHOS	2 Nos.
	12	ALKALI DOSING PUMPS	APPROX.800mm(L)x600mm(W)	4 Nos.
	13	ACTIVATED CARBON FILTER	APPROX.1100mmDia x 2200mmHOS	2 Nos.
	14	ALKALI TRANSFER CUM RECIR. PUMPS	APPROX.1200mm(L)x525mm(W)	4 Nos.
	15	BULK ACID STORAGE TANK FOR STAGE-1 REGENERATION SYSTEM	APPROX.1500mmDia x 4250mm(L)	2 Nos.
	16	BULK ACID STORAGE TANK FOR STAGE-2 REGENERATION SYSTEM	APPROX.2000mmDia x 4750mm(L)	2 Nos.
	17	BULK ALKALI STORAGE TANK FOR STAGE-1 REGENERATION SYSTEM	APPROX.2750mmDia x 4000mm(L)	2 Nos.
	18	BULK ALKALI STORAGE TANK FOR STAGE-2 OF REGENERATION SYSTEM	APPROX.2750mmDia x 5750mm(L)	2 Nos.
	19	ACID UNLOADING / TRANSFER PUMPS	APPROX.685mm(L)x220mm(W)	4 Nos.
	20	ALKALI UNLOADING / TRANSFER PUMPS	APPROX.685mm(L)x220mm(W)	4 Nos.
	21	N. PIT EFFLUENT TRANSFER PUMPS (VERTICAL)	----------	4 Nos.
	22	ACID MEASURING TANK FOR N.PIT	APPROX. 1000mmDia x 1000mmHOS	2 Nos.
	23	ALKALI MEASURING TANK FOR N.PIT	APPROX. 1000mmDia x 1000mmHOS	2 Nos.
#	24	AIR BLOWER FOR N. PIT	APPROX.1000mm(L)x500mm(W)	4 Nos.

C&I BATTERY PANEL/BOX DETAILS

S.No.	EQUIPMENT	APPROX. SIZE OF EQUIPMENT	Q'TY
25	WALL MOUNTED BATTERY JUNCTION BOX	650 MM L X 300 MM D X 550 MM H	1NO.
26	WALL MOUNTED BHMS DISPLAY PANEL	500 MM L X 150 MM D X 500 MM H	1NO.
27	WALL MOUNTED BHMS INTERFACE PANEL	300 MM L X 200 MM D X 500 MM H	4 NOS

TABLE : VENTILATION FANS DETAILS

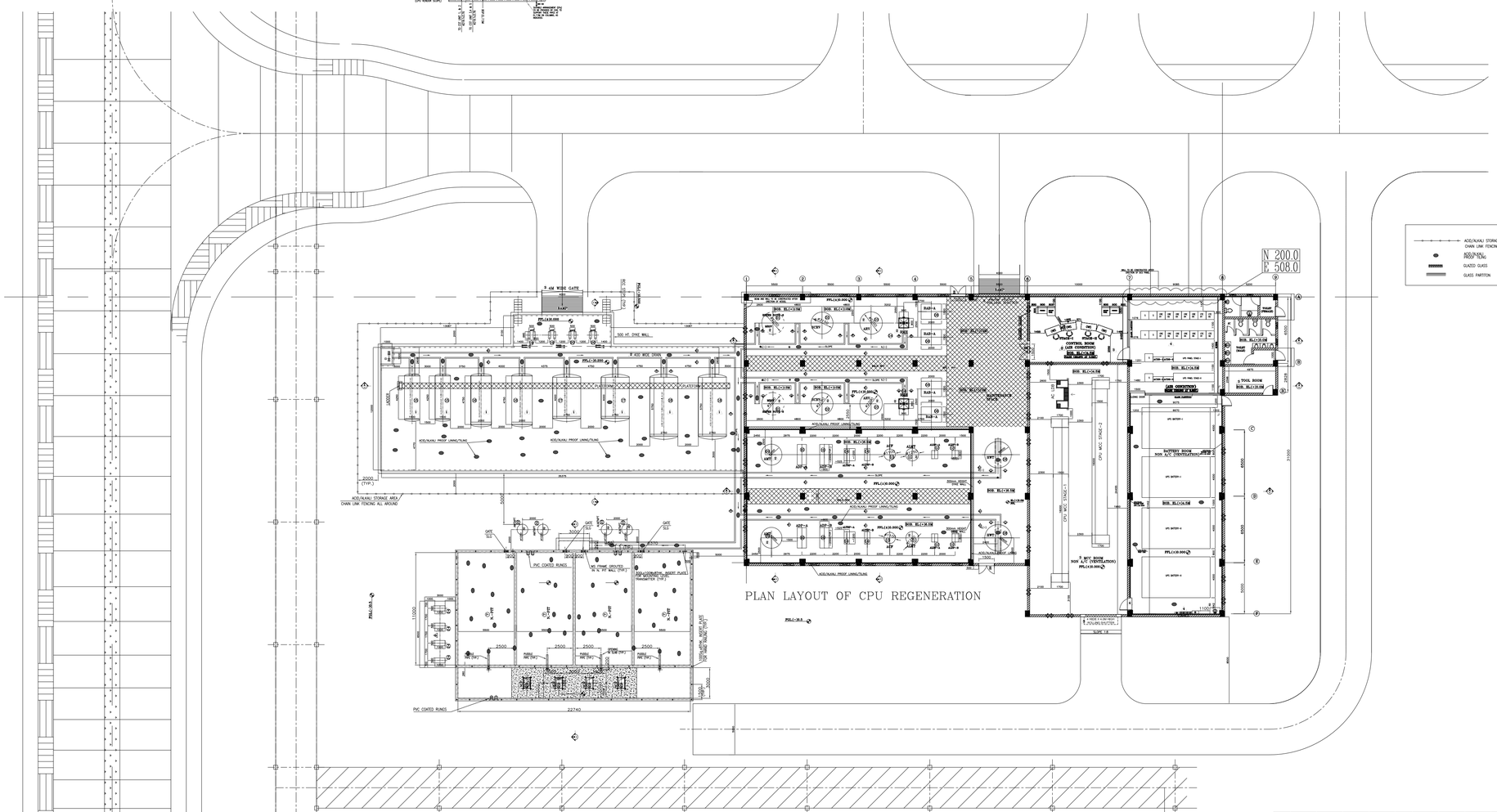
TYPE OF VENTILATION	ACPH	CAPACITY	NO OF FANS
WALL MOUNTED EXHAUST FANS FOR THE CPU REGEN AREA.	10	7500 CMH	12
WALL MOUNTED SUPPLY FANS FOR THE MCC ROOM	15	7500 CMH	2
WALL MOUNTED EXHAUST FANS FOR THE MCC ROOM		6000 CMH	2
WALL MOUNTED EXHAUST FANS FOR THE BATTERY ROOM	20	7500 CMH	26 + 35
WALL MOUNTED EXHAUST PROPELLER FANS FOR TOILET	5	1200 CMH	4



KEY PLAN

LEGEND:-

RMH	RESIN MAKEUP HOPPER
ARV	ANION REGENERATION VESSEL
SCRV	SEPARATION/ CATION / ANION REGENERATION VESSEL
MRSV	MIXED RESIN STORAGE VESSEL
RAB	REGENERATION AIR BLOWERS
HWT	HOT WATER TANK
ALMT	ALKALI MEASURING TANK
ALDP	ALKALI DOSING PUMPS
AMT	ACID MEASURING TANKS
ADP	ACID DOSING PUMPS
N-PIT	NEUTRALIZATION PIT
CPURP	CPU REGENERATION CUM RESIN TRANSFER PUMPS
EL	ELEVATION
BOB	BOTTOM OF BEAM
SLG	SLUICE GATE
MCC	MOTOR CONTROL CENTER
FGL	FINISHED GROUND LEVEL
FFL	FINISHED FLOOR LEVEL
TOC	TOP OF CONCRETE
D1	SINGLE DOOR
D2	DOUBLE DOOR
IL	INVERT LEVEL
ALTRP	ALKALI TRANSFER CUM RECIRCULATION PUMP
ACF	ACTIVATED CARBON FILTER
AMTNPT	ACID MEASURING TANK FOR N.PIT
ALMTNPT	ALKALI MEASURING TANK FOR N.PIT
BAST	BULK ACID STORAGE TANK
BCST	BULK ALKALI STORAGE TANK
ALIP	ACID UNLOADING PUMP
ALUP	ALKALI UNLOADING PUMP
NETP	NEUTRALISED EFFLUENT TRANSFER PUMP



