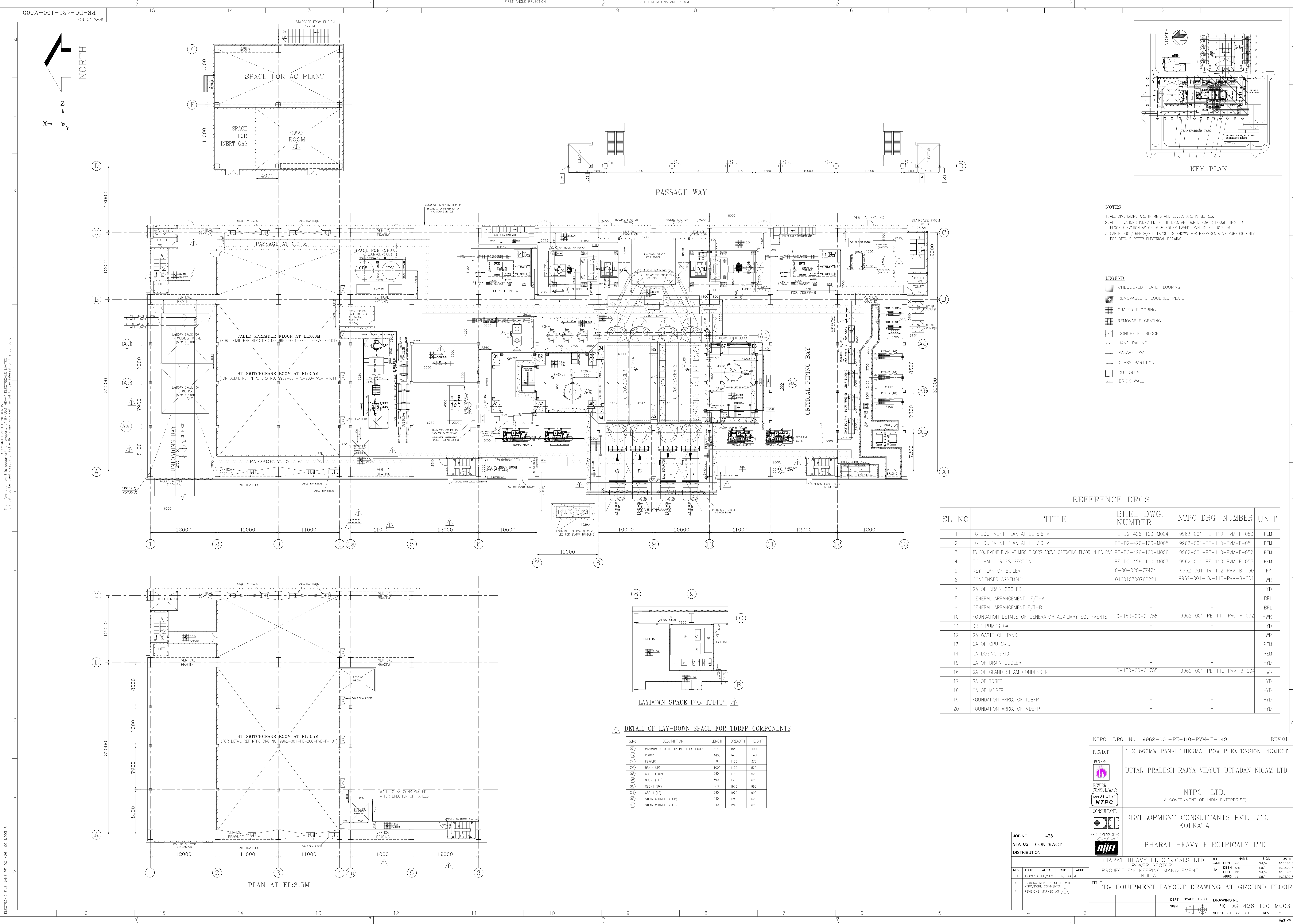


	1x660MW PANKI STPP AIR CONDITIONING SYSTEM GUARANTEE POWER CONSUMPTION			SPECIFICATION No: PE-TS-426-553-A001			
				SECTION : II			
				SUB-SECTION : 6			
				REV. NO. 00			
				SHEET: 3 OF 3			
ANNEXURE-2							
S.NO.	DESCRIPTION OF EQUIPMENT	NO OF EQUIPMENT		TOTAL POWER CONSUMPTION FOR EACH EQUIPMENT AT MOTOR INPUT TERMINAL AND CONTROL PANEL (IN KW)	GUARANTEED CONSUMPTION	DUTY FACTOR	TOTAL KW
		WORKING	STANDBY				
		3A	3B	4		5	6=3Ax4x5
1	AC PLANT (SPLIT AC-CONTROL ROOM)-2 TR						
1.1	CW fore Bay and CW ACW Pump House	4	4			1	
1.2	Clarified/Fire Water storage tank & pump house	6	6			1	
1.3	Raw Water intake	5	5			1	
1.4	FO Tank & LDO Unloading Pump House	5	5			1	
1.5	Raw Water Discharge Pump House	4	4			1	
1.6	Cpu Regen Area	5	5			1	
1.7	Aux Boiler	2	2			1	
				TOTAL (KW)			
NOTES:							
1	Estimated power consumption (EPC) figure for the system (for working drives only) has been considered as 60KW . So long bidder's quoted guaranteed power consumption (GPC) above remains within this EPC, there will be no technical loading of bid on power consumption for evaluation. However, if bidder's quoted GPC exceeds EPC, there shall be technical loading of bid for evaluation @ Rs 5,84,00/- per KW of additional power over EPC.						
2	Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in relevant schedule shall be demonstrated by the successful bidder during performance testing at works/ site. In case power consumption is noted higher than EPC / bidder's quoted GPC whichever is higher, during inspection/ PG test, penalty @ Rs 5,84,000/- per KW shall be levied on vendor.						



