

DRAWING NO. PE-DG-400-553-A001

CUSTOMER'S DRAWING NO.

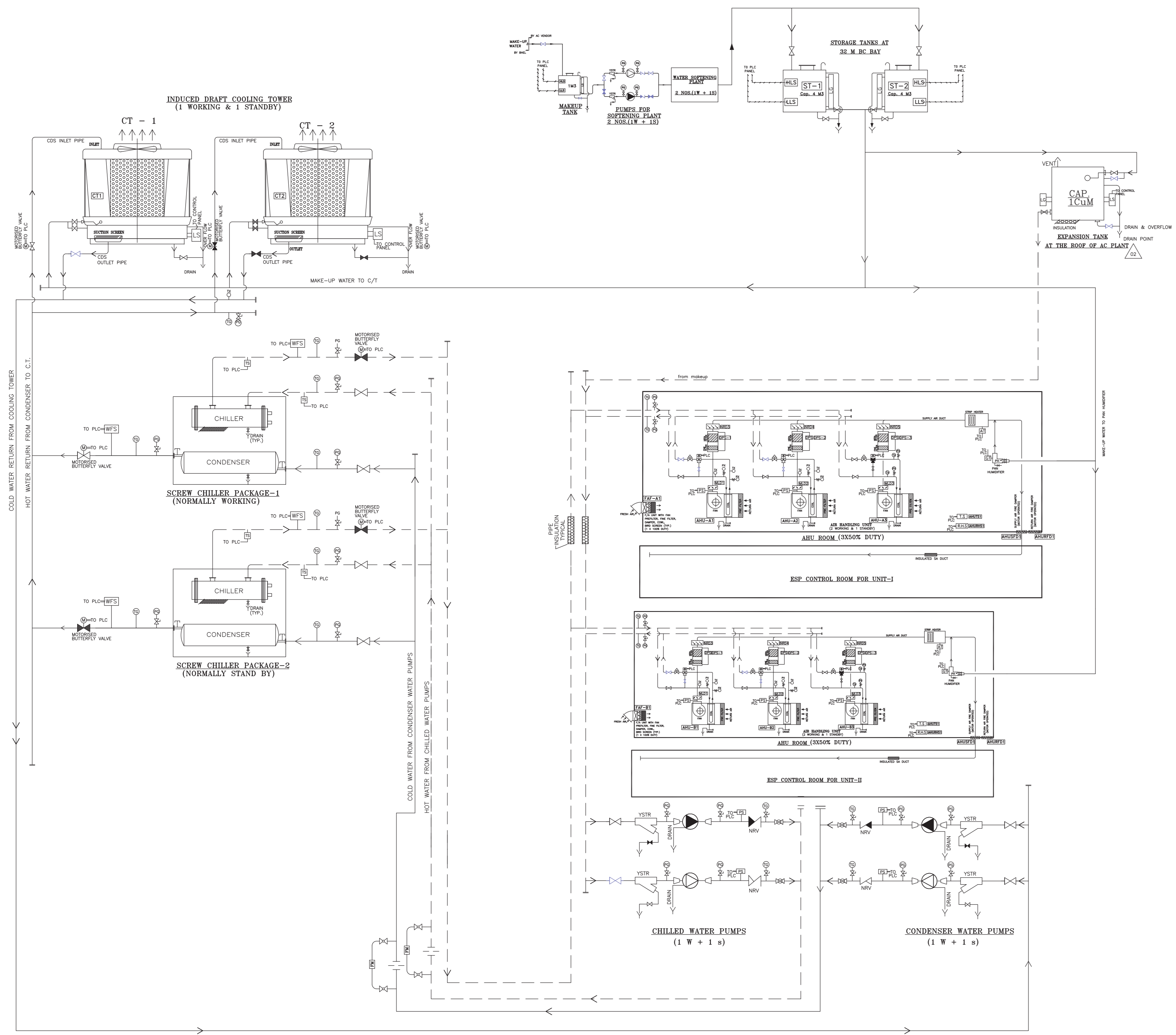
LEGEND :-

	PIPES	CHILLED WATER PIPES
	PIPES	CONDENSER WATER PIPES
	TEMP. ELEMENT	CHILLED & CONDENSER PUMP OUTLET
	GLOBE VALVE	CHILLER BY PASS LINE
	WATER FLOW SWITCH	CONDENSER, CHILLER OUTLET
	PRESSURE SWITCH	CDSWTR, CHWTR PUMP OUT, AHU FAN DISH.
	AIR STAT	AS SHOWN
	GYSERSTAT	IN PAN HUMIDIFIER OR NEAR
	STRIP HEATER	SUPPLY AIR DUCT LINE
	HEPA FILTER	AS SHOWN
	FINE FILTER	AS SHOWN
	LEVEL GAUGE	MAKE-UP TANK
	PRE-FILTER	COOLING TOWER, EXPANSION TANK, SOFT WATER STORAGE TANK, MAKEUP TANK
	MULTI-LVR DAMPER	AS SHOWN
	NON RETURN DAMPER	AFTER FILTER PLENUM EACH AHU, EXPANSION TANK, SUP WATER STORAGE TANK,
	PUMP	COND.WTR, CHILLED WTR & MAKE-UP WATER
	TEMP. TEST POINT	ALL AHU-CHWTR. IN/OUT
	TEMP. GAUGE	COND-IN/OUT, CHILLER IN/OUT, AHU ROOM CHILLED WATER HEADER
	PR. TEST POINT	ALL AHU-CHWTR. IN/OUT
	PRESSURE GAUGE	COND-IN/OUT, CHILLER IN/OUT, PUMP-IN/OUT AHU ROOM CHILLED WATER HEADER
	TEMP. SENSOR	AS SHOWN
	R.H. SENSOR	AS SHOWN
	PAN HUMIDIFIER	IN SIDE AHU ROOM
	FIRE DAMPER (SOL)	AS SHOWN (AT WALL)
	Y- STRAINER	ALL PUMP INLET
	FLOAT VALVE	ALL COOLING TOWER/ EXPANSION TANK PAN HUMIDIFIER
	NRN RETURN VALVE	ALL PUMP OUT LET
	3-WAY-MXNG. VALVE	ALL AHU CHWTR. RETURN LINE
	BALANCING VALVE	ALL AHU CHWTR. RETURN
	BUTTERFLY VALVE	ALL MAKE-UP/QUICK FILL/DRAIN
	MOTDRISED BUTTER FLY VALVE	CONDENSER OUTLET/ CHILLER OUTLET COOLING TOWER INLET
	BUTTERFLY VALVE	CDSW.PUMP INLET/OUTLET/CHW.PUMP IN/OUT COOLING TOWER OUT/COND&CHILLER IN/AHU IN/OUT
	FLOW METER	CONDENSER WATER OUTLET/CHILLED WATER OUT LINE
	ORIFICE PLATE	CONDENSER WATER OUTLET/CHILLED WATER OUT LINE