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETER AND ELEVATIONS IN METRES.
2. ALL DRAIN CHANNELS WILL BE PROVIDED WITH ACID/ALKALI RESISTANT TILING.
3. ACID/ALKALI DYKE AREA FLOOR & WALLS TO BE PROVIDED WITH ACID/ALKALI RESISTANT TILING.
4. ALL ELEVATIONS ARE MARKED W.R.T. EL(+/-) 0.00 (FINISH FLOOR LEVEL) WHICH CORRESPONDS TO RL(+)86.0M.
5. THE DIMENSIONS SHOWN HERE ARE INDICATIVE AND MAY UNDER GO MINOR CHANGE BASED ON THE SUPPLIER SPECIFIC REQUIREMENT DURING DETAIL ENGINEERING. HOWEVER OVERALL BUILDING DIMENSIONS WILL REMAIN UNCHANGED.
6. THIS VESSEL IS APPLICABLE ONLY BASED ON SUPPLIER REGENERATION PROCESS RECOMMENDATION. IN CASE THE VESSEL IS NOT APPLICABLE THEN THE SPACE WILL REMAIN VACANT AND CAN BE UTILIZED FOR MAINTENANCE PURPOSE.
7. ⟶ DENOTES DIRECTION OF SLOPE.
8. ALL CIVIL WORKS INCLUDING ACID/ALAKLI PROOF LINING/TILING/PVC LINING, PRECAST SLAB, RUNGS, HAND RAILING TO NEUTRALIZATION PIT, AIR CONDITIONING/VENTILATION SYSTEM IS IN M/s BHEL SCOPE.
9. ALL EFFLUENT DRAINS AND INCLUDING DRAINS LEADING TO NEU. PIT ARE TO BE LINED WITH ACID AND ALAKLI PROOF LINING AND DRAIN WIDTHS & DEPTH SHOWN ARE FINISHED DIMENSION AFTER LINING.
10. ACID/ALKALI PROOF LINING SHOWN THUS &
11. DRAIN INSIDE THE BUILDING SHALL BE COVERED BY PRECAST SLAB/GI GRATING.
12. DRAIN OUTSIDE THE BUILDING SHALL BE COVERED BY PRECAST SLAB.
13. LOCATION OF ALL SKID BASED EQUIPMENT SHOWN ARE INDICATIVE AND SHALL BE SUITABLY ADJUSTED TO MEET THE SKID/PIPING REQUIREMENTS CONSIDERING SOME MINOR VARIATIONS.
10. FOR CIVIL ASSIGNMENT DRAWING OF CONDENSATE POLISHING UNIT (REGENERATION AREA) SHALL BE PROVIDED IN M/s BHEL DRAWING NO.: PE-DC-417-155-A030.
11. FOR CABLE TRAY/TRENCH & CONDUIT ROUTING AND EARTHING LAYOUT DIAGRAM FOR TRAY/(REGENERATION AREA) SHALL BE PROVIDED IN M/s BHEL DRAWING NO.: PE-DC-417-155-A048.
12. FOR PIPING LAYOUT (REGENERATION AREA) FOR CONDENSATE POLISHING UNIT SHALL BE PROVIDED IN M/s BHEL DRAWING NO.: PE-VD-410-155-A034.
13. N. PIT IS PROVIDED WITH NECESSARY AIR GRID ARRANGEMENT.
14. AC & VENTILATION DETAILS SHALL BE FURNISH IN ARCHITECTURAL DRG. BY CIVIL AND SHALL BE FINALISED DURING DETAIL ENGINEERING BY M/s BHEL AS THE SAME IN BHEL SCOPE.
15. PLEASE REFER ELECTRICAL LAYOUT INCLUDING CABLE TRAY LAYOUT DRAWING (REFER BHEL DRG. NO. PE-DG-417-100-E121).
16. EXACT LOCATION OF FANS AND LOUVRES ARE TENTATIVE AND FINALIZED IN ARCHITECTURAL DRAWINGS. CONTROL ROOM AND UPS PANEL ROOM SHALL BE PROVIDED WITH SPLIT AIR CONDITIONERS.
17. TOOL ROOM FURNITURE AND ACCESSORIES ARE IN TSGENCO SCOPE.

CUSTOMER:

TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA, INDIA
5 x 800 MW YADADRI TPS, NALGONDA

OWNER'S CONSULTANT:

TATA CONSULTING ENGINEERS LIMITED,BANGALORE

JOB NO. 417

CONTRACT

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

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DEPT CODE		NAME	SIGN	DATE
M	DRN:	DK		19-01-2019
	DESN	MKG		19-01-2019
	CHD	JP/SB		19-01-2019
	APPD	SKB		19-01-2019

TITLE

EQUIPMENT LAYOUT OF CONDENSATE POLISHING UNIT (REGENERATION AREA)

DEPT. | SCALE | SIGN

DRAWING NO. PE-DG-417-155-A003

SHEET 01 OF 02 | REV. 04

SIZE-A0

REV.	DATE	ALTD	CHD	APPD
04	01.10.2020	DK	MKG/SB	SKB

Revised as per TCE comments received vide transmittal no. TCE.11005A-ME-VDT-460 dated 03/SEP/2020

REV.	DATE	ALTD	CHD	APPD
01	13.12.19	MKG	JP/SB	SKB

Revised as per TCE comments received vide transmittal ref no. TCE.11005A-ME-VDT-348 dated 17/10/2019

REV.	DATE	ALTD	CHD	APPD
02	19.6.2020	DK	MKG/SB	SKB

Revised as per TCE comments received vide transmittal no. TCE.11005A-ME-VDT-383 dated 20/Feb/2020.

COMPUTER FILE NAME: --

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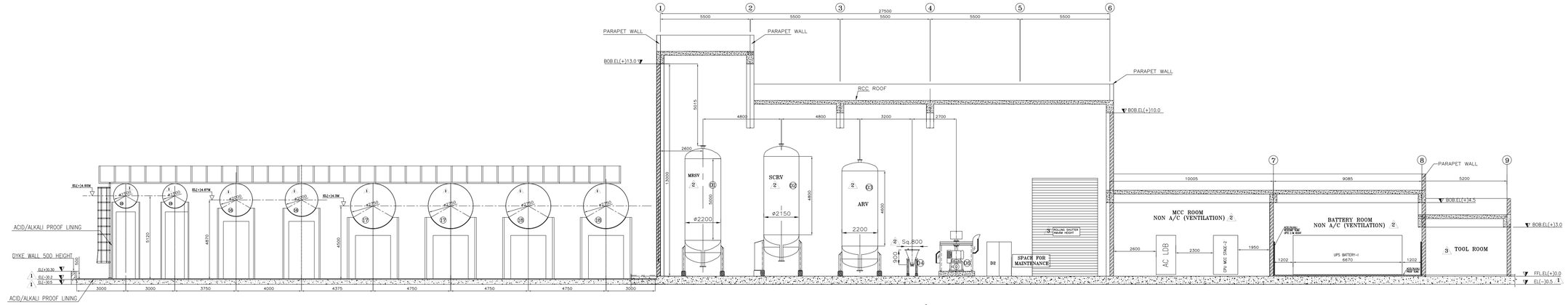
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DRAWING No.

CUSTOMER'S DRAWING No.



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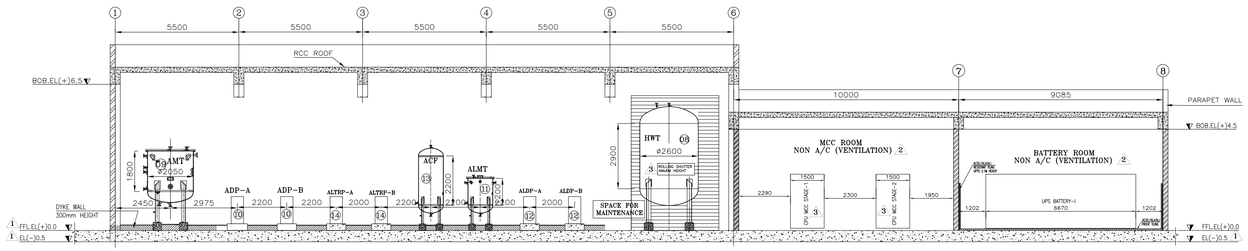

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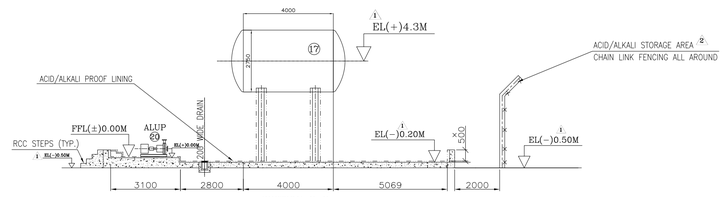

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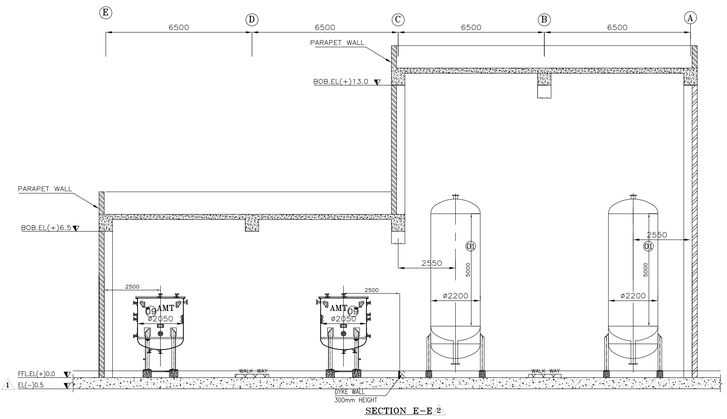