- NOTES
1. ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
 2. ALL ELEVATIONS INDICATED IN THE DRG. ARE W.R.T. POWER HOUSE FINISHED FLOOR ELEVATION AS 0.00M & BOILER PAVED LEVEL IS EL.-30.200M.
 3. CABLE DUCT/FRENCH/SLOT LAYOUT IS SHOWN FOR REPRESENTATIVE PURPOSE ONLY. FOR DETAILS REFER ELECTRICAL DRAWING.

- LEGEND:
- CHEQUERED PLATE FLOORING
 - REMOVABLE CHEQUERED PLATE
 - GRATED FLOORING
 - REMOVABLE GRATING
 - CONCRETE BLOCK
 - HAND RAILING
 - PARAPET WALL
 - GLASS PARTITION
 - CUT OUTS
 - BRICK WALL

REFERENCE DRGS:

SL NO	TITLE	BHEL DWG. NUMBER	NTPC DRG. NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL. 8.5 M	PE-DG-426-100-M004	9962-001-PE-110-PVM-F-050	PEM
2	TG EQUIPMENT PLAN AT EL17.0 M	PE-DG-426-100-M005	9962-001-PE-110-PVM-F-051	PEM
3	TG EQUIPMENT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY	PE-DG-426-100-M006	9962-001-PE-110-PVM-F-052	PEM
4	T.G. HALL CROSS SECTION	PE-DG-426-100-M007	9962-001-PE-110-PVM-F-053	PEM
5	KEY PLAN OF BOILER	0-00-020-77424	9962-001-TR-102-PVM-B-030	TRY
6	CONDENSER ASSEMBLY	01601070076C221	9962-001-HW-110-PVM-B-001	HWR
7	GA OF DRAIN COOLER	-	-	HYD
8	GENERAL ARRANGEMENT F/T-A	-	-	BPL
9	GENERAL ARRANGEMENT F/T-B	-	-	BPL
10	FOUNDATION DETAILS OF GENERATOR AUXILIARY EQUIPMENTS	0-150-00-01755	9962-001-PE-110-PVC-V-072	HWR
11	DRIP PUMPS GA	-	-	HYD
12	GA WASTE OIL TANK	-	-	HWR
13	GA OF CPU SKID	-	-	PEM
14	GA DOSING SKID	-	-	PEM
15	GA OF DRAIN COOLER	-	-	HYD
16	GA OF GLAND STEAM CONDENSER	0-150-00-01755	9962-001-PE-110-PVM-B-004	HWR
17	GA OF TDBFP	-	-	HYD
18	GA OF MDBFP	-	-	HYD
19	FOUNDATION ARR. OF TDBFP	-	-	HYD
20	FOUNDATION ARR. OF MDBFP	-	-	HYD

DETAIL OF LAY-DOWN SPACE FOR TDBFP COMPONENTS

S.No.	DESCRIPTION	LENGTH	BREADTH	HEIGHT
(01)	MAXIMUM OF OUTER CASING + EXHAUST	3510	4850	4090
(02)	ROTOR	4400	1400	1400
(03)	TBFP (UP)	860	1100	370
(04)	RBH (UP)	1000	1120	520
(05)	GBC-I (UP)	390	1130	520
(06)	GBC-II (UP)	390	1300	620
(07)	GBC-III (UP)	960	1970	990
(08)	GBC-IV (UP)	990	1970	990
(09)	STEAM CHAMBER (UP)	440	1240	620
(10)	STEAM CHAMBER (UP)	440	1240	620

NTPC DRG. No. 9962-001-PE-110-PVM-F-049

REV.01

PROJECT:

1 X 660MW PANKI THERMAL POWER EXTENSION PROJECT.

OWNER:

UTTAR PRADESH RAJYA VIDYUT UTPADAN NIGAM LTD.

REVIEW CONSULTANT:

NTPC LTD.

(A GOVERNMENT OF INDIA ENTERPRISE)

CONSULTANT:

DEVELOPMENT CONSULTANTS PVT. LTD.
KOLKATA

EPC CONTRACTOR:

BHARAT HEAVY ELECTRICALS LTD.