NOTES :-

- 1 ALL EQUIPMENT DRAIN SHALL BE CONNECTED TO NEAREST BUILDING/ PLANT ROOM DRAIN (BY AC SUPPLIER)
- 2 THE STANDBY CONDENSER WATER PUMPS, CHILLED WATER PUMPS & AHU'S SHALL BE STARTED AUTOMATICALLY WHEN THE WORKING EQUIPMENT ARE STOPPED / TRIPPED.

For reference purpose only.



CUSTOMER	NEYVELI LIGNITE CORPORATION LTD. (NLC LTD)				
CONSULTANT	LAHMEYER INTERNATIONAL (INDIA) PVT. LTD.				
JOB NO.	400	DEPT CODE	NAME	SIGN	DATE
STATUS	CONTRACT	MAX.	POWER GROUP	sgd/-	16.09.2014
DISTRIBUTION			PROJECTS ENGINEERING MANAGEMENT	sgd/-	16.09.2014
TO			NOIDA , UP	sgd/-	16.09.2014
NO/DFT					
REV	DATE	ALTD	CHD		

2X500 MW NEW NEYVELI TPP

TITLE	P & I DIAGRAM FOR CONDENSER AND CHILLED WATER SYSTEM FOR SG AREA			
DEPT.	SCALE	BHEL DRAWING NO.	PE-DG-400-553-A001.	
SIGN		SHEET	1	REV 02
DATE		DF	1	REV 02

Varun Jain

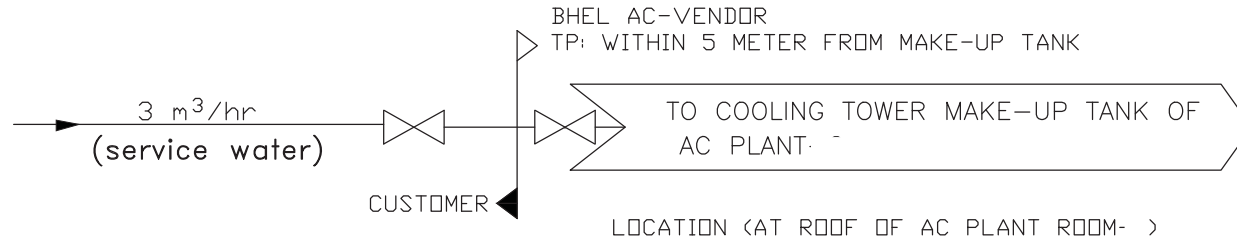
 SA Khan

 K. Keshav

 Praveen Kishore

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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



NOTE:-

AC - SYSTEM MAKE-UP WATER PIPING FROM TERMINAL POINT TO MAKE-UP WATER TANK, EXPANSION TANK & PAN HUMIDIFIER SHALL BE IN SCOPE OF BHEL HVAC SYSTEM VENDOR