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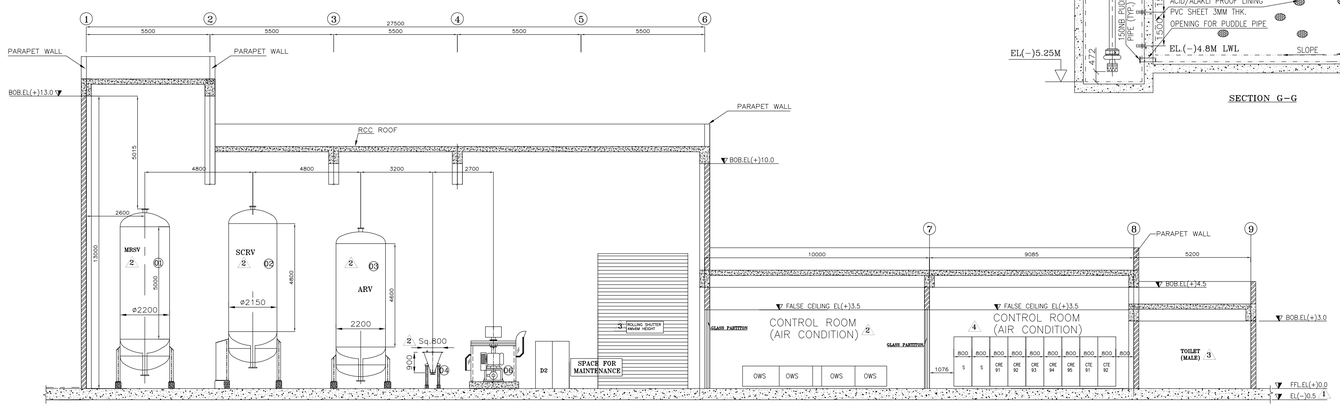

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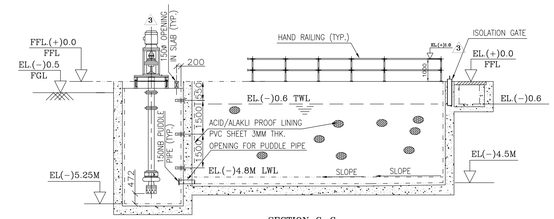

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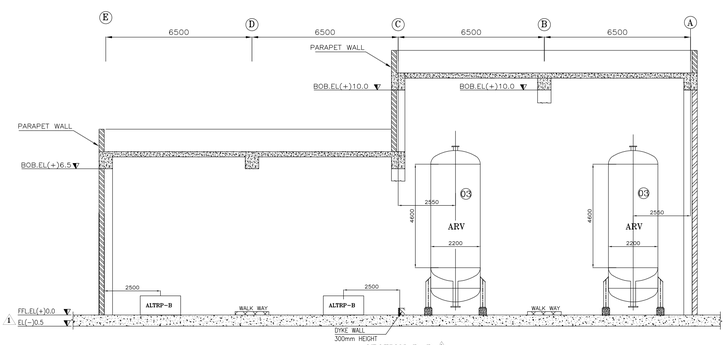

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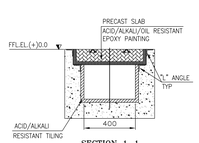

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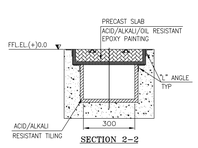

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REV.	DATE	ALTD	CHD	APPD
04	01.10.2020	DK	MKG/SB	SKB
Revised as per TCE comments received vide transmittal no TCE.11005A-ME-V/DT-460 dated 03/SEP/2020				

REV.	DATE	ALTD	CHD	APPD
01	13.12.19	MKG	JP/SB	SKB
Revised as per TCE comments received vide transmittal ref no. TCE.11005A-ME-VDT-348 dated 17/10/2019				

REV.	DATE	ALTD	CHD	APPD
02	19.6.2020	DK	MKG/SB	SKB
Revised as per TCE comments received vide transmittal no TCE.11005A-ME-VDT-383 dated 20/Feb/2020.				

417

CONTRACT

CUSTOMER: TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA, INDIA
5 x 800 MW YADADRI TPS, NALGONDA

OWNER'S CONSULTANT: TATA CONSULTING ENGINEERS LIMITED,BANGALORE

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

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DEPT CODE		NAME	SIGN	DATE
M	DRN	DK		19-01-2019
	DESN	MKG		19-01-2019
	CHD	JP/SB		19-01-2019
	APPD	SKB		19-01-2019

TITLE
EQUIPMENT LAYOUT OF CONDENSATE POLISHING UNIT (REGENERATION AREA)

DEPT. SCALE SIGN

DRAWING NO. PE–DG–417–155–A003 3

SHEET 02 OF 02 REV. 04

SIZE-A0

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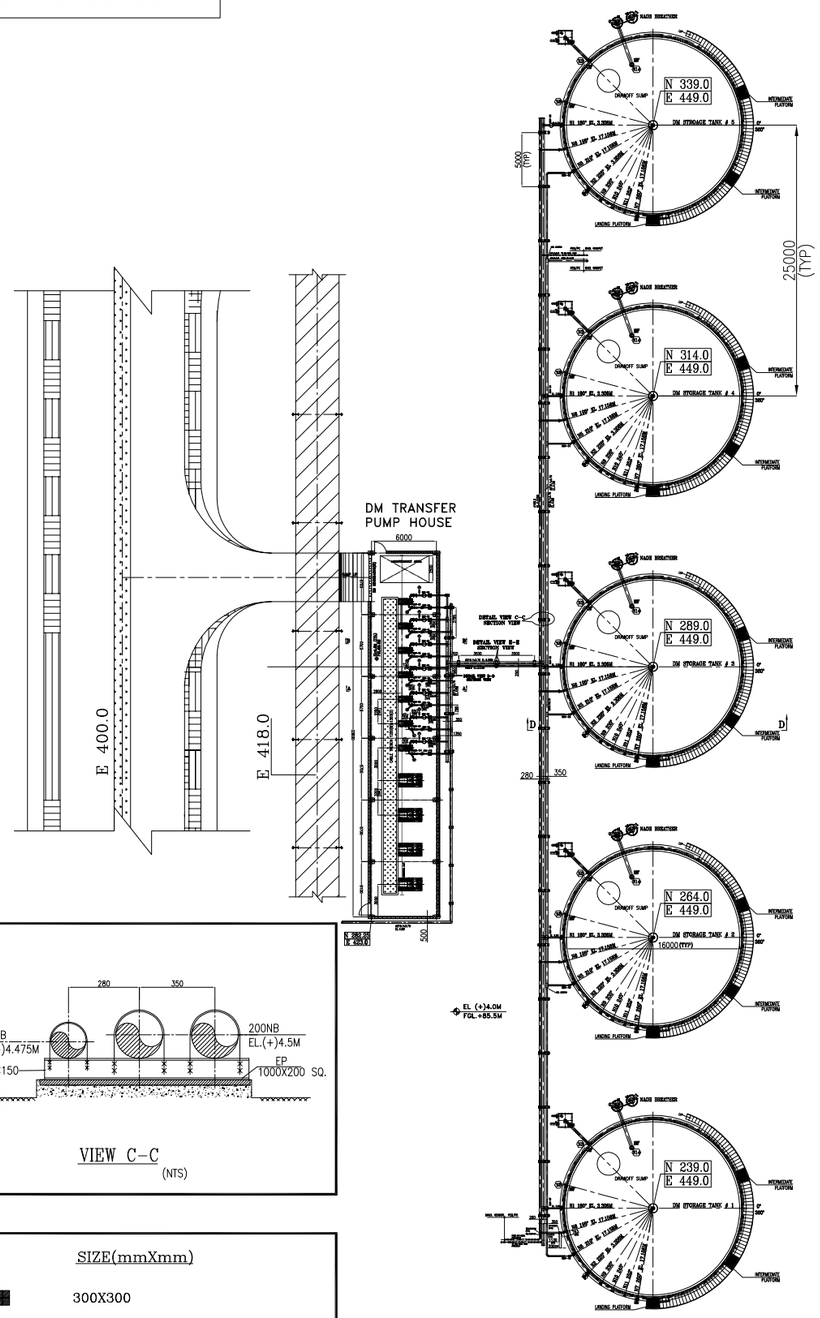

