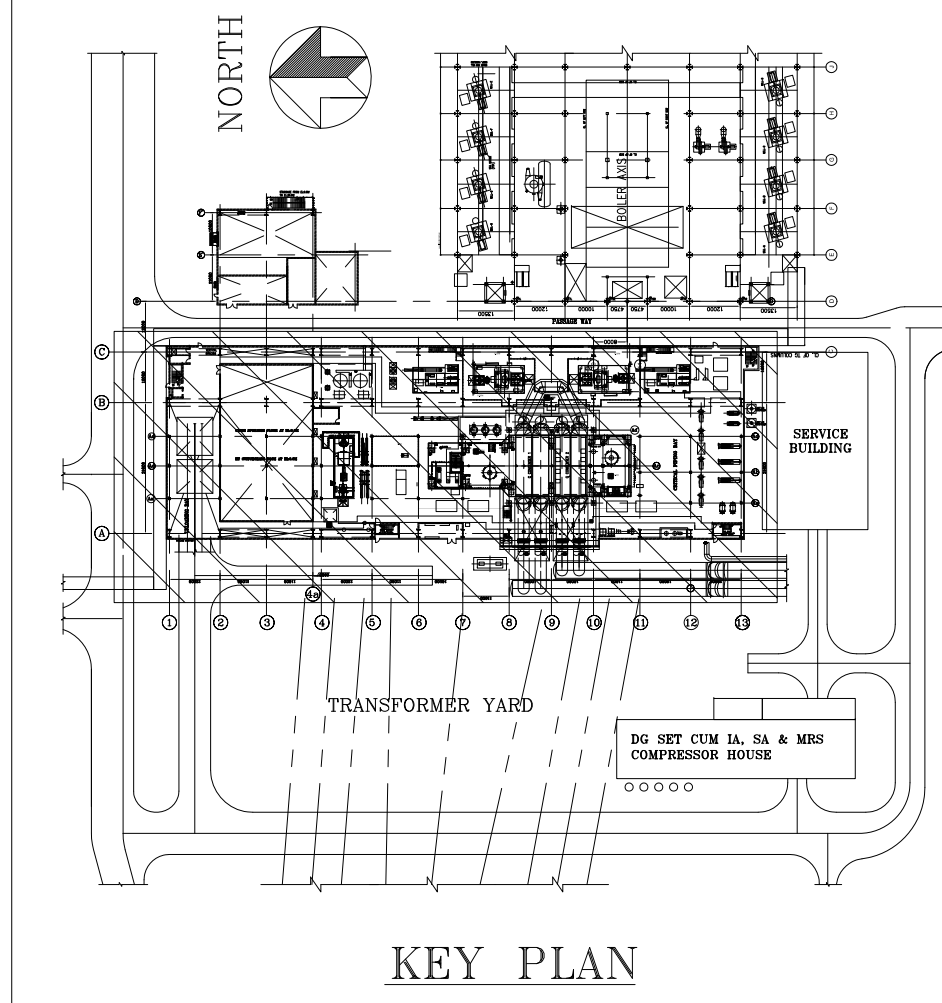
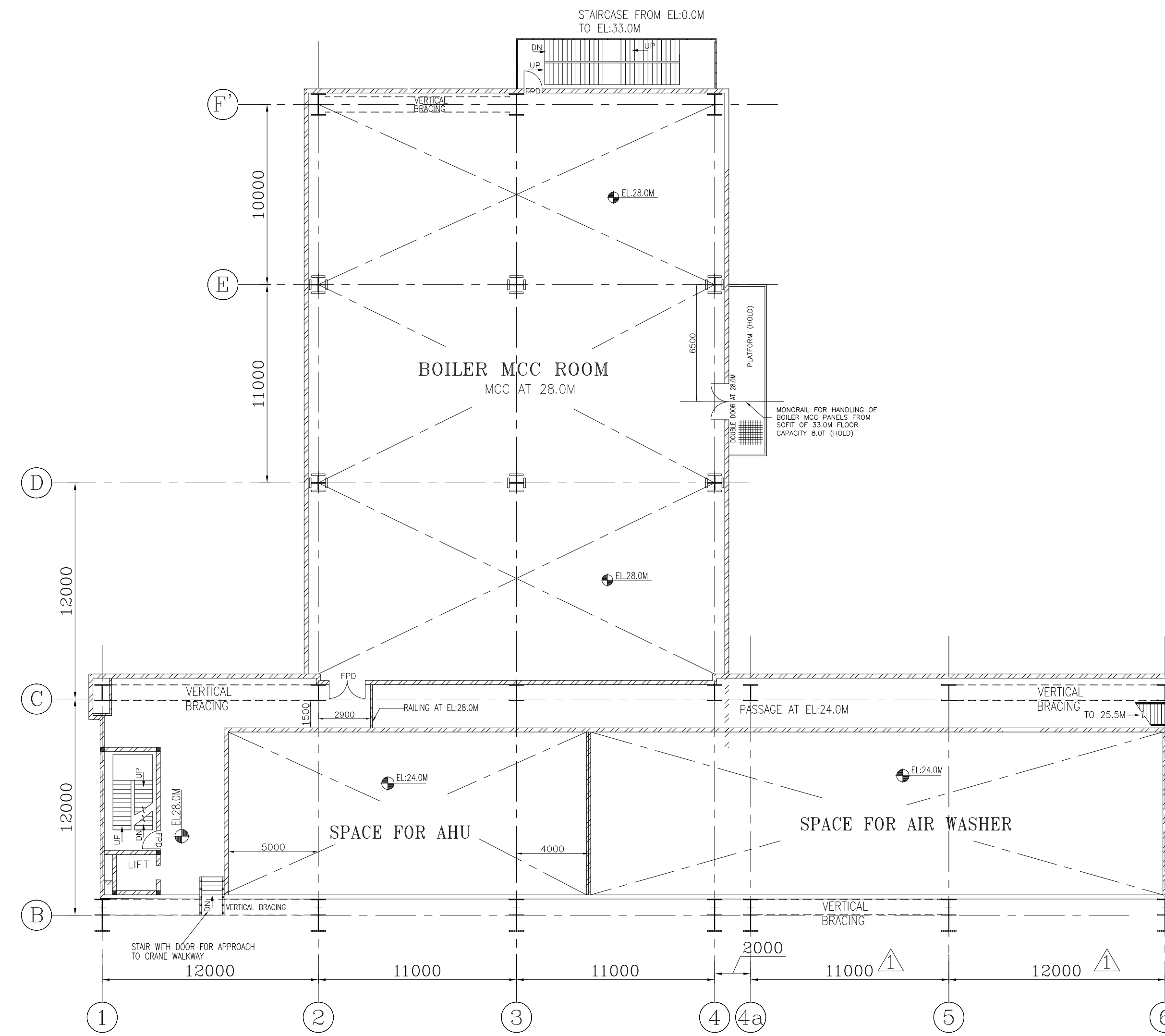
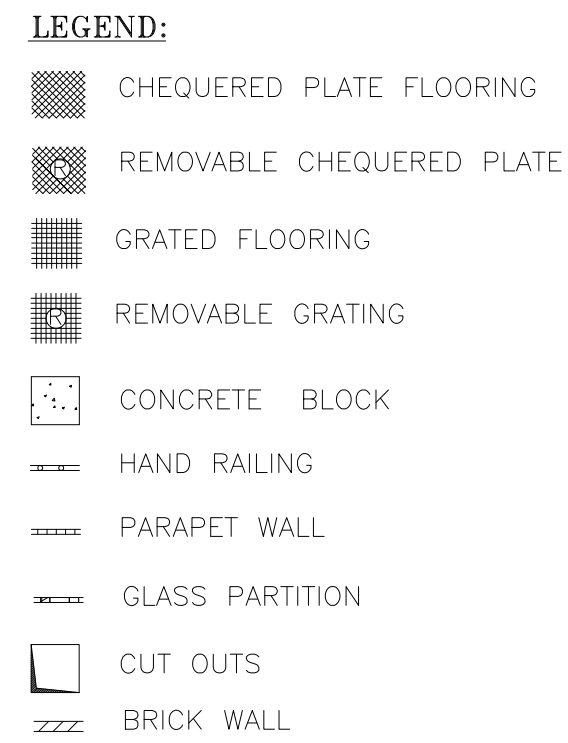
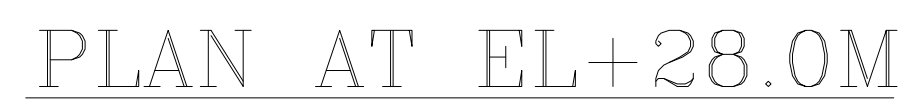