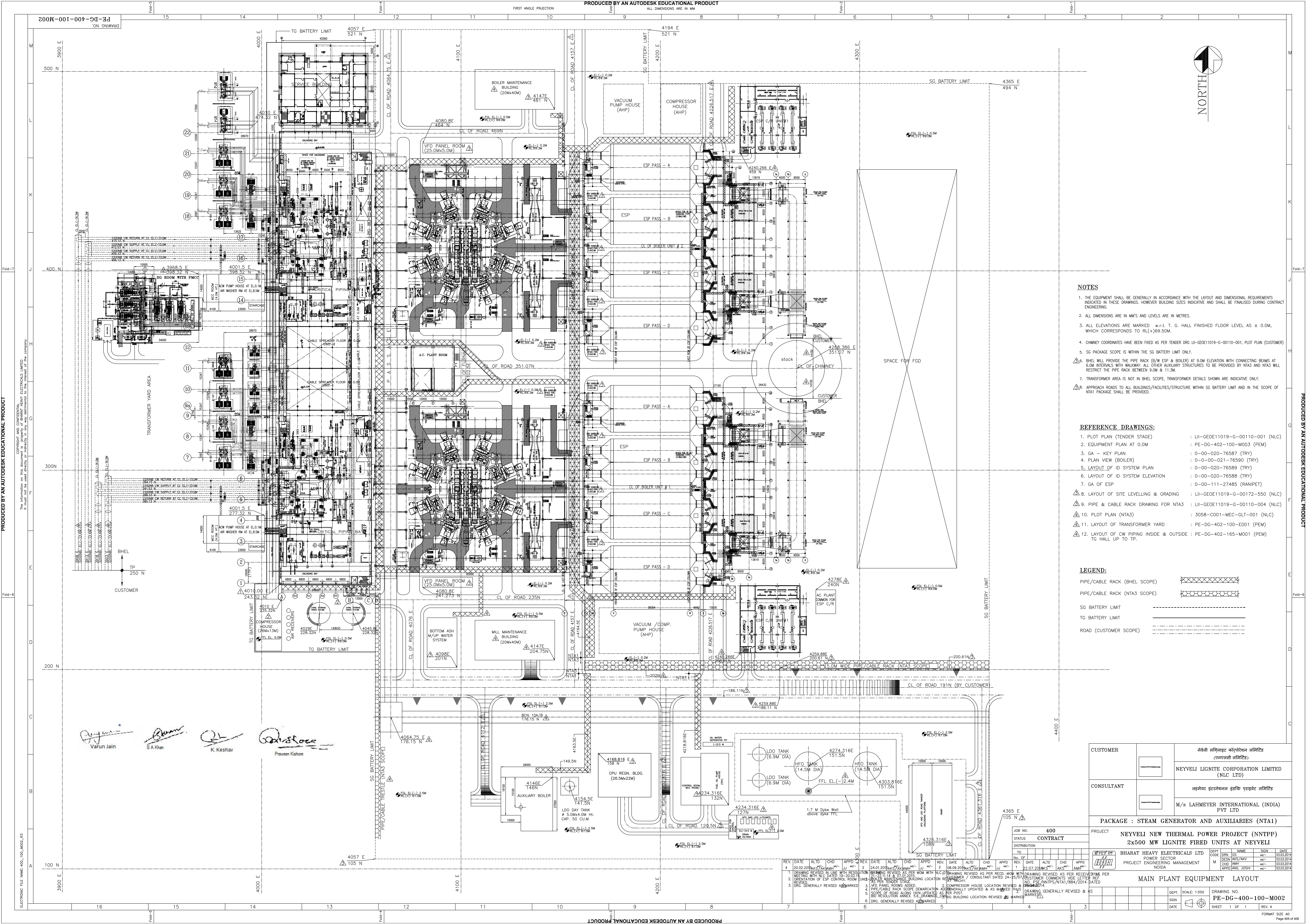

Varun Jain


S A Khan


K. Keshav


Praveen Kishore

MAKE UP WATER SCHEME FOR HVAC SYSTEM
PE-DG-400-553-A003



- NOTES**
1. THE EQUIPMENT SHALL BE GENERALLY IN ACCORDANCE WITH THE LAYOUT AND DIMENSIONAL REQUIREMENTS INDICATED IN THESE DRAWINGS. HOWEVER BUILDING SIZES INDICATIVE AND SHALL BE FINALISED DURING CONTRACT ENGINEERING.
 2. ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
 3. ALL ELEVATIONS ARE MARKED w.r.t. T. G. HALL FINISHED FLOOR LEVEL AS ± 0.0M, WHICH CORRESPONDS TO RL(+69.50M).
 4. CHIMNEY COORDINATES HAVE BEEN FIXED AS PER TENDER DRG LI-GOE11019-G-00110-001; PLOT PLAN (CUSTOMER)
 5. SG PACKAGE SCOPE IS WITHIN THE SG BATTERY LIMIT ONLY.
 6. BHEL WILL PROVIDE THE PIPE RACK (B/W ESP & BOILER) AT 9.0M ELEVATION WITH CONNECTING BEAMS AT 6.0M INTERVALS WITH WALKWAY. ALL OTHER AUXILIARY STRUCTURES TO BE PROVIDED BY NTA3 AND NTA3 WILL RESTRICT THE PIPE RACK BETWEEN 9.0M & 11.3M.
 7. TRANSFORMER AREA IS NOT IN BHEL SCOPE, TRANSFORMER DETAILS SHOWN ARE INDICATIVE ONLY.
 8. APPROACH ROADS TO ALL BUILDINGS/FACILITIES/STRUCTURE WITHIN SG BATTERY LIMIT AND IN THE SCOPE OF NTA1 PACKAGE SHALL BE PROVIDED.

- REFERENCE DRAWINGS:**
- | | |
|--|---------------------------------|
| 1. PLOT PLAN (TENDER STAGE) | : LI-GOE11019-G-00110-001 (NLC) |
| 2. EQUIPMENT PLAN AT 0.0M | : PE-DG-402-100-M003 (PEM) |
| 3. GA - KEY PLAN | : 0-00-020-76587 (TRY) |
| 4. PLAN VIEW (BOILER) | : 0-00-001-76590 (TRY) |
| 5. LAYOUT OF ID SYSTEM PLAN | : 0-00-020-76589 (TRY) |
| 6. LAYOUT OF ID SYSTEM ELEVATION | : 0-00-020-76588 (TRY) |
| 7. GA OF ESP | : 0-00-111-27485 (RANIPET) |
| 8. LAYOUT OF SITE LEVELLING & GRADING | : LI-GOE11019-G-00172-550 (NLC) |
| 9. PIPE & CABLE RACK DRAWING FOR NTA3 | : LI-GOE11019-G-00110-004 (NLC) |
| 10. PLOT PLAN (NTA3) | : 3058-C001-MEC-GLT-001 (NLC) |
| 11. LAYOUT OF TRANSFORMER YARD | : PE-DG-402-100-E001 (PEM) |
| 12. LAYOUT OF CW PIPING INSIDE & OUTSIDE : TG HALL UP TO TP. | : PE-DG-402-165-M001 (PEM) |

- LEGEND:**
- PIPE/CABLE RACK (BHEL SCOPE) [Symbol]
 - PIPE/CABLE RACK (NTA3 SCOPE) [Symbol]
 - SG BATTERY LIMIT [Symbol]
 - TG BATTERY LIMIT [Symbol]
 - ROAD (CUSTOMER SCOPE) [Symbol]