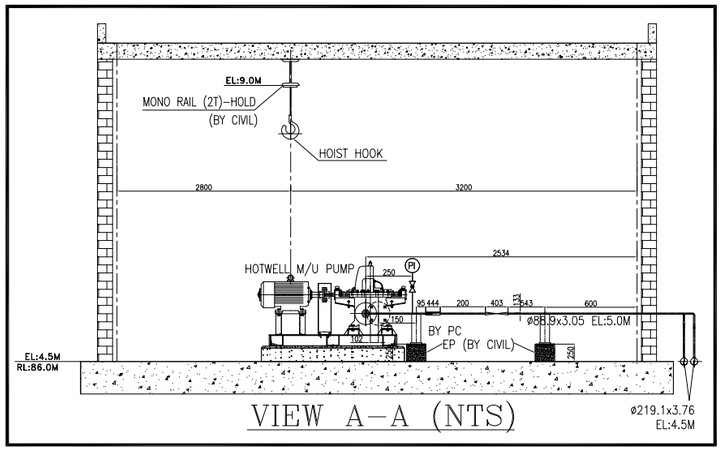

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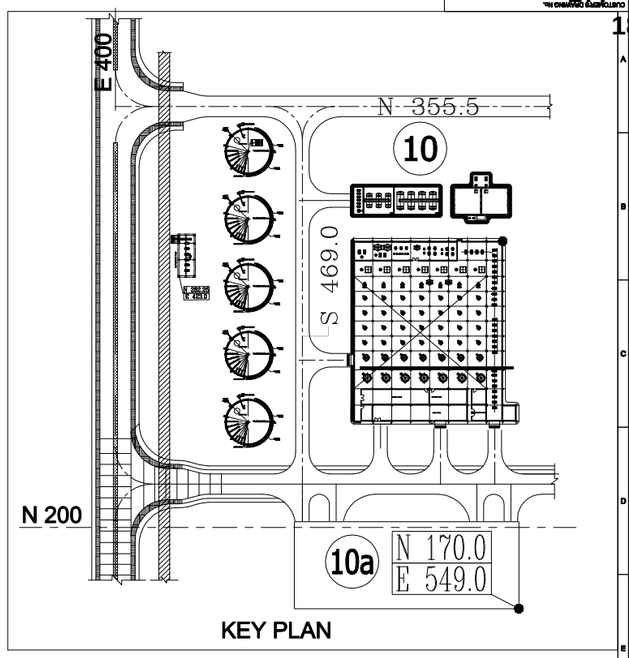
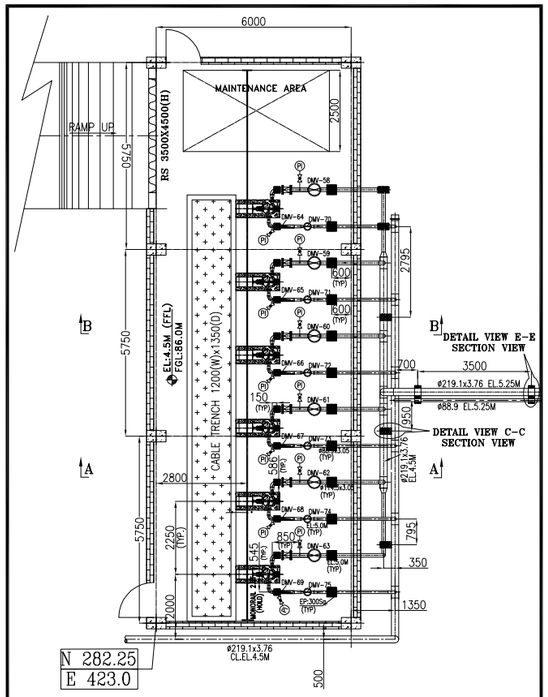
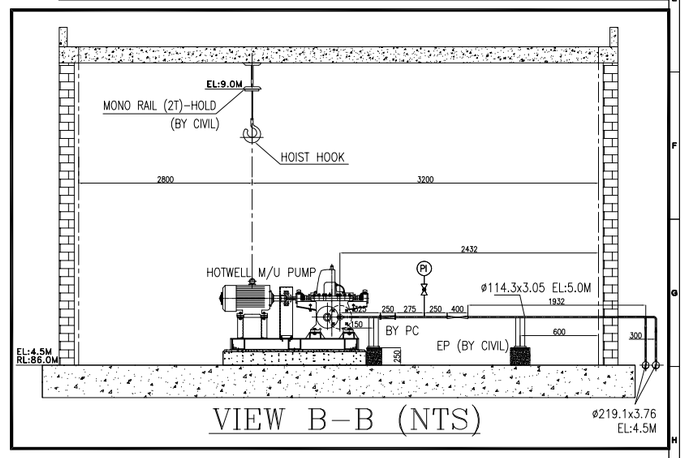


KEY PLAN



ENLARGED VIEW DM TRANSFER PUMP HOUSE (SCALE:1:75)



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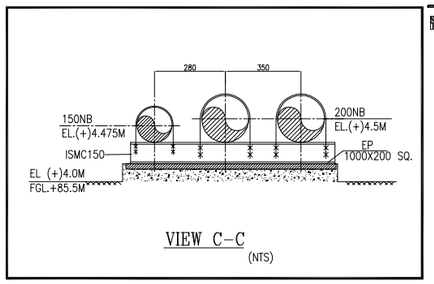

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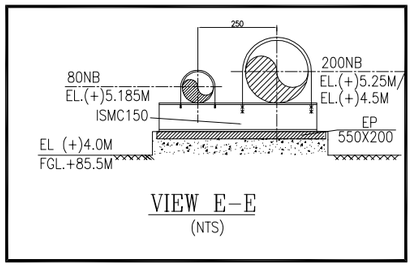

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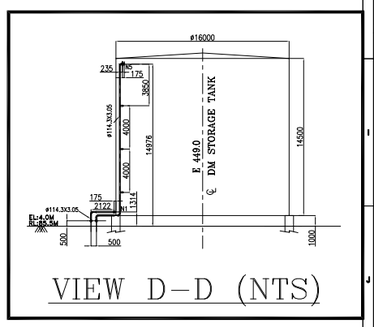

VIEW D–D (NTS)

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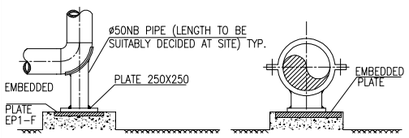

TYPICAL FLOOR SUPPORTS

REFERENCE DRGS:

SL NO	TITLE	DRG. NUMBER	UNIT
1	PLOT PLAN	PE-DG-417-100-M001	PEM
2	P & ID CONDENSATE TRANSFER SYSTEM	PE-DG-417-100-N109	PEM
3	P & ID DM MAKE UP WATER SYSTEM	PE-DG-417-100-N110	PEM
4	GA OF DM TRANSFER PUMP	PE-V7-417-100-XXXX	PEM / VENDOR
5	GA OF STRAINER	PE-V7-417-100-XXXX	PEM / VENDOR
6	PIPE SCHEDULE	PE-DC-417-100-N121	PEM
8	DM STORAGE TANK	PE-DG-417-167-A001	PEM / VENDOR

DM WATER STORAGE TANK NOZZLE SCHEDULE

SL NO	NOZZLE	SIZE (NB)	ELEVATION.	SERVICE	PROJECTION
1	N1	100	5.314	CONDENSATE OUTLET	-
2	N2	150	5.314	SPARE	-
3	N3	100	5.308	DRAIN	-
4	N4	150	18.892	OVERFLOW	-
5	N5	100	18.976	DM WATER INLET	-
6	N6	100	5.314	PUMP RECIRCULATION	-
7	N7	100	18.976	SPARE	-

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE MARKED w.r.t. T.G. HALL FINISHED FLOOR LEVEL AS +0.0M WHICH CORRESPONDS TO RL +91.5M.
3. DESIGN PARAMETERS :
   3.1. DESIGN PRESSURE FOR DM TRANSFER PUMP DISCHARGE PIPING SHALL BE CORRESPONDING PUMP SHUT OFF HEAD OF THE PUMP.
   3.2. DESIGN MECH. TEMPERATURE:= 50° C.
4. STAINLESS STEEL FITTINGS SHALL BE TO ASTM A-403 OF CORRESPONDING PIPE THICKNESS (AS A MIN.) WITH DIMENSIONS TO ANSI B 16.9.
5. COUNTER FLANGES FOR PUMPS, TANKS SHALL BE SUPPLIED ALONG WITH EQUIPMENT. BALANCE COUNTER FLANGES AS APPLICABLE SHALL BE SUPPLIED BY PIPING CENTER.
6. FOR NORMAL MEASUREMENT INSTRUMENT STUBS ARE TO BE AS PER DRG. NO. PE-DG-417-145-1101.
7. UNLESS NOTED OTHERWISE ALL DRAINS & VENT SHALL BE OF 25NB.
8. DRAINS & VENTS ALONG WITH DRAIN & VENT VALVES SHALL BE PROVIDED AT ALL LOW POINTS AND HIGH POINTS RESPECTIVELY.
9. LOCATION OF VARIOUS STUBS SHALL BE AS PER PIPING CENTER DETAILED DRG.
10. ALL PIPE DETAILS WILL BE MATCHED WITH FINAL APPROVED DRGS. OF PEM VENDORS FOR ALL BOI LIKE PUMPS, VALVES.
11. STRAINERS ALONG WITH COUNTER FLANGE ARE IN PEM (MSE) SCOPE OF SUPPLY.
12. RACK PIPING IS SHOWN FOR REFERENCE ONLY FOR DETAILING PLEASE REFER RESPECTIVE PIPING AND CABLE RACK DRAWINGS.
13. COMMISSIONING STRAINER INDICATED AT ALL THE PUMP SUCTION AS PER RESPECTIVE P&ID.
14. CONCRETE PEDESTALS, EP & CHANNEL TO BE PROVIDE BY CIVIL.