NTPC	DRG. No.	9962-001-PE-110-PVM-F-052	REV.01		
PROJECT:	1 X 660MW PANKI THERMAL POWER EXTENSION PROJECT				
OWNER: 	UTTAR PRADESH RAJYA VIDYUT UTPADAN LTD.				
REVIEW CONSULTANT: 	NTPC LTD. (A GOVERNMENT OF INDIA ENTERPRISE)				
CONSULTANT: 	DEVELOPMENT CONSULTANTS PVT. LTD. KOLKATA				
EPC CONTRACTOR: 	BHARAT HEAVY ELECTRICALS LTD.				
BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA	DEPT CODE	DRN AH	NAME SA/	SKIN SA/	DAT 10.05.20
	M	DEBN SRV	SA/	SA/	10.05.20
		CHD RPT	SA/	SA/	10.05.20
		APPD JU	SA/	SA/	10.05.20
TITLE	TG EQUIPMENT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY				
	DEPT.	SCALE	DRAWING NO.		
	SKIN	1:200	PE-DG-426-10-M006		
					
			SHEET	01	OF 01
			REV.	R1	

JOB NO.		426	
STATUS		CONTRACT	
DISTRIBUTION			
REV.	DATE	ALTD	CHD
01	17.09.18	US	SBV/BKA
1.	DRAWING REVISED INLINE WITH NTPC/DCPL COMMENTS.		
2.	REVISIONS MARKED AS 		

BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA	DEPT CODE	NAME	SIGN	DATE
	DRN	AK	Sd/-	10.05.20
	DESN	Sbv	Sd/-	10.05.20
	CHD	RP	Sd/-	10.05.20
	APPD	JJ	Sd/-	10.05.20

TITLE	TG EQUIPMENT PLAN AT MISC FLOORS ABOVE OPERATING FLOOR IN BC BAY
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[illegible]

PE-DG-XXX-553-A101
DRAWING NO.