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
Noida

JOB NO. 426

STATUS CONTRACT

DISTRIBUTION

REV. 01

DATE 17.09.18

ALTD UP/REV/

CHD SBY/

APFD EKA/

1. DRAWING REVISED BASED WITH NTPC/DCPL COMMENTS.

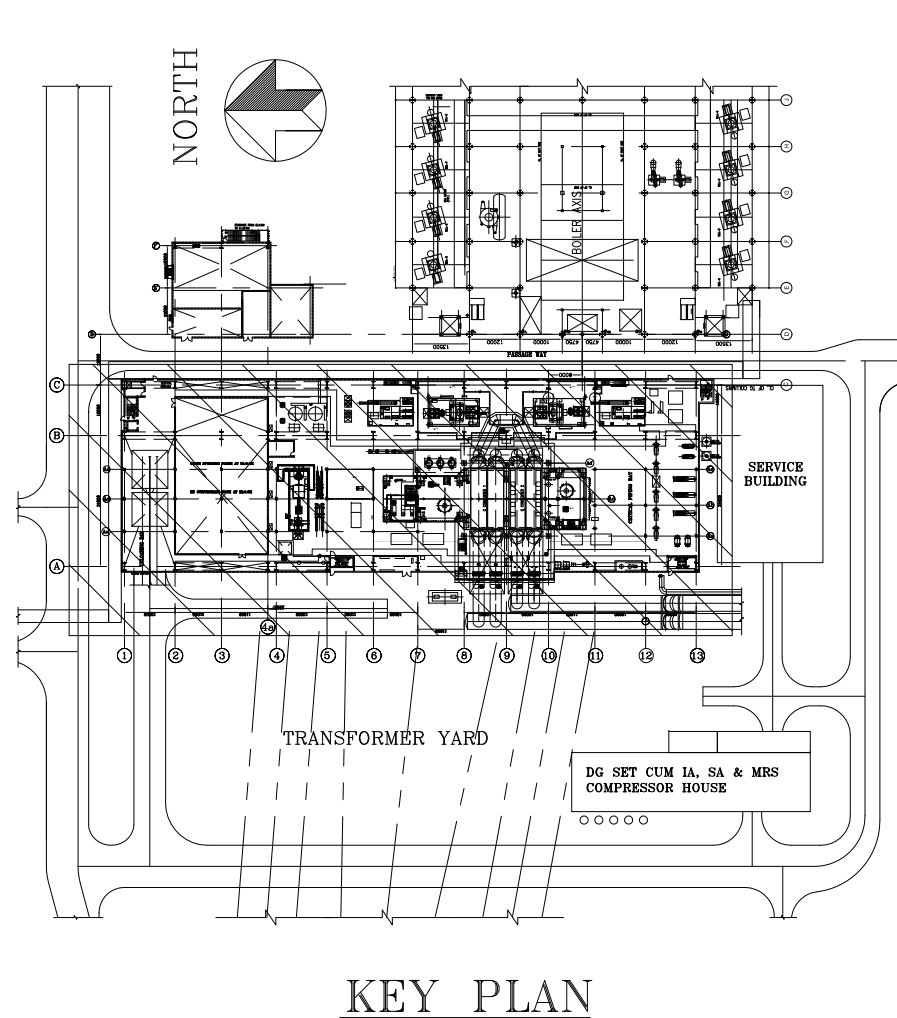
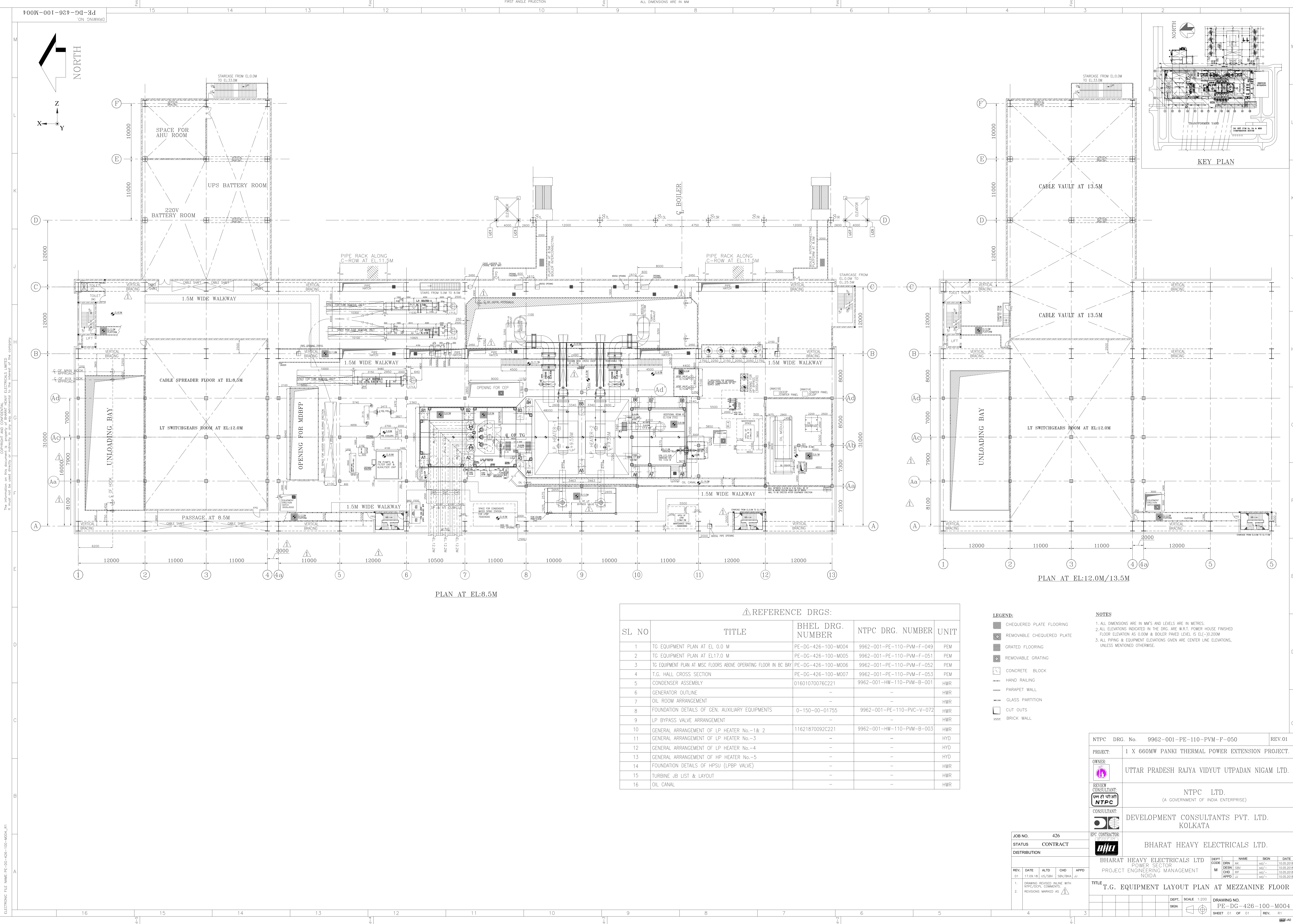
2. REVISIONS MARKED AS