HOLD
1. GA OF DM TRANSFER PUMPS
2. GA OF STRAINER

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD

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

CONSULTANT: TATA CONSULTING ENGINEERS LIMITED
BANGALORE INDIA

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR PROJECT ENGINEERING MANAGEMENT
NOIDA

JOB NO. 417
STATUS CONTRACT
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	DEPT CODE	NAME	SIGN	DATE
M	DRN	AS		31.10.2016
	DESN	MK/DK		31.10.2016
	CHD	MK		31.10.2016
	APPD	BKA		31.10.2016

TITLE
LAYOUT OF PIPING IN & AROUND DM TANK & P/H

DEPT. SCALE 1:200
SIGN
DRAWING NO. PE-DG-417-100-M041
SHEET 1 OF 1 REV. 01
SIZE-A0

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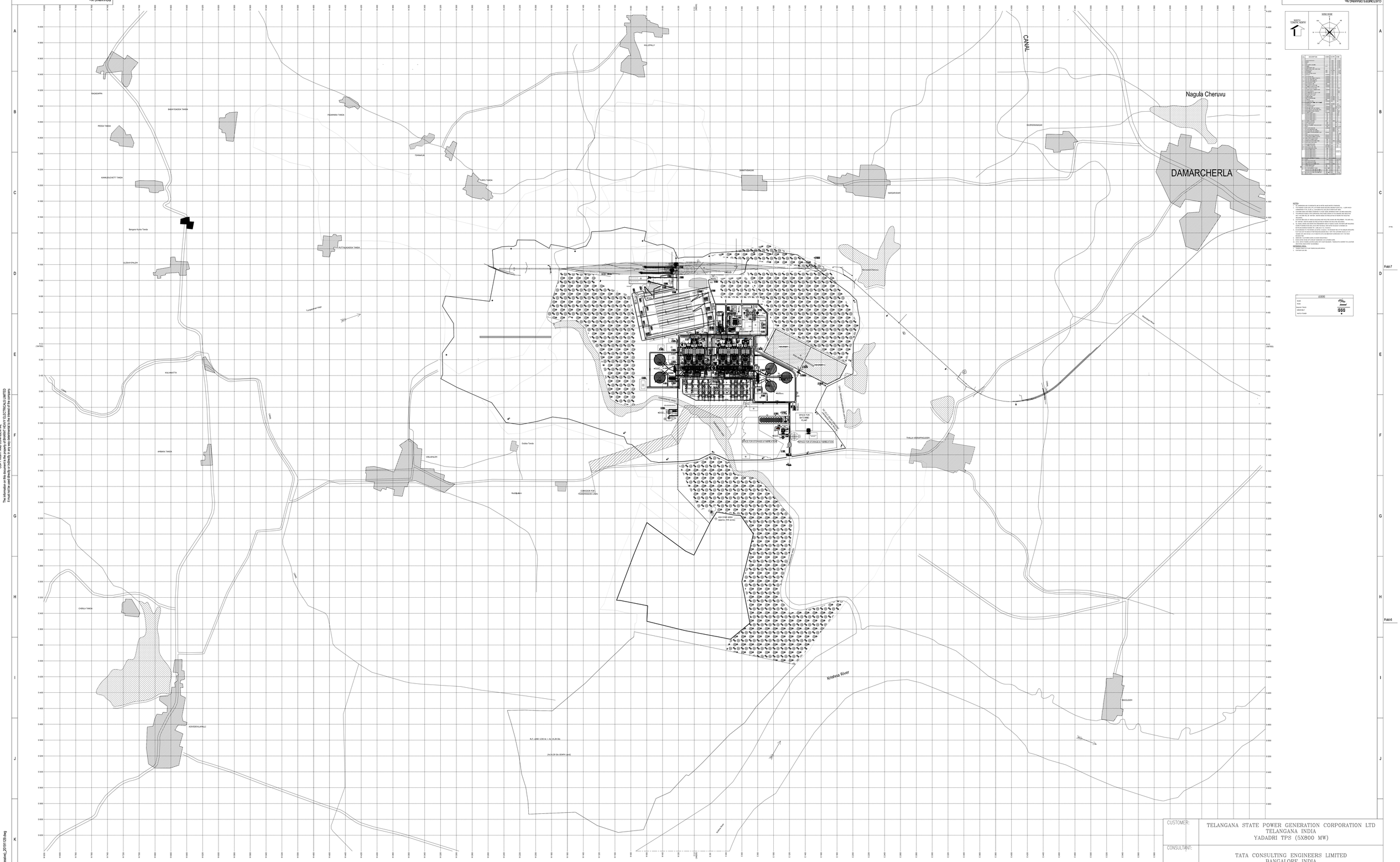
ELECTRONIC FILE NAME : PE-DG-417-100-M041_P1P_18_11_2016.dwg
User Name: 00040011
Jun 15, 2018 - 4:04pm

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DRAWING No. PE-DG-417-100-M001

CUSTOMER'S DRAWING No.



WIND ROSE

SYM.	DESCRIPTION	QUANTITY	SIZE	TYPE
	TURBIDIMETER VIEW	1		
	RAILWAY STATION	1		
	RAILWAY LINE	1		
	NH-167	1		
	NH-167 (DIVERSION)	1		
	NH-167 (DIVERSION) LINE	1		
	CANAL	1		
	NAGULA CHERUVU	1		
	DAMARCHERLA	1		
	KRISHNA RIVER	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR FUTURE TG PLANT	1		
	CORRIDOR FOR TRANSMISSION LINES	1		
	ASH DYKE AREA (ABOVE PAR LEVEL)	1		
	ASH DYKE AREA (BELOW PAR LEVEL)	1		
	RAGAVAPPA	1		
	BAGHYASADDA TANDA	1		
	PEDDA TANDA	1		
	PADAMADA TANDA	1		
	TOPANAPUR	1		
	KALIPINLLY	1		
	SIMHAPUNAGAR	1		
	NAGAPURAM	1		
	RAJENDRANAGAR	1		
	KANKUDUCHETT TANDA	1		
	Bangara Kuntla Tanda	1		
	PUTTAGUNDDA TANDA	1		
	LELDAVITIPALEM	1		
	KALVABOTTA	1		
	AMBARA TANDA	1		
	VELAMPALEM	1		
	Gudise Tanda	1		
	Rockbunkers	1		
	CHEELA TANDA	1		
	ADIVIDEVULAPALLI	1		
	THALLA VEERAPPAGUDEM	1		
	BIRGUDEM	1		
	R.C. LINE(12.00 IN) + IN(14.20 ON)	1		
	(IN 14.20 On (DAM LINE)	1		
	RAILWAY STATION	1		
	RAILWAY LINE	1		
	NH-167	1		
	NH-167 (DIVERSION)	1		
	NH-167 (DIVERSION) LINE	1		
	CANAL	1		
	NAGULA CHERUVU	1		
	DAMARCHERLA	1		
	KRISHNA RIVER	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR FUTURE TG PLANT	1		
	CORRIDOR FOR TRANSMISSION LINES	1		
	ASH DYKE AREA (ABOVE PAR LEVEL)	1		
	ASH DYKE AREA (BELOW PAR LEVEL)	1		
	RAGAVAPPA	1		
	BAGHYASADDA TANDA	1		
	PEDDA TANDA	1		
	PADAMADA TANDA	1		
	TOPANAPUR	1		
	KALIPINLLY	1		
	SIMHAPUNAGAR	1		
	NAGAPURAM	1		
	RAJENDRANAGAR	1		
	KANKUDUCHETT TANDA	1		
	Bangara Kuntla Tanda	1		
	PUTTAGUNDDA TANDA	1		
	LELDAVITIPALEM	1		
	KALVABOTTA	1		
	AMBARA TANDA	1		
	VELAMPALEM	1		
	Gudise Tanda	1		
	Rockbunkers	1		
	CHEELA TANDA	1		
	ADIVIDEVULAPALLI	1		
	THALLA VEERAPPAGUDEM	1		
	BIRGUDEM	1		
	R.C. LINE(12.00 IN) + IN(14.20 ON)	1		
	(IN 14.20 On (DAM LINE)	1		
	RAILWAY STATION	1		
	RAILWAY LINE	1		
	NH-167	1		
	NH-167 (DIVERSION)	1		
	NH-167 (DIVERSION) LINE	1		
	CANAL	1		
	NAGULA CHERUVU	1		
	DAMARCHERLA	1		
	KRISHNA RIVER	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR STORAGE & FABRICATION	1		
	SPACE FOR FUTURE TG PLANT	1		
	CORRIDOR FOR TRANSMISSION LINES	1		
	ASH DYKE AREA (ABOVE PAR LEVEL)	1		
	ASH DYKE AREA (BELOW PAR LEVEL)	1		

NOTES:
1. ALL DIMENSIONS AND COORDINATES ARE IN METRIC UNLESS NOTED OTHERWISE.
2. THE PROJECT COORDINATES ARE BASED ON THE INDIAN COORDINATE SYSTEM, ... = 0.000 FACILITY COORDINATES (Y,N,Z) = (0,0,0) = ELEV 500.00 FTS (ELEV 0.00 FEET MSL).
3. THE PROJECT COORDINATES ARE ROTATED 0.000 DEGREES CLOCKWISE FROM THE INDIAN COORDINATES.
4. THE ARRANGEMENTS AND SUPPORTING STRUCTURES SHOWN IN THIS DRAWING ARE INDICATIVE ONLY. THE FINAL DESIGN OF THE STRUCTURES WILL BE DONE BY THE CONTRACTOR DURING DETAILED ENGINEERING.
5. THE DIMENSIONS AND LOCATIONS OF VARIOUS BUILDINGS AND FACILITIES ARE INDICATIVE. THE FINAL DIMENSIONS AND LOCATIONS WILL BE DETERMINED DURING DETAILED ENGINEERING.
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14. ALL DIMENSIONS AND LOCATIONS OF VARIOUS BUILDINGS AND FACILITIES ARE INDICATIVE. THE FINAL DIMENSIONS AND LOCATIONS WILL BE DETERMINED DURING DETAILED ENGINEERING.
15. ALL DIMENSIONS AND LOCATIONS OF VARIOUS BUILDINGS AND FACILITIES ARE INDICATIVE. THE FINAL DIMENSIONS AND LOCATIONS WILL BE DETERMINED DURING DETAILED ENGINEERING.
16. ALL DIMENSIONS AND LOCATIONS OF VARIOUS BUILDINGS AND FACILITIES ARE INDICATIVE. THE FINAL DIMENSIONS AND LOCATIONS WILL BE DETERMINED DURING DETAILED ENGINEERING.