F06-3

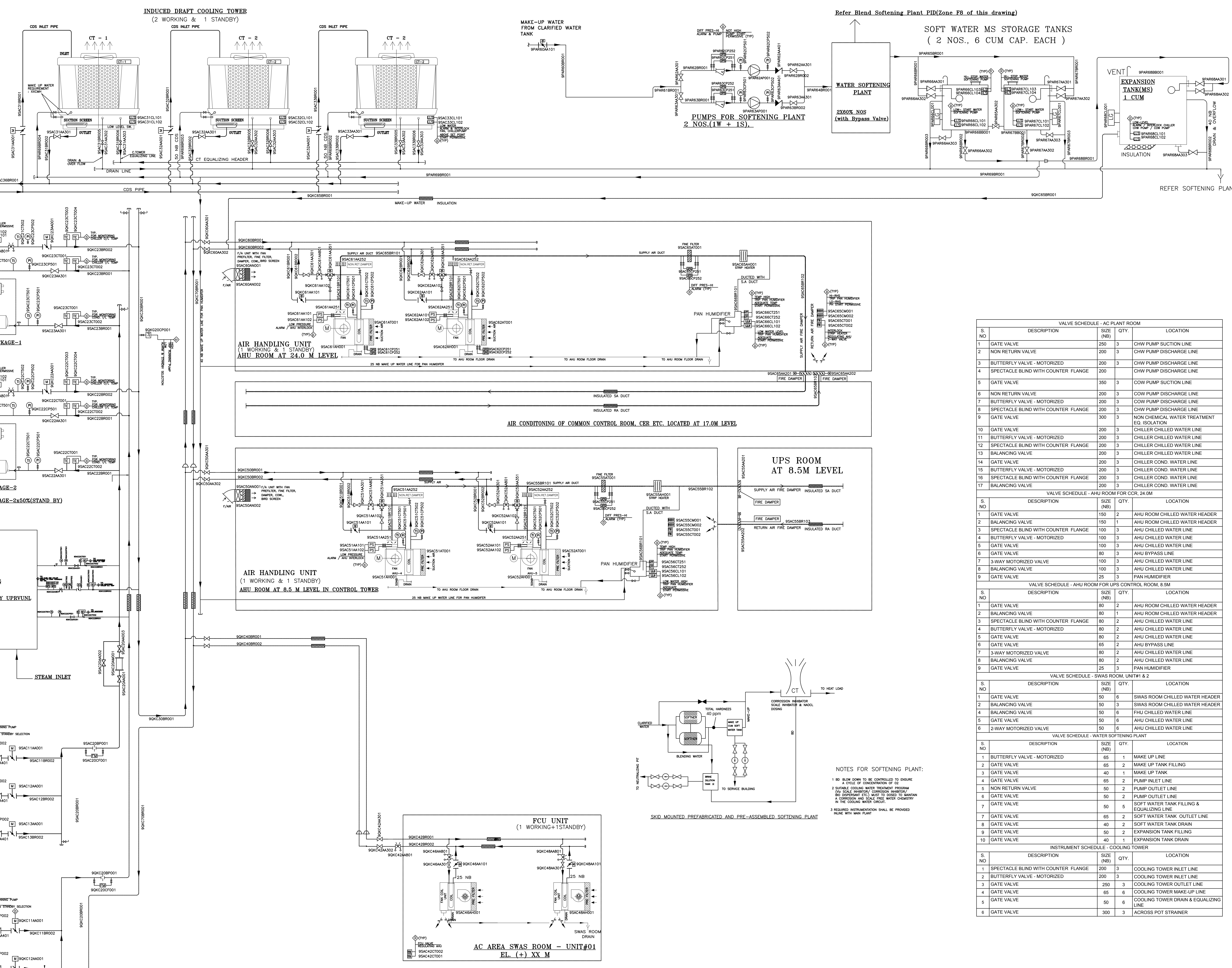
FIRST ANGLE PROJECTION

F06-2

ALL DIMENSIONS ARE IN MM

F06-1

CUSTOMERS DRAWING NO.



LEGEND					
SYMBOL	DESCRIPTION	TAG	SYMBOL	DESCRIPTION	TAG
	TEMPERATURE GAUGE	TI		NON RETURN VALVE	NRV
	PRESSURE GAUGE	PI		Y-STRAINER	YSTR
	BALANCING VALVE	BV		GATE VALVE	GV
	MOTORISED BUTTERFLY VALVE	MBF		NON RETURN DAMPER	NRD
	3-WAY MOTORISED MIXING VALVE	3MV		FIRE DAMPER (MOTOR OPERATED)	FD
	PUMP	P		VOLUME CONTROL DAMPER	VCD
	VENT VALVE	-		LEVEL SWITCH (LOW/HIGH)	LS
	PURGE VALVE	-		DESCALING TEE	-
	WATER FLOW SWITCH	WFS		AIRSTAT	AT
	FINE FILTER	-		FIRE DAMPER (MOTOR OPERATED)	FD
	FINNED TYPE STRIP HEATER	-		GEYSIER THERMOSTAT	GT
	ELECTRICAL LINE	E		HIGH LEVEL SWITCH	HLS
	PAN HUMIDIFIER	PH		PRESSURE TEST POINT	PX
	LOW LEVEL SWITCH	LLS		TEMPERATURE ELEMENT	TE
	TEMP. TEST POINT	TX		HUMIDITY SENSOR	RHS
	DIFFERENTIAL PRESSURE SWITCH	DPS		WATER LINE PRESSURE SWITCH	WPS
	TEMPERATURE SENSOR	TS		AIR LINE PRESSURE SWITCH	PS
	POT STRAINER	-		SIGNAL TO DCS	D
	PRESSURE TRANSMITTER	PT		NON CHEMICAL WATER TREAT. EQ	-
	TEMPERATURE ELEMENT	TE			
	FLOW METER	FM			
	ORIFICE PLATE	-			
CONDENSER WATER LINE					
CHILLED WATER LINE					
SUPPLY AND RETURN AIR DUCT					

INSTRUMENT SCHEDULE - AC PLANT ROOM			
S. NO	DESCRIPTION	QTY	LOCATION
1	DIFFERENTIAL PRESSURE INDICATOR SWITCH	12	CHW & COW PUMP SUCTION
2	PRESSURE INDICATOR	12	CHW & COW PUMP INLET & OUTLET LINE
3	PRESSURE TRANSMITTER	12	CHW & COW PUMP DISCHARGE
4	PRESSURE TRANSMITTER	4	CHW & COW PUMP DISCHARGE
5	ORIFICE PLATE & FLOW METER	2	CHW & COW PUMP DISCHARGE
6	TEMPERATURE ELEMENT	12	CHILLER CHILLED WATER LINE
7	TEMPERATURE INDICATOR	6	CHILLER CHILLED WATER LINE
8	PRESSURE INDICATOR	6	CHILLER CHILLED WATER LINE
9	WATER FLOW SWITCH	6	CHILLER CHILLED WATER LINE
10	TEMPERATURE ELEMENT	12	CHILLER COND. WATER LINE
11	TEMPERATURE INDICATOR	6	CHILLER COND. WATER LINE
12	PRESSURE INDICATOR	6	CHILLER COND. WATER LINE
13	WATER FLOW SWITCH	6	CHILLER COND. WATER LINE

INSTRUMENT SCHEDULE - AHU ROOM FOR COR, 24.0M			
S. NO	DESCRIPTION	QTY	LOCATION
1	PRESSURE SWITCH	6	AHU DISCHARGE
2	PRESSURE INDICATOR	4	AHU CHILLED WATER LINE
3	TEMPERATURE INDICATOR	6	AHU CHILLED WATER LINE
4	DIFFERENTIAL PRESSURE INDICATOR SWITCH	6	AHU PRE-FILTER
5	DIFFERENTIAL PRESSURE INDICATOR SWITCH	2	ACROSS FINE FILTER
7	AIR STAT	2	SUPPLY DUCT
8	GEYSER STAT	2	PAN HUMIDIFIER
9	LOW LEVEL SWITCH	2	PAN HUMIDIFIER
10	TEMPERATURE SENSOR	2	AHU ROOM
11	RH SENSOR	2	AHU ROOM