DEPT. SCALE 1:200

DRAWING NO. PE-DG-426-100-M003

SHEET 01 OF 01

REV. R1

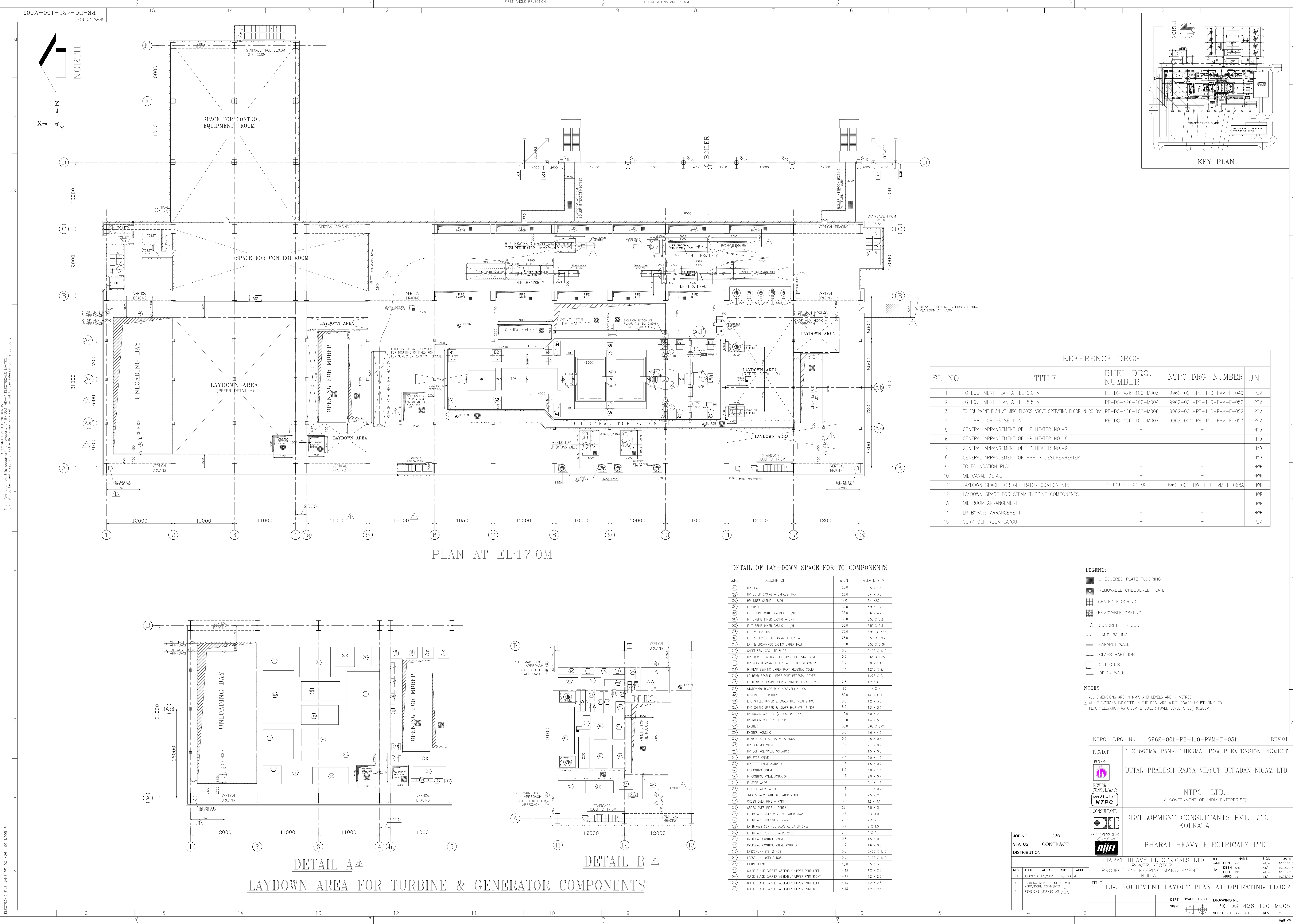


REFERENCE DRGS:				
SL NO	TITLE	BHEL DRG. NUMBER	NTPC DRG. NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL 0.0 M	PE-DG-426-100-M004	9962-001-PE-110-PVM-F-049	PEM
2	TG EQUIPMENT PLAN AT EL17.0 M	PE-DG-426-100-M005	9962-001-PE-110-PVM-F-051	PEM
3	TG EQUIPMENT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY	PE-DG-426-100-M006	9962-001-PE-110-PVM-F-052	PEM
4	T.G. HALL CROSS SECTION	PE-DG-426-100-M007	9962-001-PE-110-PVM-F-053	PEM
5	CONDENSER ASSEMBLY	01601070076C221	9962-001-HW-110-PVM-B-001	HWR
6	GENERATOR OUTLINE	-	-	HWR
7	OIL ROOM ARRANGEMENT	-	-	HWR