Varun Jain
 S A Khan
 K Keshav
 Praveen Kishore

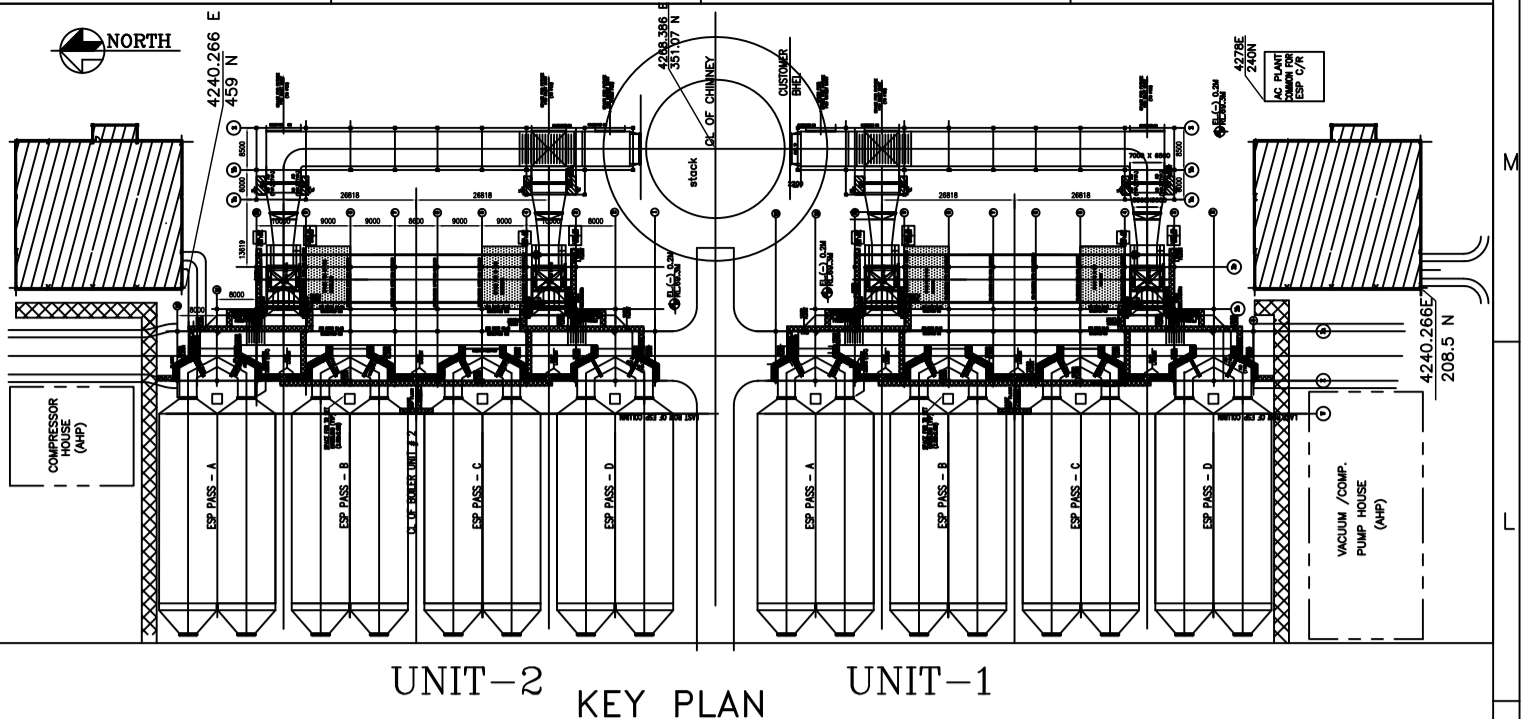
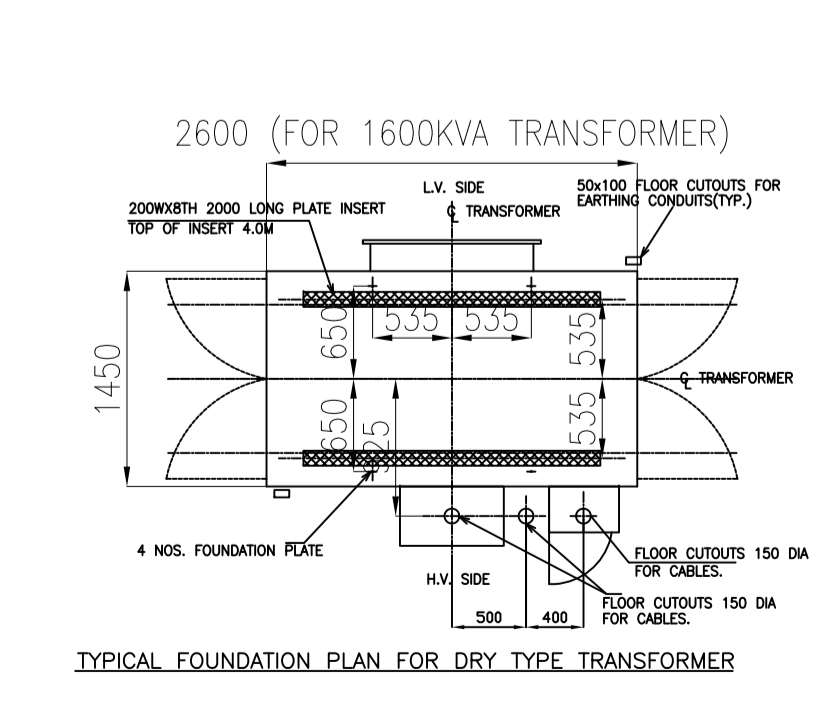
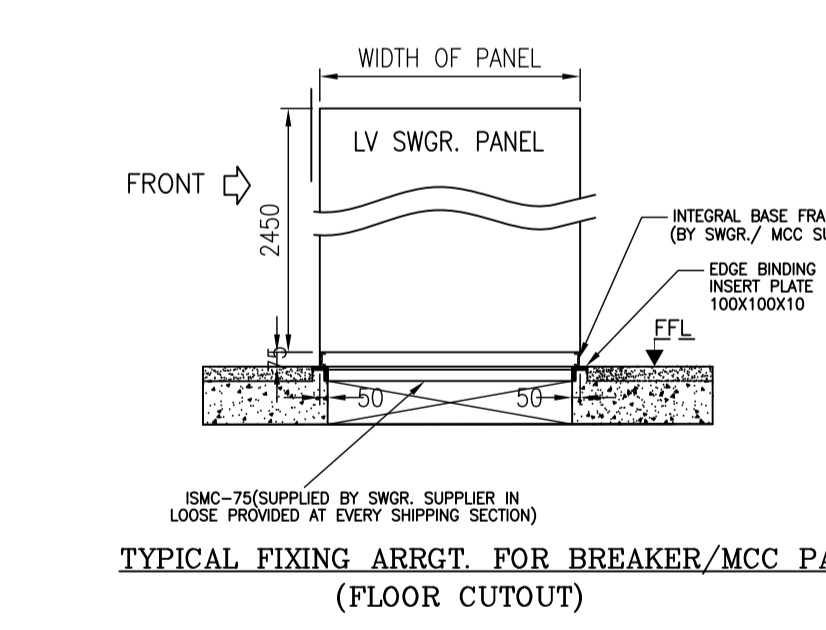
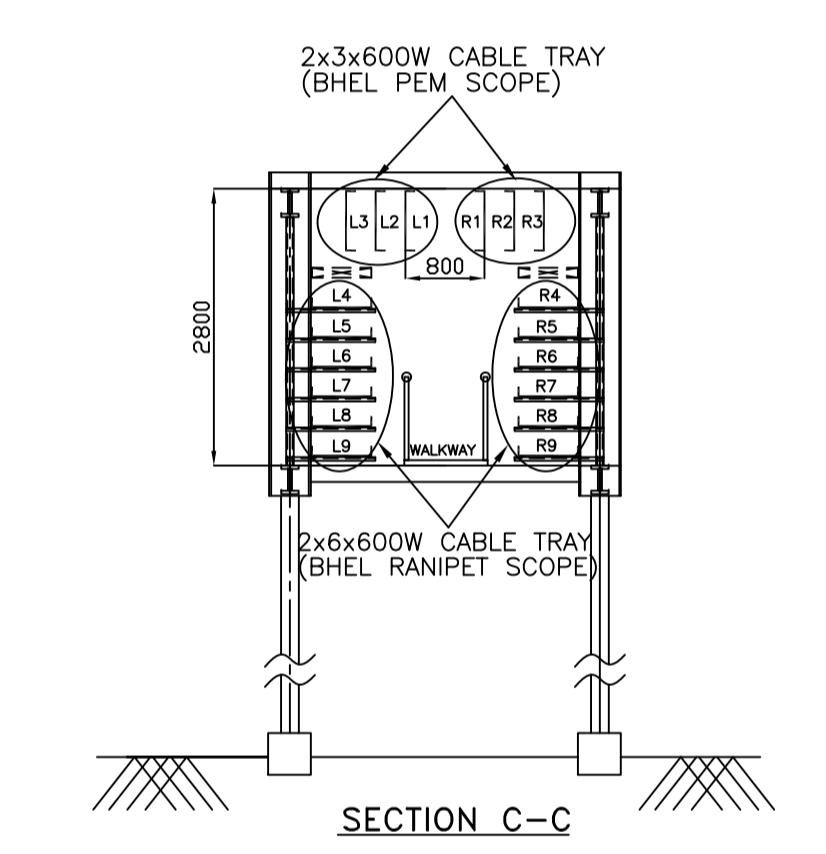