INSTRUMENT SCHEDULE - AHU ROOM FOR UPS, 8.5 M			
S. NO	DESCRIPTION	QTY	LOCATION
1	PRESSURE SWITCH	4	AHU DISCHARGE
2	PRESSURE INDICATOR	4	AHU CHILLED WATER LINE
3	TEMPERATURE INDICATOR	4	AHU CHILLED WATER LINE
4	DIFFERENTIAL PRESSURE INDICATOR SWITCH	4	AHU PRE-FILTER
5	DIFFERENTIAL PRESSURE INDICATOR SWITCH	2	ACROSS FINE FILTER
7	AIR STAT	2	SUPPLY DUCT
8	GEYSER STAT	2	PAN HUMIDIFIER
9	LOW LEVEL SWITCH	2	PAN HUMIDIFIER
10	TEMPERATURE SENSOR	2	AHU ROOM
11	RH SENSOR	2	AHU ROOM

INSTRUMENT SCHEDULE - SWAS ROOM, UNIT#1 & 2			
S. NO	DESCRIPTION	QTY	LOCATION
1	TEMPERATURE ELEMENT	4	SWAS ROOM
2	TEMPERATURE INDICATOR	2	SWAS ROOM
3	TEMPERATURE INDICATOR	2	SWAS ROOM
4	TEMPERATURE INDICATOR	2	SWAS ROOM
5	TEMPERATURE INDICATOR	2	SWAS ROOM
6	TEMPERATURE INDICATOR	2	SWAS ROOM
7	TEMPERATURE INDICATOR	2	SWAS ROOM
8	TEMPERATURE INDICATOR	2	SWAS ROOM
9	TEMPERATURE INDICATOR	2	SWAS ROOM
10	TEMPERATURE INDICATOR	2	SWAS ROOM

INSTRUMENT SCHEDULE - WATER SOFTENING PLANT			
S. NO	DESCRIPTION	QTY	LOCATION
1	LOW LEVEL SWITCH	2	MAKE UP TANK
2	HIGH LEVEL SWITCH	2	MAKE UP TANK
3	LEVEL INDICATOR	1	MAKE UP TANK
4	DIFFERENTIAL PRESSURE INDICATOR SWITCH	4	ACROSS STRAINER
5	PRESSURE INDICATOR	4	PUMP INLET & OUTLET HEADER
6	LOW LEVEL SWITCH	4	SOFT WATER STORAGE TANK
7	HIGH LEVEL SWITCH	4	SOFT WATER STORAGE TANK
8	LEVEL INDICATOR	2	SOFT WATER STORAGE TANK
9	LOW LEVEL SWITCH	2	EXPANSION TANK
10	LEVEL INDICATOR	1	EXPANSION TANK

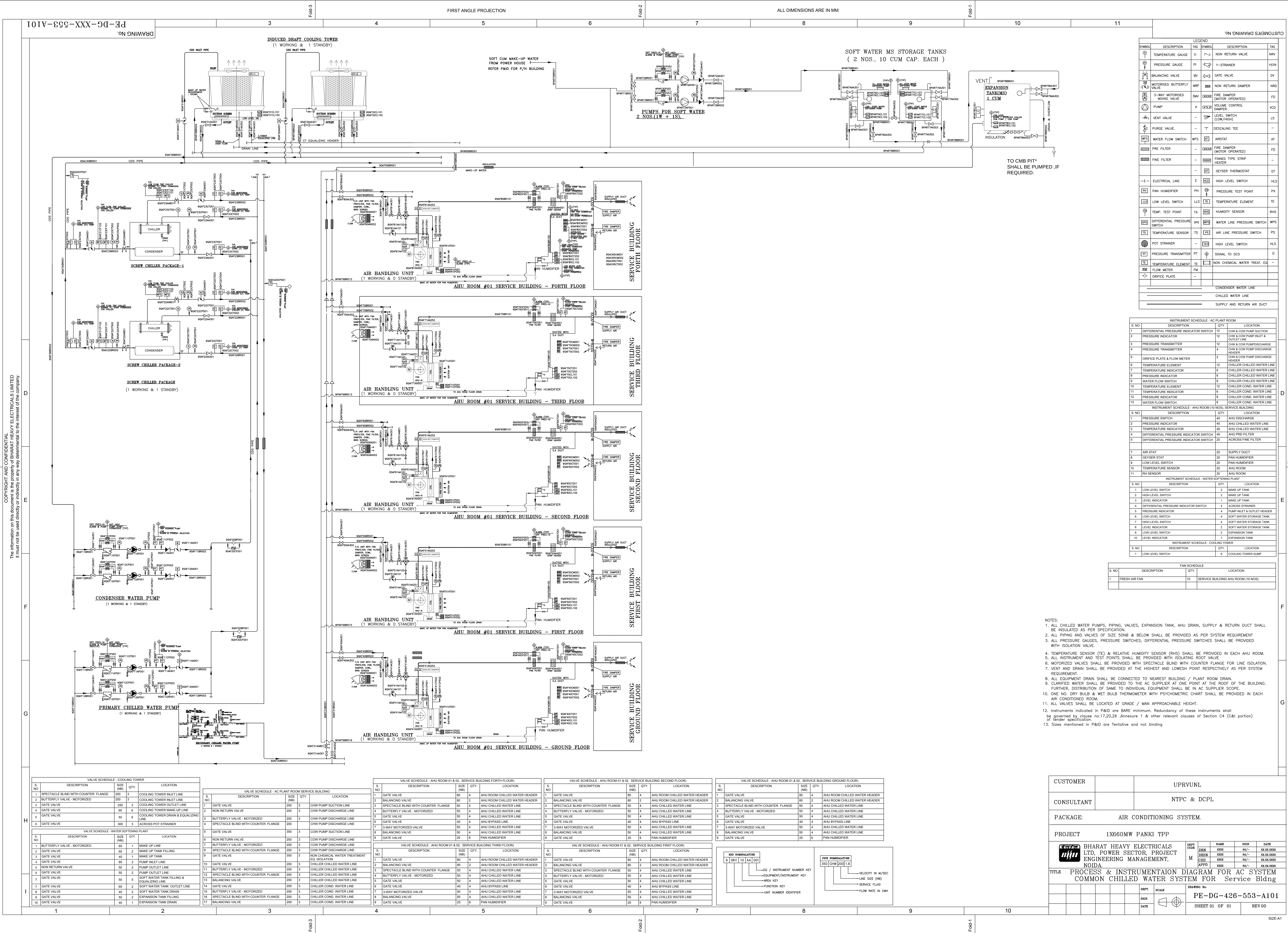
INSTRUMENT SCHEDULE - COOLING TOWER			
S. NO	DESCRIPTION	QTY	LOCATION
1	LOW LEVEL SWITCH	2	COOLING TOWER SUMP
2	COOLING TOWER SUMP	2	COOLING TOWER SUMP
3	COOLING TOWER SUMP	2	COOLING TOWER SUMP
4	COOLING TOWER SUMP	2	COOLING TOWER SUMP
5	COOLING TOWER SUMP	2	COOLING TOWER SUMP
6	COOLING TOWER SUMP	2	COOLING TOWER SUMP
7	COOLING TOWER SUMP	2	COOLING TOWER SUMP
8	COOLING TOWER SUMP	2	COOLING TOWER SUMP
9	COOLING TOWER SUMP	2	COOLING TOWER SUMP
10	COOLING TOWER SUMP	2	COOLING TOWER SUMP