8	FOUNDATION DETAILS OF GEN. AUXILIARY EQUIPMENTS	0-150-00-01755	9962-001-PE-110-PVC-V-072	HWR
9	LP BYPASS VALVE ARRANGEMENT	-	-	HWR
10	GENERAL ARRANGEMENT OF LP HEATER No.-1& 2	11621870092C221	9962-001-HW-110-PVM-B-003	HWR
11	GENERAL ARRANGEMENT OF LP HEATER No.-3	-	-	HYD
12	GENERAL ARRANGEMENT OF LP HEATER No.-4	-	-	HYD
13	GENERAL ARRANGEMENT OF HP HEATER No.-5	-	-	HYD
14	FOUNDATION DETAILS OF HPSU (LPBP VALVE)	-	-	HWR
15	TURBINE JB LIST & LAYOUT	-	-	HWR
16	OIL CANAL	-	-	HWR

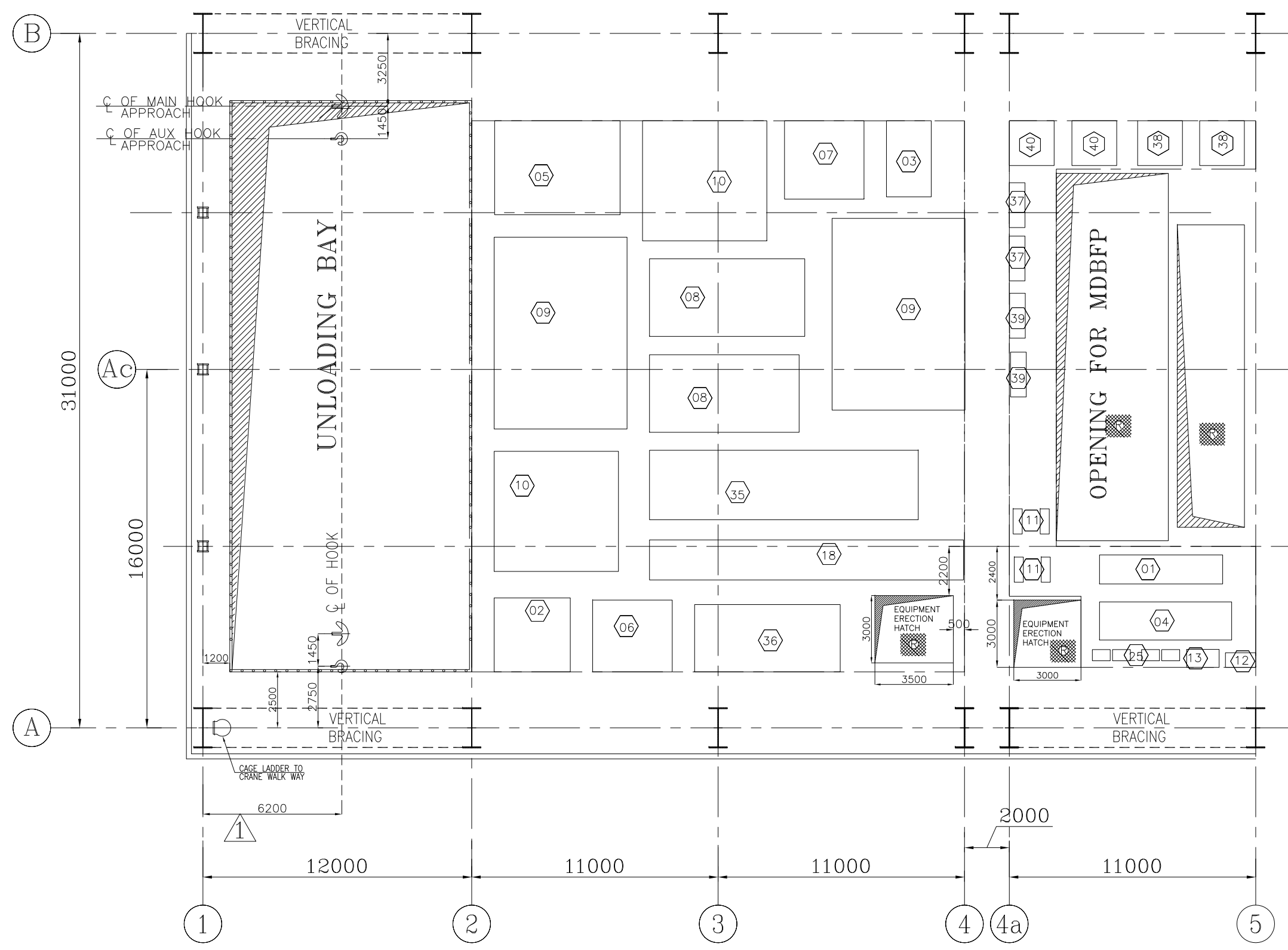
- LEGEND:**
- CHEQUERED PLATE FLOORING
 - REMOVABLE CHEQUERED PLATE
 - GRATED FLOORING
 - REMOVABLE GRATING
 - CONCRETE BLOCK
 - HAND RAILING
 - PARAPET WALL
 - GLASS PARTITION
 - CUT OUTS
 - BRICK WALL