Abbreviations:
1. CONVEYOR BELT
2. TURBIDIMETER VIEW
3. CONTOUR PAR LINE

LEGEND

ROAD	
RAILWAY	
RAILWAY TRACK	
ABOVEGRAD	
WATCH TOWER	

CUSTOMER:	TELANGANA STATE POWER GENERATION CORPORATION LTD TELANGANA INDIA YADADRI TPS (5X800 MW)
CONSULTANT:	TATA CONSULTING ENGINEERS LIMITED BANGALORE INDIA
	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA

JOB NO. 417
STATUS CONTRACT
DISTRIBUTION

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD

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DEPT CODE		NAME	SIGN	DATE
M	DRN	AMS		15.12.17
	DESN	MK		15.12.17
	CHD	BKA		15.12.17
	APPD	JJ		15.12.17

TITLE
PLOT PLAN

DEPT. SCALE 1:15000 DRAWING NO. PE-DG-417-100-M001
SIGN SHEET 1 OF 1 REV. 00

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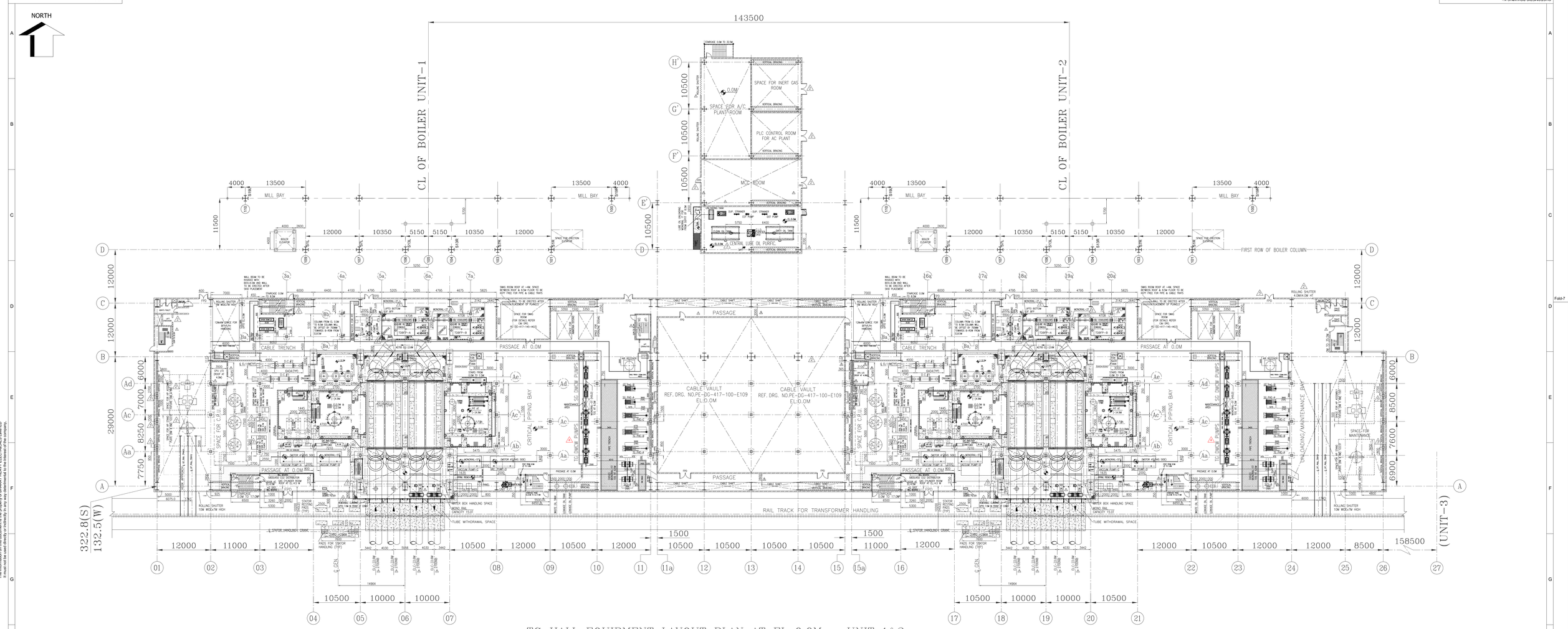
Last Saved by: 5901205
Last Saved on: 2019-11-29
Autodesk Vault

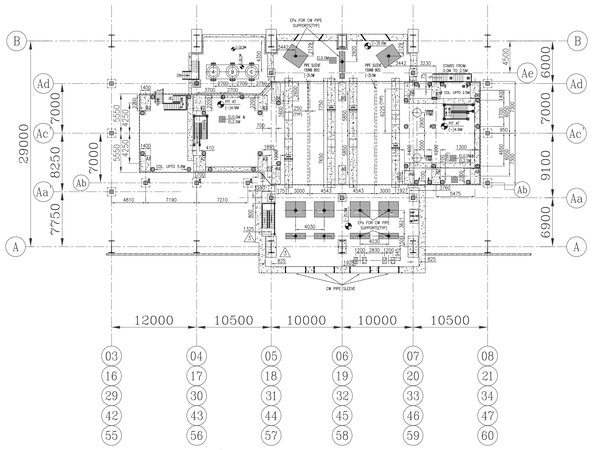
FIRST ANGLE PROJECTION | ALL DIMENSIONS ARE IN MM

DRAWING No. PE-DG-417-100-M003

CUSTOMER'S DRAWING No.

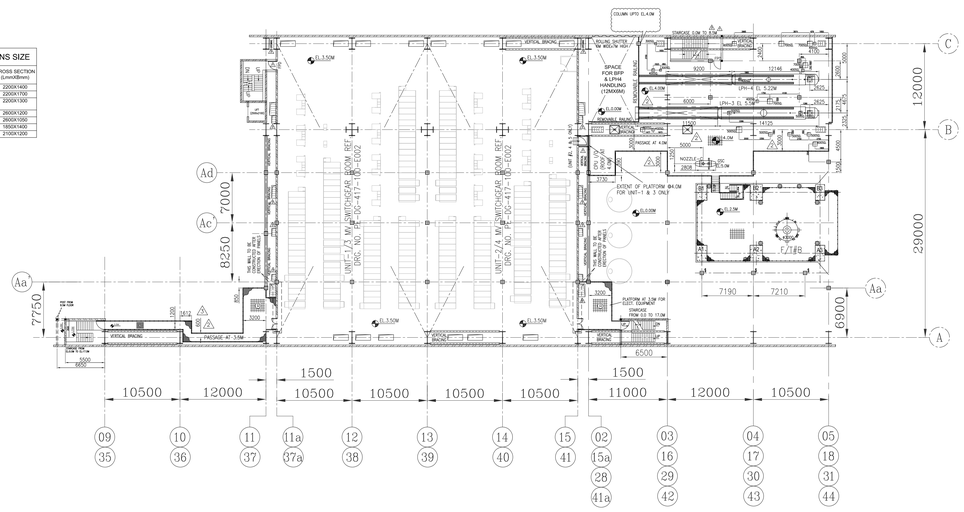


TG HALL EQUIPMENT LAYOUT PLAN AT EL 0.0M – UNIT 1&2

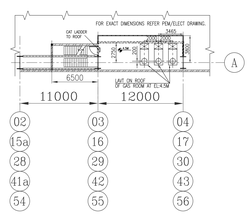


PLAN BELOW 0.0M

TG COLUMNS SIZE		
S.NO.	COLUMN	CROSS SECTION (LxwxtXDxw)
1	A1, B1	2200X1000
2	A2, B2	2200X1700
3	A3, B3	2200X1300
	A8, B8	2200X1300
4	A4, B4	2600X1300
5	A5, B5	2600X1050
6	A6, B6	1950X1400
7	A7, B7	2100X1200



PLAN AT EL. 3.5/4.0M – UNIT 1,2 & 3,4



PLAN OVER GAS ROOM AT EL:4.5M

NOTES:–

1. FOR NOTES REFER DRG. PE-DG-417-100-M003 SHEET-02.

CIVIL TO NOTE:

$ COLUMN FROM 0.0 TO ~13.5(BOTTOM OF OIL CANAL)
# COLUMN UPTO EL:2.5M
@ COLUMN UPTO BOTTOM OF BFP DECK
MAX BEAM DEPTH FOR PLATFORM BELOW TG DECK AT EL:2.5M TO BE RESTRICTED TO 400MM.

REV.	DATE	ALTD	CHD	APPD
04	04.01.2020	DK	MK	BKA
1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS.				
2. OTHER CHANGES AS MARKED.				

REV.	DATE	ALTD	CHD	APPD
03	18.07.2019	DK	SA/– DK/BKA	SA/– SPV
1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS.				
2. OTHER CHANGES AS MARKED.				

REV.	DATE	ALTD	CHD	APPD
02	18.08.2018	DK	SA/– DK/BKA	SA/– JJ
1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS.				
2. OTHER CHANGES AS MARKED.				

REV.	DATE	ALTD	CHD	APPD
01	15.06.2018	DK	SA/– DK/BKA	SA/– JJ
1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS.				
2. OTHER CHANGES AS MARKED.				