- NOTES:
1. ALL CHILLED WATER PUMPS, PIPING, VALVES, EXPANSION TANK, AHU DRAIN, SUPPLY & RETURN DUCT SHALL BE INSULATED AS PER SPECIFICATION.
 2. ALL PIPING AND VALVES OF SIZE 50NB & BELOW SHALL BE PROVIDED AS PER SYSTEM REQUIREMENT.
 3. ALL PRESSURE GAUGES, PRESSURE SWITCHES, DIFFERENTIAL PRESSURE SWITCHES SHALL BE PROVIDED WITH ISOLATION VALVE.
 4. TEMPERATURE SENSOR (TE) & RELATIVE HUMIDITY SENSOR (RHS) SHALL BE PROVIDED IN EACH AHU ROOM.
 5. ALL INSTRUMENT AND TEST POINTS SHALL BE PROVIDED WITH ISOLATING ROOT VALVE.
 6. MOTORIZED VALVES SHALL BE PROVIDED WITH SPECTACLE BLIND WITH COUNTER FLANGE FOR LINE ISOLATION.
 7. VENT AND DRAIN SHALL BE PROVIDED AT THE HIGHEST AND LOWEST POINT RESPECTIVELY AS PER SYSTEM REQUIREMENT.
 8. ALL EQUIPMENT DRAIN SHALL BE CONNECTED TO NEAREST BUILDING / PLANT ROOM DRAIN.
 9. CLARIFIED WATER SHALL BE PROVIDED TO THE AC SUPPLIER AT ONE POINT AT THE ROOF OF THE BUILDING. FURTHER, DISTRIBUTION OF SAME TO INDIVIDUAL EQUIPMENT SHALL BE IN AC SUPPLIER SCOPE.
 10. ONE NO. DRY BULB & WET BULB THERMOMETER WITH PSYCHOMETRIC CHART SHALL BE PROVIDED IN EACH AIR CONDITIONED ROOM.
 11. ALL VALVES SHALL BE LOCATED AT GRADE / MAN APPROACHABLE HEIGHT.
 12. Instruments indicated in P&ID are BARE minimum. Redundancy of these instruments shall be governed by clause no.17.20.26, Annexure 1 & other relevant clauses of Section C (C&I portion) of tender specification.
 13. SIZES INDICATED ARE TENTATIVE AND NOT BINDING.

FAN SCHEDULE			
S. NO	DESCRIPTION	QTY	LOCATION
1	FRESH AIR FAN	2	AHU ROOM- 24.0M & 8.5 M
2	FRESH AIR FAN	2	AHU ROOM- ESP. BLDG. U#1 & 2

PIPE NOMINALLATURE		PIPE NOMINALLATURE	
9	90K10	AA	001
EQ / INSTRUMENT NUMBER KEY		VELOCITY IN M/SEC	
EQUIPMENT/INSTRUMENT KEY		— SERVICE FLUID	
AREA KEY		— FLOW RATE IN CMH	
FUNCTION KEY			
UNIT NUMBER IDENTIFIER			

CUSTOMER	UPRVUNL		
CONSULTANT	NTPC & DCPL		
PACKAGE	AIR CONDITIONING SYSTEM.		
PROJECT	1X60MW PANKI TPP		
BHARAT HEAVY ELECTRICALS LTD. POWER SECTOR PROJECT ENGINEERING MANAGEMENT, NOIDA.			
TITLE: PROCESS & INSTRUMENTATION DIAGRAM FOR AC SYSTEM CHILLED WATER SYSTEM FOR TG HALL			
DEPT.	SCALE	DRAWING No.	PE-DG-426-553-A101
SNON			SHEET 01 OF 01
DATE			REV 00



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Fold-4

Fold-1

Fold-2

Fold-3

PE-DG-426-553-A101
DRAWING NO.

INDUCED DRAFT COOLING TOWER
(1 WORKING & 1 STANDBY)

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

CUSTOMERS DRAWING NO.

SYMBOL	DESCRIPTION	LEGEND	TAG
	TEMPERATURE GAUGE	TI	NON RETURN VALVE
	PRESSURE GAUGE	PI	Y-STRAINER
	BALANCING VALVE	BV	GATE VALVE
	MOTORISED BUTTERFLY VALVE	MBF	NON RETURN DAMPER
	3-WAY MOTORISED MIXING VALVE	3MV	FIRE DAMPER (MOTOR OPERATED)
	PUMP	P	VOLUME CONTROL DAMPER
	VENT VALVE	-	LEVEL SWITCH (LOW/HIGH)
	PURGE VALVE	-	DESCALING TEE
	WATER FLOW SWITCH	WFS	AIRSTAT
	PRE FILTER	-	FIRE DAMPER (MOTOR OPERATED)
	FINE FILTER	-	FINNED TYPE STRIP HEATER
	ELECTRICAL LINE	E	GEYSER THERMOSTAT
	PAN HUMIDIFIER	PH	HIGH LEVEL SWITCH
	LOW LEVEL SWITCH	LLS	PRESSURE TEST POINT
	TEMP. TEST POINT	TX	TEMPERATURE ELEMENT
	DIFFERENTIAL PRESSURE SWITCH	dps	TEMPERATURE SENSOR
	TEMPERATURE SENSOR	TS	AIR LINE PRESSURE SWITCH
	POT STRAINER	-	HIGH LEVEL SWITCH
	PRESSURE TRANSMITTER	PT	SIGNAL TO OCS
	TEMPERATURE ELEMENT	TE	NON CHEMICAL WATER TREAT. EQ
	FLOW METER	FM	
	ORIFICE PLATE	-	