- NOTES**
- ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
 - ALL ELEVATIONS INDICATED IN THE DRG. ARE W.R.T. POWER HOUSE FINISHED FLOOR ELEVATION AS 0.00M & BOILER PAVED LEVEL IS EL+10.200M.
 - ALL PIPING & EQUIPMENT ELEVATIONS GIVEN ARE CENTER LINE ELEVATIONS, UNLESS MENTIONED OTHERWISE.

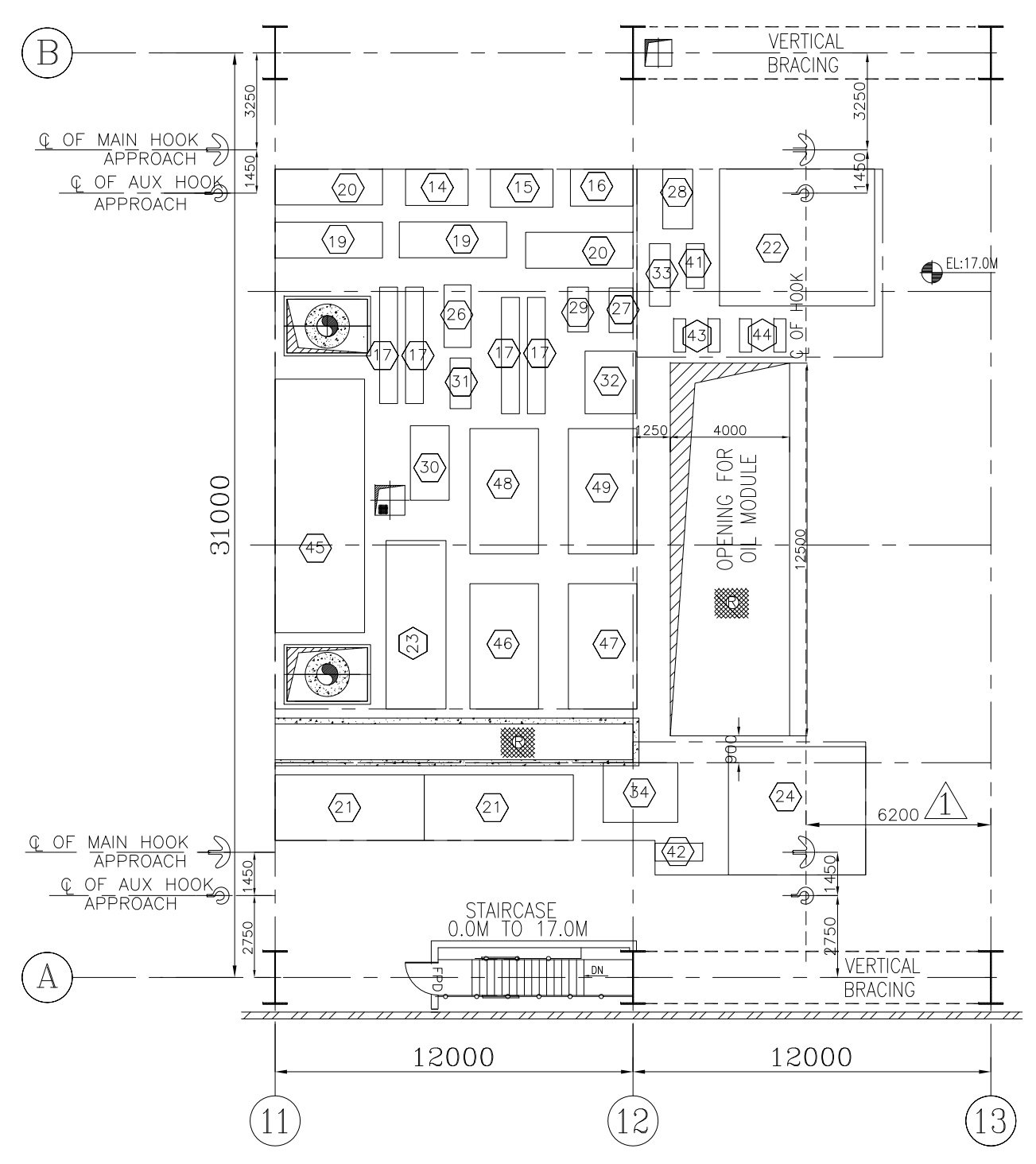
NTPC DRG. No. 9962-001-PE-110-PVM-F-050		REV.01
PROJECT:	1 X 660MW PANKI THERMAL POWER EXTENSION PROJECT.	
OWNER:	UTTAR PRADESH RAJYA VIDYUT UTPADAN NIGAM LTD.	
REVIEW CONSULTANT:	NTPC LTD. (A GOVERNMENT OF INDIA ENTERPRISE)	
CONSULTANT:	DEVELOPMENT CONSULTANTS PVT. LTD. KOLKATA	
BPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LTD.	
BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT Noida		
TITLE: T.G. EQUIPMENT LAYOUT PLAN AT MEZZANINE FLOOR		
DEPT. SCALE 1:200 SIGN		
DRAWING NO. PE-DG-426-100-M004 SHEET 01 OF 01 REV. R1		