JOB NO. 417
STATUS CONTRACT
DISTRIBUTION

CUSTOMER: TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA, INDIA
5x800 MW YADADRI TPS, NALGONDA

CONSULTANT: TATA CONSULTING ENGINEERS LIMITED
BANGALORE INDIA

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

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DEPT CODE		NAME	SIGN	DATE
M	DRN	AMS/DK	SA/–	27.11.2017
	DESN	DK/MK	SA/–	27.11.2017
	CHD	BKA	SA/–	27.11.2017
	APPD	JJ	SA/–	27.11.2017

TITLE
TG EQUIPMENT LAYOUT PLAN AT GROUND FLOOR

DEPT. | SCALE 1:100 | SIGN
DRAWING NO. PE-DG-417-100-M003
SHEET 1 OF 2 | REV. 04

277 of 888

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ELECTRONIC FILE NAME : 417-100-M003_R4

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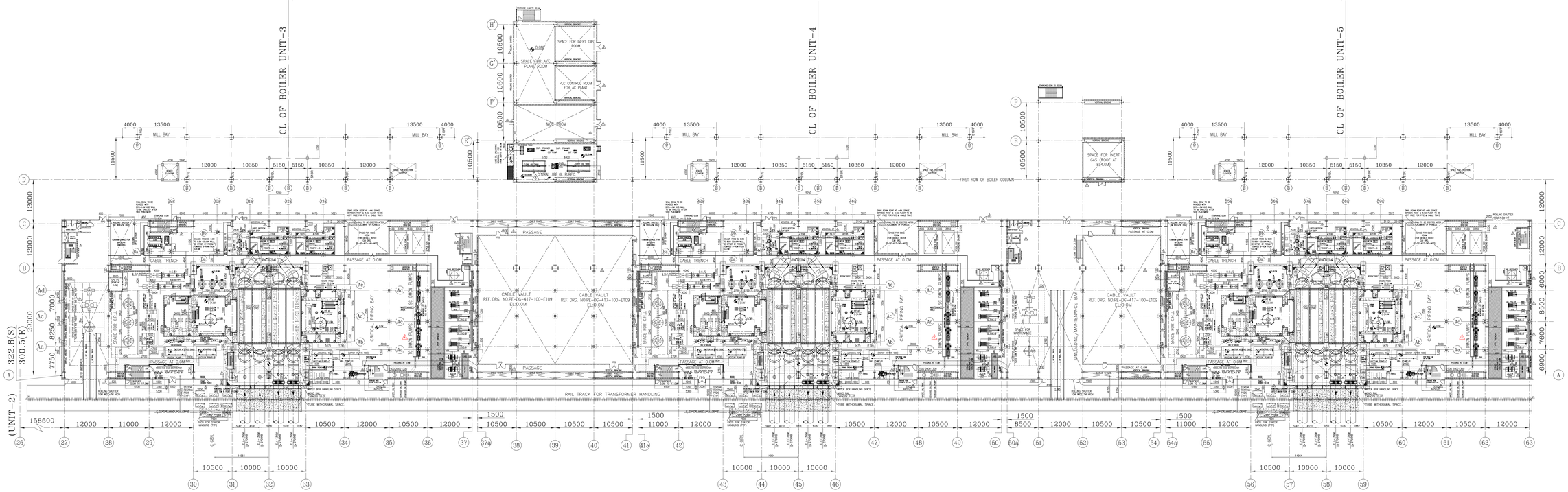
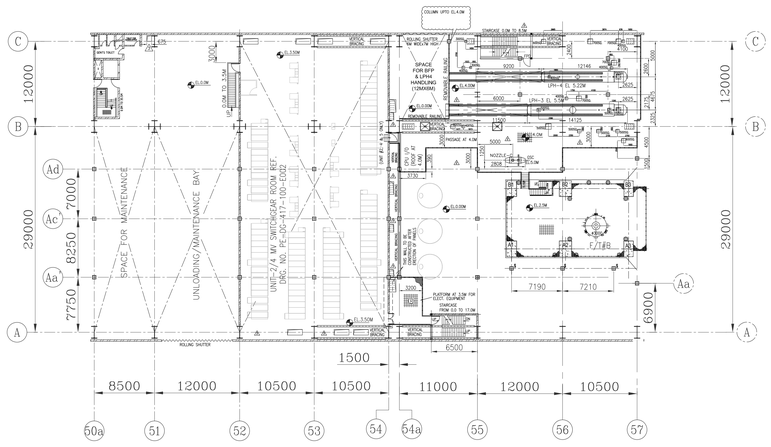
FIRST ANGLE PROJECTION | ALL DIMENSIONS ARE IN MM

DRAWING No. PE-DG-417-100-M003

CUSTOMERS DRAWING No.



TG HALL EQUIPMENT LAYOUT PLAN AT EL 0.0M – UNIT 3,4&5



PLAN AT EL. 3.5/4.0M – UNIT 5

NOTES:–

1. ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
2. ALL ELEVATION MARKED ARE W.R.T. TG HALL FINISHED FLOOR ELEVATION OF EL 0.0M WHICH CORRESPONDS TO RL EL:81.5M.
3. ALL THE SIZES AND LOCATION OF COLUMNS OF TG DECK ARE SUBJECT TO FINALIZATION AFTER CIVIL DESIGN.
4. SIZES OF ALL TG BUILDING MAIN AND AUXILIARY COLUMNS ARE SUBJECT TO CIVIL DESIGN.
5. CRANE DETAILS ARE INDICATIVE.

LEGEND:–

- PIPE HATCH
- VERTICAL BRACING
- FPD — FIRE PROOF DOOR
- GRATING
- CHEQUERED PLATE
- (R) — REMOVABLE
- HAND RAILING
- CABLE TRAY
- FIRE BARRIER WALL
- INDICATES PIPES/CABLE TRESTLE.
- ROLLING SHUTTER
- RAIL TRACK
- PIPE TRENCH WITH PCC COVERED SAND FILLED

REFERENCE DRGS:–

S. No.	TITLE	DRG. NUMBER	UNIT	ELEVATION △4
1	MAIN PLANT EQUIPMENT LAYOUT PLAN	PE-DG-417-100-M002	PEM	–
2	TG EQUIPMENT PLAN AT MEZZANNIE FLOOR	PE-DG-417-100-M004	PEM	–
3	TG EQUIPMENT PLAN AT OPERATING FLOOR	PE-DG-417-100-M005	PEM	–
4	TG EQUIPMENT LAYOUT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY	PE-DG-417-100-M006	PEM	–
5	T.G. HALL CROSS SECTION	PE-DG-417-100-M007	PEM	–
6	CONDENSER ASSEMBLY (GENERAL ARRANGEMENT)	0-16010-70071-C212	HWR	–
7	GENERAL ARRANGEMENT OF DRAIN COOLER # 1	HY-DG-2-06201-31701	HYD	0.0M
8	GENERAL ARRANGEMENT OF DRAIN COOLER # 2	HY-DG-2-06201-33105	HYD	0.0M
9	GENERAL ARRANGEMENT GLAND STEAM CONDENSER	0-16205-70014-C212	HWR	4.0M
10	GENERAL ARRANGEMENT OF LPH # 3	HY-DG-2-26226-35701	HYD	4.0M
11	GENERAL ARRANGEMENT OF LPH # 4	HY-DG-2-26231-35801	HYD	4.0M
12	GENERAL ARRANGEMENT F / T-A	BP-DG-417-102-001	BPL	2.5M
13	GENERAL ARRANGEMENT F / T-B	BP-DG-417-102-001	BPL	2.5M
14	GENERAL ARRANGEMENT CEP	HY-DG-1-18100-57247	HYD	(–)2.5M
15	GENERAL ARRANGEMENT OF VACCUM PUMPS CONDENSER # 1	---	HWR	0.0M
16	GENERAL ARRANGEMENT OF VACCUM PUMPS CONDENSER # 2	---	HWR	0.0M
17	PLOT PLAN –TDBFP LUBE OIL EQUIPMENT LAYOUT	HY-DG-0-31301-14201	HYD	0.0M
18	DRIP PUMPS	HY-DG-1-18100-57249	HYD	(–)0.338M
△2 19	GA OF TG-PHE	---	PEM	0.0M
△2 20	GA OF SG-PHE	---	PEM	0.0M
△2 21	GA OF TG-DMCW PUMP	---	PEM	0.0M
△2 22	GA OF SG-DMCW PUMP	---	PEM	0.0M
△2 23	GA OF SCS	---	PEM	0.0M
24	GA OF LEAKAGE/DIRTY OIL TANK & PUMP	2-13100-V5146	HWR	0.0M
25	GA OF WASTE OIL TANK	2-13100-V5145	HWR	0.0M
26	GA OF CPU (PIPING LAYOUT FOR SERVICE VESSEL AREA)	---	PEM	0.0M
27	GA AMMONIA SKID	---	PEM	0.0M
28	GA HYDRAZINE SKID	---	PEM	0.0M
29	GA OF OXYGEN DOSING	---	PEM	0.0M
30	GA NAOH TANK / SKID	---	PEM	0.0M
31	LIST OF JUNCTION BOX	4-18000-E2020	HWR	0.0M
32	GA OF COLTCS	---	PEM	(–)5.5M
△3 33	LAYOUT OF MV SWITCHGEAR ROOM	PE-DG-410-100-E002	PEM	3.5M
△2 34	GA OF SEAL OIL UNIT (AIR SIDE)	01493201024C	HWR	0.0M
△2 35	GA OF SEAL OIL UNIT (H2 SIDE)	01493201021	HWR	0.0M