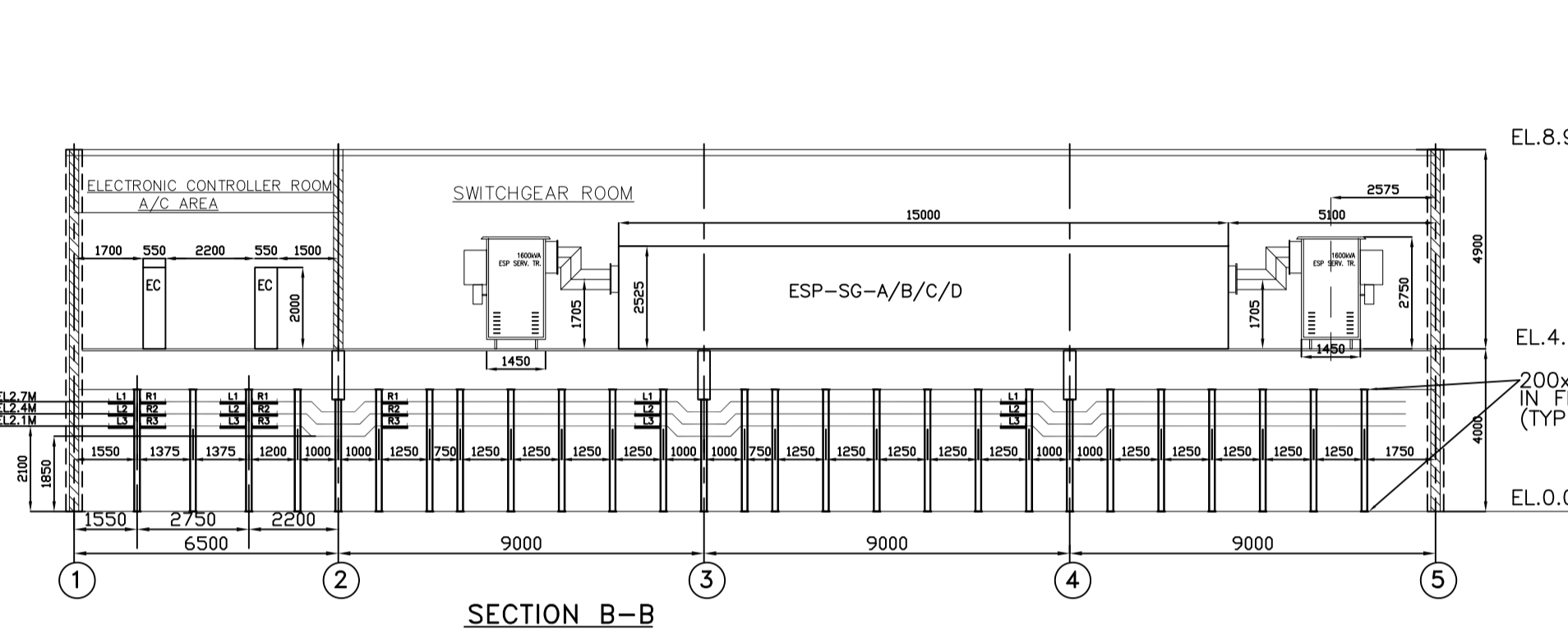
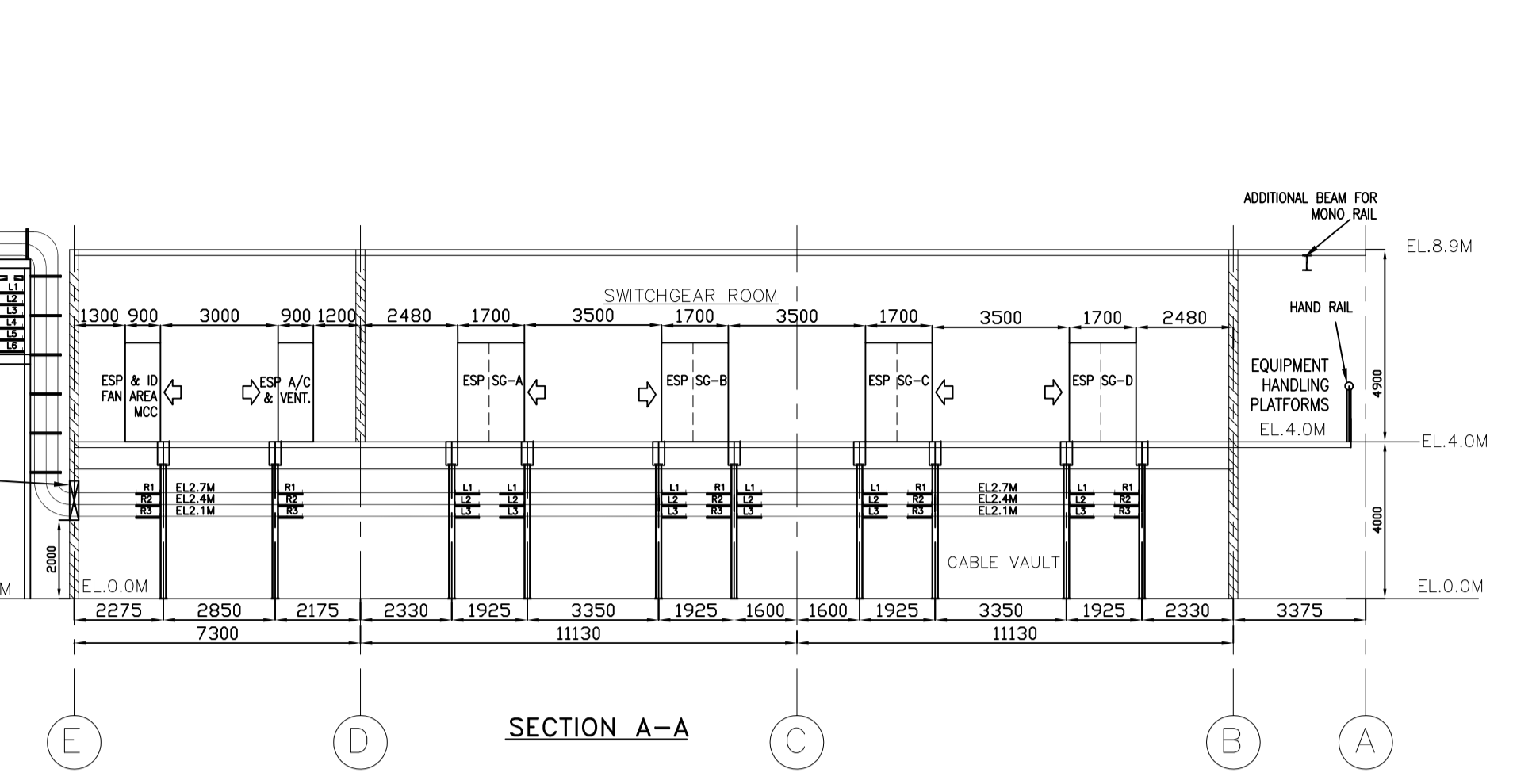
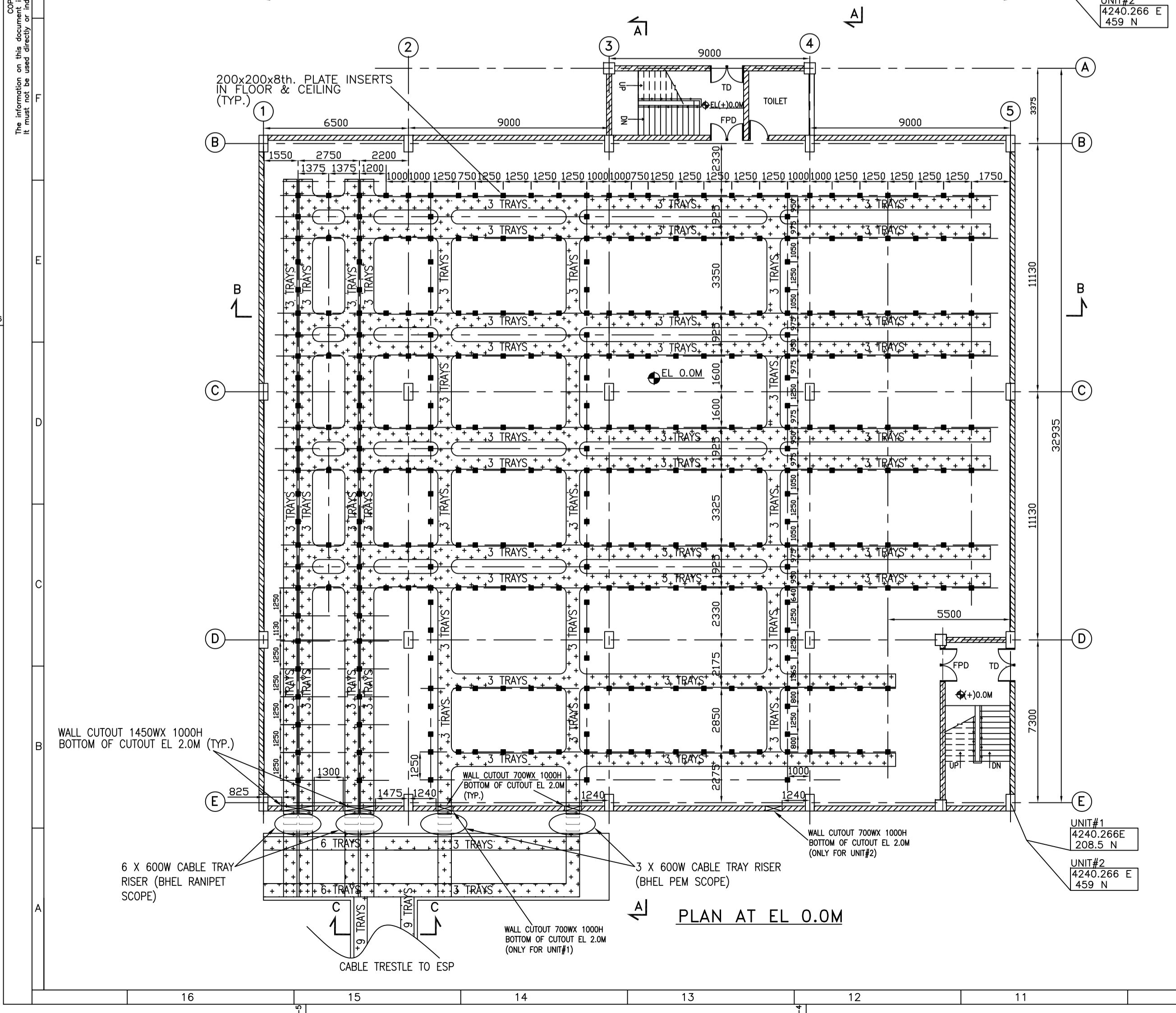
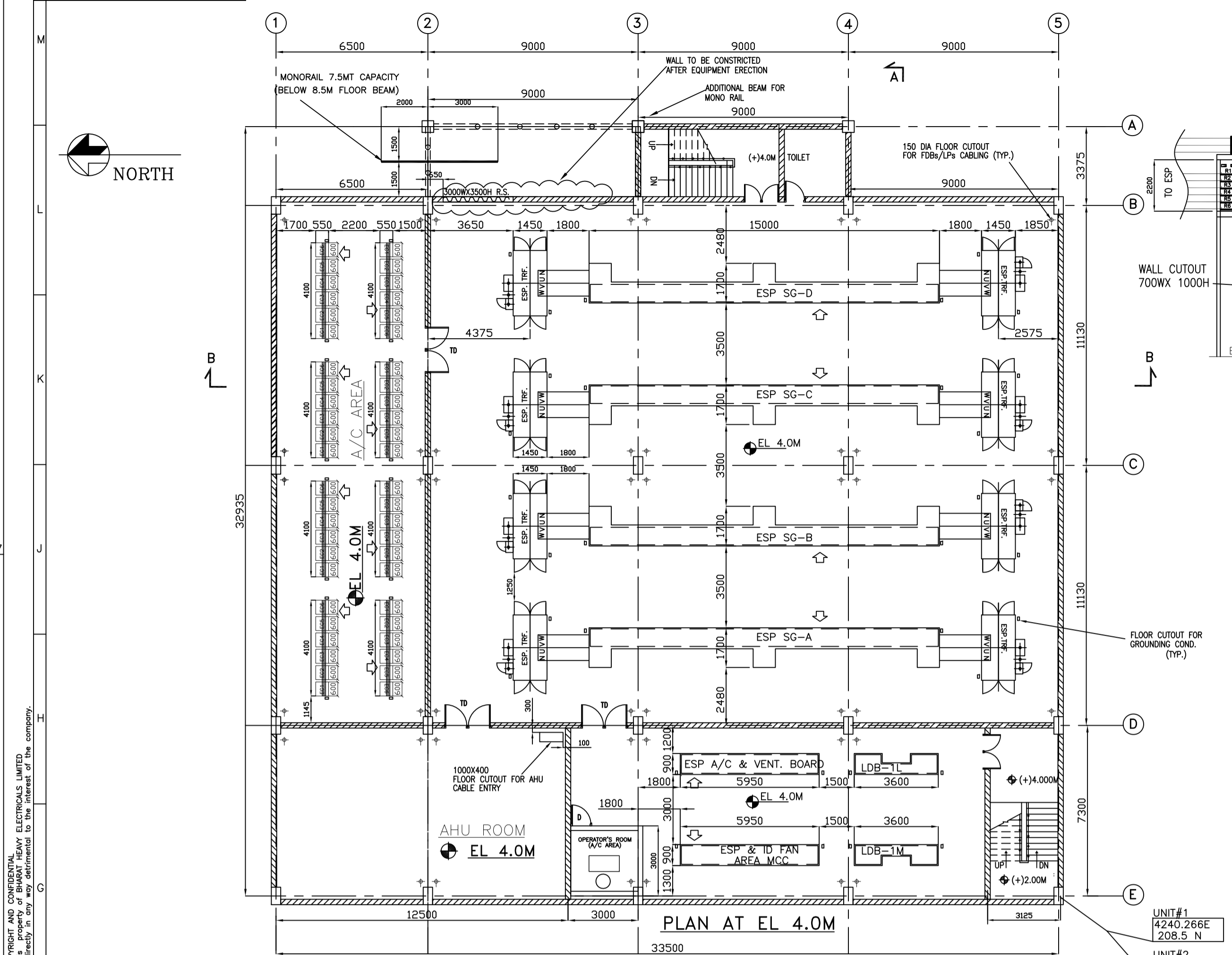
CUSTOMER	नेवेली लिग्नाइट कॉर्पोरेशन लिमिटेड (एनएलसी लिमिटेड) NEYVELI LIGNITE CORPORATION LIMITED (NLC LTD)
CONSULTANT	बहमेयर इंटरनेशनल इंडिया प्राइवेट लिमिटेड M/s LAHMEYER INTERNATIONAL (INDIA) PVT LTD
PACKAGE : STEAM GENERATOR AND AUXILIARIES (NTA1)	
JOB NO.	400
STATUS	CONTRACT
PROJECT NEYVELI NEW THERMAL POWER PROJECT (NNTPP) 2x500 MW LIGNITE FIRED UNITS AT NEYVELI	
DEPT CODE	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA
NAME	DRN CS
DATE	03.03.2014
SIGN	DRN APPS/AVK
DATE	03.03.2014
APPROVAL	DRN ANTPS/NTA1/884/2014
DATE	03.03.2014