PLAN AT EL.17.0M



DETAIL A
LAYDOWN AREA FOR TURBINE & GENERATOR COMPONENTS



DETAIL B

REFERENCE DRGS:				
SL NO	TITLE	BHEL DRG. NUMBER	NTPC DRG. NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL. 0.0 M	PE-DG-426-100-M003	9962-001-PE-110-PVM-F-049	PEM
2	TG EQUIPMENT PLAN AT EL. 8.5 M	PE-DG-426-100-M004	9962-001-PE-110-PVM-F-050	PEM
3	TG EQUIPMENT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY	PE-DG-426-100-M006	9962-001-PE-110-PVM-F-052	PEM
4	T.G. HALL CROSS SECTION	PE-DG-426-100-M007	9962-001-PE-110-PVM-F-053	PEM
5	GENERAL ARRANGEMENT OF HP HEATER NO.-7	-	-	HYD
6	GENERAL ARRANGEMENT OF HP HEATER NO.-8	-	-	HYD
7	GENERAL ARRANGEMENT OF HP HEATER NO.-9	-	-	HYD
8	GENERAL ARRANGEMENT OF HPH-7 DESUPERHEATER	-	-	HYD
9	TG FOUNDATION PLAN	-	-	HWR
10	OIL CANAL DETAIL	-	-	HWR
11	LAYDOWN SPACE FOR GENERATOR COMPONENTS	3-139-00-01100	9962-001-HW-110-PVM-F-068A	HWR
12	LAYDOWN SPACE FOR STEAM TURBINE COMPONENTS	-	-	HWR
13	OIL ROOM ARRANGEMENT	-	-	HWR
14	LP BYPASS ARRANGEMENT	-	-	HWR
15	CCR/ CER ROOM LAYOUT	-	-	PEM