REV.	DATE	ALTD	CHD	APPD
04	04.01.2020	DK	MK	BKA
	1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS. 2. OTHER CHANGES AS MARKED. △1			
03	18.07.2019	DK	Sd/- DK/BKA	Sd/- SPV
	1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS. 2. OTHER CHANGES AS MARKED. △1			
02	18.08.2018	DK	DK/BKA	JJ
	1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS. 2. OTHER CHANGES AS MARKED. △1			
01	15.06.2018	DK	Sd/- DK/BKA	Sd/- JJ
	1. DRAWING REVISED INLINE WITH CUSTOMER COMMENTS. 2. OTHER CHANGES AS MARKED. △1			

JOB NO. 417
STATUS CONTRACT
DISTRIBUTION

CUSTOMER: TELANGANA STATE POWER GENERATION CORPORATION LTD
TELANGANA, INDIA
5x800 MW YADADRI TPS, NALGONDA

CONSULTANT: TATA CONSULTING ENGINEERS LIMITED
BANGALORE INDIA

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

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M	DRN	AMS/DK	Sd/-	27.11.2017
	DESN	DK/MK	Sd/-	27.11.2017
	CHD	BKA	Sd/-	27.11.2017
	APPD	JJ	Sd/-	27.11.2017

TITLE: TG EQUIPMENT LAYOUT PLAN AT GROUND FLOOR

DEPT. | SCALE 1:100 | DRAWING NO. PE-DG-417-100-M003
SIGN | SHEET 2 OF 2 | REV. 04

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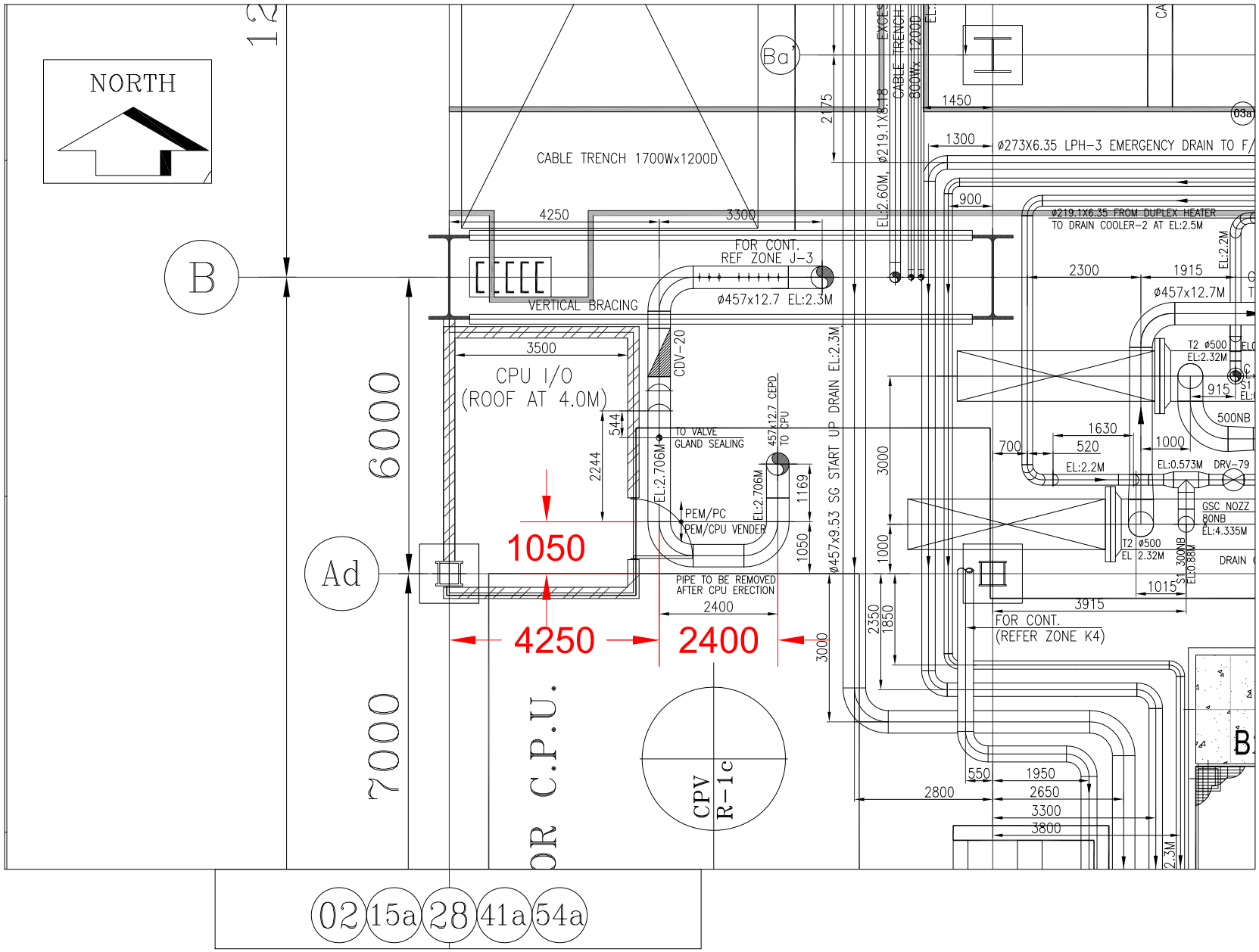

TP location for CPU piping (Condensate I/L and O/L line) typical for all 5 units as marked in attached pdf.

182327/2021/PS-PEM-MAX

SECTION – I

SPECIFIC TECHNICAL REQUIREMENTS

SUB-SECTION IB - Specific Technical Requirements (Electrical)

SPECIFIC TECHNICAL REQUIREMENTS: ELECTRICAL

1.0 EQUIPMENT & SERVICES TO BE PROVIDED BY BIDDER:

a) Services and equipment as per "Electrical Scope between BHEL and Vendor".
b) Any item/work either supply of equipment or erection material which have not been specifically mentioned but are necessary to complete the work for trouble free and efficient operation of the plant shall be deemed to be included within the scope of this specification. The same shall be provided by the bidder without any extra charge.
c) Supply of mandatory spares as specified in the specifications of mechanical equipment's.
d) Electrical load requirement for CONDENSATE PLOSHING UNIT.
e) All equipment shall be suitable for the power supply fault levels and other climatic conditions mentioned in the enclosed project information.
f) Bidder to furnish list of makes for each equipment at contract stage, which shall be subject to customer/BHEL approval without any commercial and delivery implications to BHEL
g) Various drawings, data sheets as per required format, Quality plans, calculations, test reports, test certificates, operation and maintenance manuals etc. shall be furnished as specified at contract stage. All documents shall be subject to customer/BHEL approval without any commercial implication to BHEL.
h) Motor shall meet minimum requirement of motor specification.
i) Vendor to clearly indicate equipment locations and local routing lengths in their cable listing furnished to BHEL.
j) Cable BOQ worked out based on routing of cable listing provided by the vendor for "both end equipment in vendor's scope" shall be binding to the vendor with +10 % margin to take care of slight variation in routing length & wastages.

2.0 EQUIPMENT & SERVICES TO BE PROVIDED BY PURCHASER FOR ELECTRICAL & TERMINAL POINTS:

Refer "Electrical Scope between BHEL and Vendor" Annexure - I.

3.0 DOCUMENTS TO BE SUBMITTED ALONG WITH BID

3.1 The electrical specification without any deviation from the technical/quality assurance requirements stipulated shall be deemed to be complied by the bidder in case bidder furnishes the overall compliance of package technical specification in the form of compliance certificate/No deviation certificate.

3.2 No technical submittal such as copies of data sheets, drawings, write-up, quality plans, type test certificates, technical literature, etc., is required during tender stage. Any such submission even if made, shall not be considered as part of offer.

4.0 List of enclosures :

a) Electrical scope between BHEL & vendor (Annexure –I)
b) Technical specification for motors.
c) Datasheets for motors.
d) Electrical Load data format (Annexure –II)
e) BHEL cable listing format (Annexure –III)
f) Quality plan for motors.

1.0	Design ambient temperature	:	50 °C
2.0	Maximum acceptable kW rating of LV motor	:	≤175KW
3.0	Installation (Indoors/ Outdoors)	:	As required
4.0	Degree Of Protection (Indoor/Outdoor)	:	IP55
5.0	Type of Cooling	:	TEFC/CACA/TETV
6.0	Details of supply system		
	a) Rated voltage (with variation)	:	415V ± 10%
	b) Rated frequency (with variation)	:	50 Hz (Variation: +3% TO –5%)
	c) Combined voltage & freq. variation	:	10%
	d) System fault level at rated voltage	:	50 kA for 1 sec
	e) Short time rating for terminal boxes		
	o 110kW & Above (Breaker controlled)	:	50 kA for 0.25 sec
	o Below 110kW (SFU+ Contactor controlled)	:	50 KA for 0.25 sec.
	f) LV System grounding	:	Solidly
7.0	Class of insulation	:	Class ‘F’, with temp rise limited to class B.
8.0	Minimum voltage for starting (As percentage of rated voltage)	:	80% of rated voltage
9.0	Power cables data	:	Shall be given during Detailed engg.
10.0	Earth Conductor Size & Material	:	Shall be given during Detailed engg.
11.0	Space heater supply	:	240 V, 1Φ , 50 Hz
12.0	Rating up to which Single phase motor	:	Acceptable below 0.20 kW
13.0	Tests	:	As per Customer motor spec. (enclosed)
14.0	Energy efficient/ Flame proof motor	:	As per Customer spec. requirement

- **Also detail Customer spec. for Motors to be referred as enclosed with spec.**