CONDENSER WATER LINE
CHILLED WATER LINE
SUPPLY AND RETURN AIR DUCT

SOFT WATER MS STORAGE TANKS
(2 NOS. 10 CUM CAP. EACH)

REFER ZONE D9
WATER SOFTENING PLANT
2 NOS. (2X60%)

2 PUMPS FOR SOFTENING PLANT
2 NOS. (1W + 1S)

REFER SOFTENING PLANT P&ID BELOW

SCREW CHILLER PACKAGE-1

SCREW CHILLER
(1 WORKING & 1 STANDBY)

CONDENSER WATER PUMP
(1 WORKING & 1 STANDBY)

CHILLED WATER PUMP
(1 WORKING & 1 STANDBY)

AIR HANDLING UNIT
(1 WORKING & 0 STANDBY)

AIR HANDLING UNIT
(1 WORKING & 0 STANDBY)

AIR HANDLING UNIT
(1 WORKING & 0 STANDBY)

S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	80	4	AHU ROOM CHILLED WATER HEADER
2	BALANCING VALVE	80	2	AHU ROOM CHILLED WATER HEADER
3	SPECTACLE BLIND WITH COUNTER FLANGE	50	4	AHU CHILLED WATER LINE
4	BUTTERFLY VALVE - MOTORIZED	50	4	AHU CHILLED WATER LINE
5	GATE VALVE	50	4	AHU CHILLED WATER LINE
6	GATE VALVE	40	4	AHU BYPASS LINE
7	3-WAY MOTORIZED VALVE	50	4	AHU CHILLED WATER LINE
8	BALANCING VALVE	50	4	AHU CHILLED WATER LINE
9	GATE VALVE	25	6	PAN HUMIDIFIER

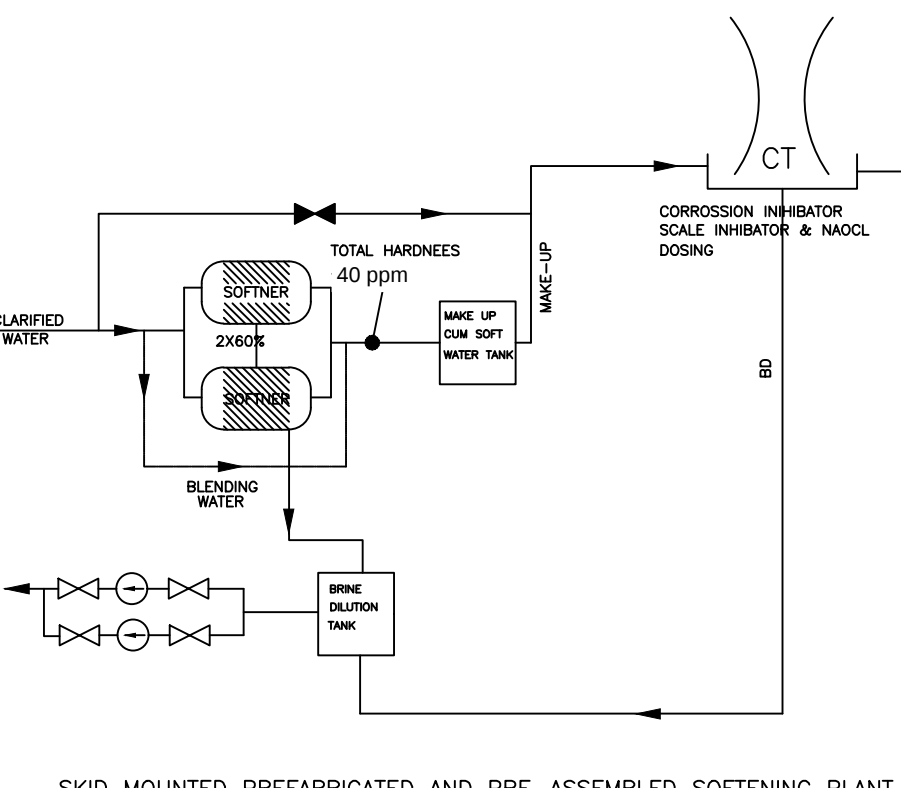
S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	80	4	AHU ROOM CHILLED WATER HEADER
2	BALANCING VALVE	80	2	AHU ROOM CHILLED WATER HEADER
3	SPECTACLE BLIND WITH COUNTER FLANGE	50	4	AHU CHILLED WATER LINE
4	BUTTERFLY VALVE - MOTORIZED	50	4	AHU CHILLED WATER LINE
5	GATE VALVE	50	4	AHU CHILLED WATER LINE
6	GATE VALVE	40	4	AHU BYPASS LINE
7	3-WAY MOTORIZED VALVE	50	4	AHU CHILLED WATER LINE
8	BALANCING VALVE	50	4	AHU CHILLED WATER LINE
9	GATE VALVE	25	6	PAN HUMIDIFIER

S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	80	4	AHU ROOM CHILLED WATER HEADER
2	BALANCING VALVE	80	2	AHU ROOM CHILLED WATER HEADER
3	SPECTACLE BLIND WITH COUNTER FLANGE	50	4	AHU CHILLED WATER LINE
4	BUTTERFLY VALVE - MOTORIZED	50	4	AHU CHILLED WATER LINE
5	GATE VALVE	50	4	AHU CHILLED WATER LINE
6	GATE VALVE	40	4	AHU BYPASS LINE
7	3-WAY MOTORIZED VALVE	50	4	AHU CHILLED WATER LINE
8	BALANCING VALVE	50	4	AHU CHILLED WATER LINE
9	GATE VALVE	25	6	PAN HUMIDIFIER