DETAIL OF LAY-DOWN SPACE FOR TG COMPONENTS

S.No.	DESCRIPTION	WT. IN T	AREA M x M
(01)	HP SHAFT	20.0	5.5 X 1.3
(02)	HP OUTER CASING - EXHAUST PART	25.0	3.4 X 3.3
(03)	HP INNER CASING - U/H	17.0	3.4 X2.0
(04)	HP SHAFT	32.0	5.9 X 1.7
(05)	P TURBINE OUTER CASING - U/H	35.0	5.6 X 4.2
(06)	P TURBINE INNER CASING - U/H	30.0	3.5 X 3.2
(07)	P TURBINE INNER CASING - L/H	35.0	3.5 X 3.5
(08)	LP1 & LP2 SHAFT	76.0	6.932 X 3.46
(09)	LP1 & LP2 OUTER CASING UPPER PART	28.0	8.56 X 5.935
(10)	LP1 & LP2-INNER CASING UPPER HALF	26.0	5.55 X 5.36
(11)	SHAFT SEAL GAS -TE & GE	0.5	0.405 X 1.12
(12)	HP FRONT BEARING UPPER PART PEDESTAL COVER	0.8	0.65 X 1.35
(13)	HP REAR BEARING UPPER PART PEDESTAL COVER	1.0	0.8 X 1.45
(14)	P REAR BEARING UPPER PART PEDESTAL COVER	2.3	1.215 X 2.1
(15)	LP REAR BEARING UPPER PART PEDESTAL COVER	2.5	1.275 X 2.1
(16)	LP REAR-2 BEARING UPPER PART PEDESTAL COVER	2.3	1.235 X 2.1
(17)	STATIONARY BLADE RING ASSEMBLY 4 NOS	3.5	3.9 X 0.6
(18)	GENERATOR - ROTOR	80.0	14.02 X 1.79
(19)	END SHIELD UPPER & LOWER HALF (ES) 2 NOS	8.0	1.2 X 3.6
(20)	END SHIELD UPPER & LOWER HALF (TS) 2 NOS	8.0	1.2 X 3.6
(21)	HYDROGEN COOLERS (2 Nos TWIN TYPE)	10.0	5.0 X 2.2
(22)	HYDROGEN COOLERS HOUSING	19.0	4.4 X 6.8
(23)	EXCITER	35.0	9.65 X 2.01
(24)	EXCITER HOUSING	3.5	4.6 X 4.3
(25)	BEARING SHELLS -TS & ES 4NOS	0.5	0.5 X 0.8
(26)	HP CONTROL VALVE	2.2	2.1 X 0.9
(27)	HP CONTROL VALVE ACTUATOR	1.6	1.5 X 0.8
(28)	HP STOP VALVE	2.5	2.0 X 1.0
(29)	HP STOP VALVE ACTUATOR	1.2	1.5 X 0.7
(30)	P CONTROL VALVE	6.5	3.0 X 1.3
(31)	P CONTROL VALVE ACTUATOR	1.6	2.0 X 0.7
(32)	P STOP VALVE	7.0	2.1 X 1.2
(33)	P STOP VALVE ACTUATOR	1.4	2.1 X 0.7
(34)	BYPASS VALVE WITH ACTUATOR 2 NOS	1.4	2.5 X 2.0
(35)	CROSS OVER PIPE - PART1	30	12 X 3.1
(36)	CROSS OVER PIPE - PART2	22	6.5 X 3
(37)	LP BYPASS STOP VALVE ACTUATOR 2Nos	0.7	2 X 1.0
(38)	LP BYPASS STOP VALVE 2Nos	2.2	2 X 2
(39)	LP BYPASS CONTROL VALVE ACTUATOR 2Nos	0.7	2 X 1.0
(40)	LP BYPASS CONTROL VALVE 2Nos	0.7	2 X 2
(41)	OVERLOAD CONTROL VALVE	0.8	1.5 X 0.6
(42)	OVERLOAD CONTROL VALVE ACTUATOR	1.0	1.6 X 0.6
(43)	LPSSC-U/H (TE) 2 NOS	0.5	0.405 X 1.12
(44)	LPSSC-U/H (GE) 2 NOS	0.5	0.405 X 1.12
(45)	LIFTING BEAM	15.0	8.5 X 3.0
(46)	GUIDE BLADE CARRIER ASSEMBLY UPPER PART LEFT	4.43	4.2 X 2.3
(47)	GUIDE BLADE CARRIER ASSEMBLY UPPER PART RIGHT	4.43	4.2 X 2.3
(48)	GUIDE BLADE CARRIER ASSEMBLY UPPER PART LEFT	4.43	4.2 X 2.3
(49)	GUIDE BLADE CARRIER ASSEMBLY UPPER PART RIGHT	4.43	4.2 X 2.3

LEGEND:

- CHEQUERED PLATE FLOORING
- REMOVABLE CHEQUERED PLATE
- GRATED FLOORING
- REMOVABLE GRATING
- CONCRETE BLOCK
- HAND RAILING
- PARAPET WALL
- GLASS PARTITION
- CUT OUTS
- BRICK WALL

NOTES

- ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
- ALL ELEVATIONS INDICATED IN THE DRG. ARE W.R.T. POWER HOUSE FINISHED FLOOR ELEVATION AS 0.00M & BOILER PAVED LEVEL IS EL(-)0.200M

NTPC DRG. No. 9962-001-PE-110-PVM-F-051

REV.01

PROJECT: 1 X 660MW PANKI THERMAL POWER EXTENSION PROJECT.

OWNER: UTTAR PRADESH RAJYA VIDYUT UTPADAN NIGAM LTD.

REVIEW CONSULTANT: NTPC LTD. (A GOVERNMENT OF INDIA ENTERPRISE)

CONSULTANT: DEVELOPMENT CONSULTANTS PVT. LTD. KOLKATA

BPC CONTRACTOR

BHARAT HEAVY ELECTRICALS LTD.

JOB NO. 426

STATUS CONTRACT

DISTRIBUTION

REV. 01

DATE 17.09.18

ALTD 14/5/2014

CHD SPP/PEA

APPD

1. DRAWING REVISED VALUE WITH NTPC/DCR COMMENTS.

2. REVISIONS MARKED AS

DEPT. SCALE 1:200

DRAWING NO. PE-DG-426-100-M005

SHEET 01 OF 01

REV. R1

DEPT. SIGN

SCALE 1:200

DRAWING NO. PE-DG-426-100-M005

SHEET 01 OF 01

REV. R1