MAIN PLANT EQUIPMENT LAYOUT	
DEPT.	SCALE: 1:550
SIGN	DRAWING NO. PE-DG-400-100-M002
DATE	SHEET 1 OF 1 REV. 4

REV.	DATE	ALTD	CHKD	APPROV	REV.	DATE	ALTD	CHKD	APPROV
1	20.02.2014		DRN	APP	1	22.07.2014		DRN	APP
2	08.09.2014		DRN	APP	2	08.09.2014		DRN	APP
3	24.01.2014		DRN	APP	3	24.01.2014		DRN	APP

1. DRAWING REVISED TO USE WITH RESOLUTION 14.75 X 14.75 METER.
 2. DRAWING REVISED AS PER MOM WITH NLC/DRAWING REVISED AS PER RECEIVED PER MOM WITH NLC DATED 18-03-2014.
 3. ORIENTATION OF ESP CONTROL ROOM (UNIT-2) BOILER MAINTENANCE BUILDING LOCATION REVISED AS PER MOM DATED 14-07-2014.
 4. PIPE/CABLE RACK SCOPE DEMARCATION ADJUSTED AS PER MOM WITH NLC/DRAWING REVISED AS PER RECEIVED PER MOM WITH NLC DATED 14-07-2014.
 5. SCOPE OF ROAD ALONG 191N UPDATED AS PER POST. DRAWING REVISED AS PER RECEIVED PER MOM WITH NLC DATED 14-07-2014.
 6. DRG. GENERALLY REVISED AS MARKED.

ELECTRONIC FILE NAME: 400_100_M002_03
 PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT
 ALL DIMENSIONS ARE IN MM
 FIRST ANGLE PROJECTION
 PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



BILL OF QUANTITY

S.NO.	MATERIAL DESCRIPTION	UNIT	QUANTITY
01	CABLE TRAY 600MM WIDE (LADDER TYPE)	METRES	1000
02	CABLE TRAY 600MM WIDE (PERFORATED TYPE)	METRES	500
03	ISMC 100MM	METRES	1000
04	ISA 50x50x6MM	METRES	700
05	TEES 600W (LADDER)	NOS.	16
06	TEES 600W (PERFORATED)	NOS.	8
07	CROSS 600 W (LADDER TYPE)	NOS.	50
08	CROSS 600 W (PERFORATED TYPE)	NOS.	25

REFERENCE DRAWINGS :

S. NO.	TITLE	DRAWING NO.	SOURCE AGENCY
1.	MAIN PLANT EQUIPMENT LAYOUT PLAN	PE-DG-400-100-M002-R4	PEM/ MPL
2.	CROSS SECTION OF MAIN PLANT	PE-DG-402-100-M010	PEM/ MPL
3.	RECOMMENDED CONTROL ROOM LAYOUT FOR ESP	2-00-114-29869	BHEL/ RANIPET
4.	ELECTRICAL SINGLE LINE DIAGRAM	PE-DG-402-565-E001	PEM/ ELECT
5.	CABLE ERECTION PHILOSOPHY	PE-DG-400-507-E004	BHEL/ ELECT
6.	DESIGN PHILOSOPHY FOR ELECTRICAL EQUIPMENTS LAYOUT	PE-DC-400-507-E101	BHEL/ ELECT

NOTES :

- ALL ELEVATIONS MARKED ARE W.R.T. T.G. HALL FINISHED FLOOR ELEVATION OF 0.0 M. WHICH CORRESPONDS TO RL +69.50 M.
- ALL DIMENSIONS ARE IN MM AND ELEVATIONS IN METRES UNLESS STATED OTHERWISE.
- THE PANEL DIMENSIONS INDICATED IN DRAWING ARE TENTATIVE AND ARE SHOWN FOR DEVELOPING CONCEPTUAL LAYOUT.
- FOR MOUNTING & FOUNDATION DETAILS AND FLOOR CUTOUTS RESPECTIVE DRAWINGS SHOWN IN 'REFERENCE DRAWINGS' SHALL BE REFERRED.
- THIS DRAWING IS TO BE REFERRED FOR DETAILS OF ELECTRICAL EQUIPMENT AND CABLING LAYOUT ONLY. LAYOUT SHOWN FOR FACILITIES SUCH AS AC & VENTILATION SYSTEM IS INDICATIVE & FOR INTERFACE PURPOSE. FOR EXACT LAYOUT OF OTHER SYSTEMS, RELEVANT DISCIPLINE DRAWINGS SHALL BE REFERRED.
- ALL AREAS SHOWN IN THIS DRAWING ARE NON A/C UNLESS STATED OTHERWISE.
- BOTTOM MOST/OUTERMOST TWO TRAY OF ALL RUNS SHALL BE PERFORATED TYPE.

LEGEND

- OPERATING FRONT OF THE PANEL
- BRICK WALL
- CABLE TRAYS
- CABLE TRAYS
- DOUBLE LEAF DOOR WITH TRANSCOM ARRANGEMENT (3M (HT. INCLUSIVE OF TRANSCOM ARRANGEMENT) X 2M (WIDTH))
- SINGLE LEAF DOOR (1000Wx2100H)
- FIRE PROOF DOOR
- SPACE FOR FUTURE CABLE TRAYS
- PERFORATED TYPE CABLE TRAY

TABLE-1

S.NO.	EQUIPMENT	SOURCE
1	ESP SG	BHEL/RANIPET
2	EC	BHEL/RANIPET
3	DT TRANSFORMERS	BHEL/JHANSI.
4	NSP BUSDUCT	BHEL/CBU
5	ESP & ID FAN AREA MCCs	BHEL/CBU
6	AC & VENT MCC	BHEL/CBU
7	LDB	PEM/ELECT.

CUSTOMER	नेवेली लिग्नाइट कॉर्पोरेशन लिमिटेड (एनएलसी लिमिटेड)
CONSULTANT	NEVELI LIGNITE CORPORATION LIMITED (NLC LTD) सहमेयर इंटरनेशनल इंडिया प्राइवेट लिमिटेड M/s LAHMEYER INTERNATIONAL (INDIA) PVT LTD
PACKAGE:	STEAM GENERATOR AND AUXILIARIES (NATI)

NEVELI NEW THERMAL POWER PROJECT (NNTPP)
 2X500 MW LIGNITE FIRED UNITS AT NEVELI

JOB NO.	400
STATUS	CONTRACT
DRG./REF. NO. (INTERNAL)	
PRINT SCALE IN METRE	

REV	DATE	ALD	CHD	APPD	REV	DATE	ALD	CHD	APPD
02	10.03.14	-SD-	-SD-	-SD-	01	02.09.14	-SD-	-SD-	-SD-