S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	250	3	CHW PUMP SUCTION LINE
2	NON RETURN VALVE	200	3	CHW PUMP DISCHARGE LINE
3	BUTTERFLY VALVE - MOTORIZED	200	3	CHW PUMP DISCHARGE LINE
4	SPECTACLE BLIND WITH COUNTER FLANGE	200	3	CHW PUMP DISCHARGE LINE
5	GATE VALVE	350	3	COW PUMP SUCTION LINE
6	NON RETURN VALVE	200	3	COW PUMP DISCHARGE LINE
7	BUTTERFLY VALVE - MOTORIZED	200	3	COW PUMP DISCHARGE LINE
8	SPECTACLE BLIND WITH COUNTER FLANGE	200	3	CHW PUMP DISCHARGE LINE
9	GATE VALVE	300	3	NON CHEMICAL WATER TREATMENT EQ ISOLATION
10	GATE VALVE	200	3	CHILLER CHILLED WATER LINE
11	BUTTERFLY VALVE - MOTORIZED	200	3	CHILLER CHILLED WATER LINE
12	SPECTACLE BLIND WITH COUNTER FLANGE	200	3	CHILLER CHILLED WATER LINE
13	BALANCING VALVE	200	3	CHILLER CHILLED WATER LINE
14	GATE VALVE	200	3	CHILLER COND. WATER LINE
15	BUTTERFLY VALVE - MOTORIZED	200	3	CHILLER COND. WATER LINE
16	SPECTACLE BLIND WITH COUNTER FLANGE	200	3	CHILLER COND. WATER LINE
17	BALANCING VALVE	200	3	CHILLER COND. WATER LINE

S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	80	4	AHU ROOM CHILLED WATER HEADER
2	BALANCING VALVE	80	2	AHU ROOM CHILLED WATER HEADER
3	SPECTACLE BLIND WITH COUNTER FLANGE	50	4	AHU CHILLED WATER LINE
4	BUTTERFLY VALVE - MOTORIZED	50	4	AHU CHILLED WATER LINE
5	GATE VALVE	50	4	AHU CHILLED WATER LINE
6	GATE VALVE	40	4	AHU BYPASS LINE
7	3-WAY MOTORIZED VALVE	50	4	AHU CHILLED WATER LINE
8	BALANCING VALVE	50	4	AHU CHILLED WATER LINE
9	GATE VALVE	25	6	PAN HUMIDIFIER

S. NO.	DESCRIPTION	SIZE (NB)	QTY.	LOCATION
1	GATE VALVE	80	4	AHU ROOM CHILLED WATER HEADER
2	BALANCING VALVE	80	2	AHU ROOM CHILLED WATER HEADER
3	SPECTACLE BLIND WITH COUNTER FLANGE	50	4	AHU CHILLED WATER LINE
4	BUTTERFLY VALVE - MOTORIZED	50	4	AHU CHILLED WATER LINE
5	GATE VALVE	50	4	AHU CHILLED WATER LINE
6	GATE VALVE	40	4	AHU BYPASS LINE
7	3-WAY MOTORIZED VALVE	50	4	AHU CHILLED WATER LINE
8	BALANCING VALVE	50	4	AHU CHILLED WATER LINE
9	GATE VALVE	25	6	PAN HUMIDIFIER



1. NO. DOWN DOWN TO BE CONTROLLED TO ENSURE A FLOW OF CONCENTRATION OF 02
2. SUPPLY COOLING WATER TREATMENT PROGRAM FOR SOFT WATER TREATMENT. CONCENTRATION OF 02
3. REQUIRED INFORMATION SHALL BE PROVIDED PLATE WITH THIS PLANT

S. NO.	DESCRIPTION	QTY.	LOCATION
1	DIFFERENTIAL PRESSURE INDICATOR SWITCH	12	CHW & COW PUMP SUCTION
2	PRESSURE INDICATOR	12	CHW & COW PUMP INLET & OUTLET LINE
3	PRESSURE TRANSMITTER	12	CHW & COW PUMPS DISCHARGE
4	PRESSURE TRANSMITTER	4	CHW & COW PUMP DISCHARGE
5	ORIFICE PLATE & FLOW METER	2	CHW & COW PUMP DISCHARGE
6	TEMPERATURE ELEMENT	12	CHILLER CHILLED WATER LINE
7	TEMPERATURE INDICATOR	6	CHILLER CHILLED WATER LINE
8	PRESSURE INDICATOR	6	CHILLER CHILLED WATER LINE
9	WATER FLOW SWITCH	6	CHILLER CHILLED WATER LINE
10	TEMPERATURE ELEMENT	12	CHILLER COND. WATER LINE
11	TEMPERATURE INDICATOR	6	CHILLER COND. WATER LINE
12	PRESSURE INDICATOR	6	CHILLER COND. WATER LINE
13	WATER FLOW SWITCH	6	CHILLER COND. WATER LINE

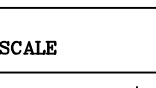
S. NO.	DESCRIPTION	QTY.	LOCATION
1	PRESSURE SWITCH	40	AHU DISCHARGE
2	PRESSURE INDICATOR	40	AHU CHILLED WATER LINE
3	TEMPERATURE INDICATOR	40	AHU CHILLED WATER LINE
4	DIFFERENTIAL PRESSURE INDICATOR SWITCH	20	AHU PRE-FILTER
5	DIFFERENTIAL PRESSURE INDICATOR SWITCH	20	ACROSS FINE FILTER
7	AIR STAT	20	SUPPLY DUCT
8	GEYSER STAT	20	PAN HUMIDIFIER
9	LOW LEVEL SWITCH	20	PAN HUMIDIFIER
10	TEMPERATURE SENSOR	20	AHU ROOM
11	RH SENSOR	20	AHU ROOM

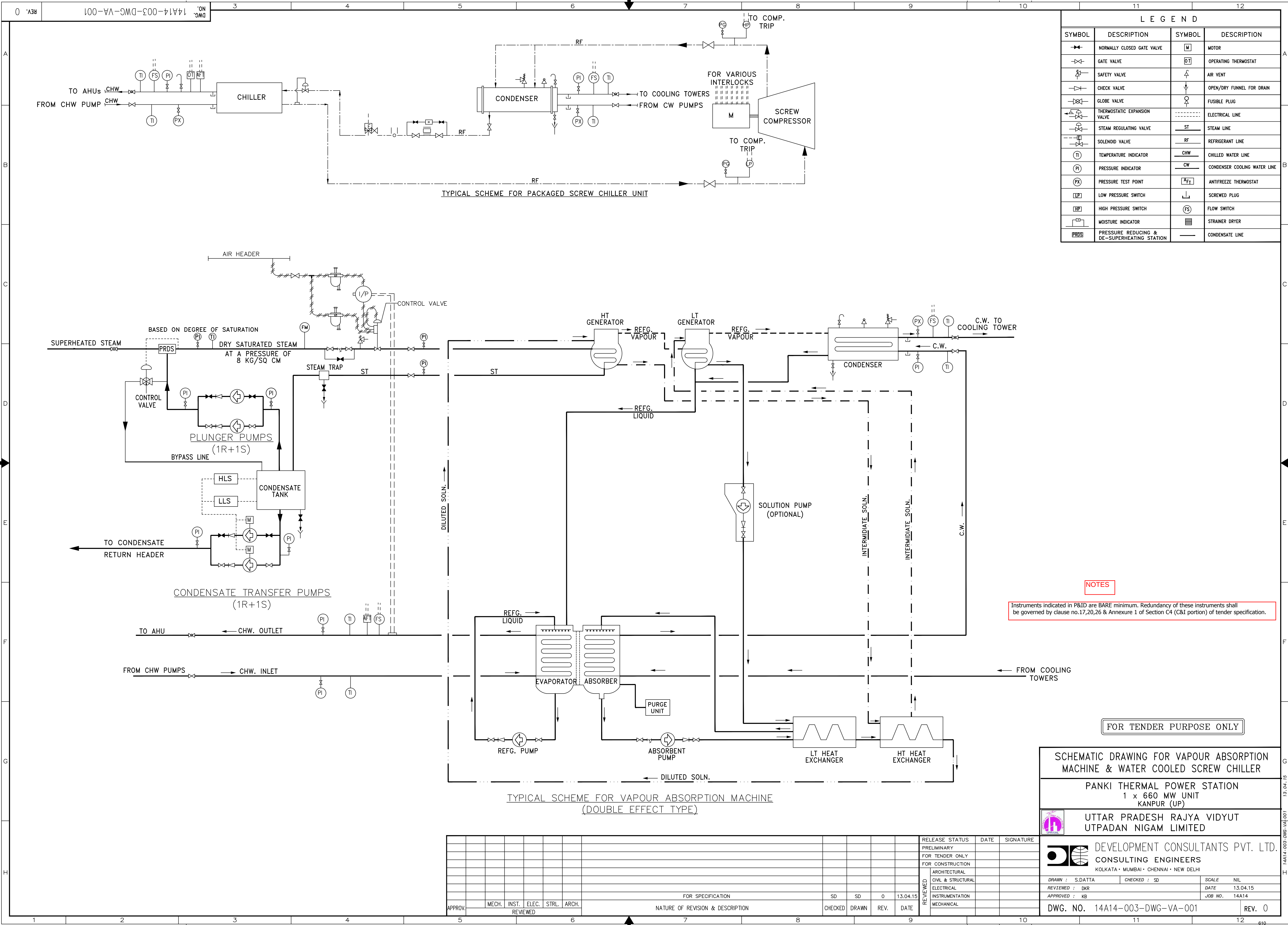
S. NO.	DESCRIPTION	QTY.	LOCATION
1	LOW LEVEL SWITCH	2	MAKE UP TANK
2	HIGH LEVEL SWITCH	2	MAKE UP TANK
3	LEVEL INDICATOR	1	MAKE UP TANK
4	DIFFERENTIAL PRESSURE INDICATOR SWITCH	4	ACROSS STRAINER
5	PRESSURE INDICATOR	4	PUMP INLET & OUTLET HEADER
6	LOW LEVEL SWITCH	4	SOFT WATER STORAGE TANK
7	HIGH LEVEL SWITCH	4	SOFT WATER STORAGE TANK
8	LEVEL INDICATOR	2	SOFT WATER STORAGE TANK
9	LOW LEVEL SWITCH	2	EXPANSION TANK
10	LEVEL INDICATOR	1	EXPANSION TANK

S. NO.	DESCRIPTION	QTY.	LOCATION
1	LOW LEVEL SWITCH	6	COOLING TOWER SUMP

S. NO.	DESCRIPTION	QTY.	LOCATION
1	FRESH AIR FAN	6	ADMIN BUILDING AHU ROOM (8 NOS)

- NOTES:
- ALL CHILLED WATER PUMPS, PIPING, VALVES, EXPANSION TANK, AHU DRAIN, SUPPLY & RETURN DUCT SHALL BE INSULATED AS PER SPECIFICATION.
 - ALL PIPING AND VALVES OF SIZE 50NB & BELOW SHALL BE PROVIDED AS PER SYSTEM REQUIREMENT
 - ALL PRESSURE GAUGES, PRESSURE SWITCHES, DIFFERENTIAL PRESSURE SWITCHES SHALL BE PROVIDED WITH ISOLATION VALVE.
 - TEMPERATURE SENSOR (TE) & RELATIVE HUMIDITY SENSOR (RHS) SHALL BE PROVIDED IN EACH AHU ROOM.
 - ALL INSTRUMENT AND TEST POINTS SHALL BE PROVIDED WITH ISOLATING ROOT VALVE
 - MOTORIZED VALVES SHALL BE PROVIDED WITH SPECTACLE BLIND WITH COUNTER FLANGE FOR LINE ISOLATION.
 - VENT AND DRAIN SHALL BE PROVIDED AT THE HIGHEST AND LOWEST POINT RESPECTIVELY AS PER SYSTEM REQUIREMENT.
 - ALL EQUIPMENT DRAIN SHALL BE CONNECTED TO NEAREST BUILDING / PLANT ROOM DRAIN.
 - CLARIFIED WATER SHALL BE PROVIDED TO THE AC SUPPLIER AT ONE POINT AT THE ROOF OF THE BUILDING. FURTHER, DISTRIBUTION OF SAME TO INDIVIDUAL EQUIPMENT SHALL BE IN AC SUPPLIER SCOPE.
 - ONE NO. DRY BULB & WET BULB THERMOMETER WITH PSYCHROMETRIC CHART SHALL BE PROVIDED IN EACH AIR CONDITIONED ROOM.
 - ALL VALVES SHALL BE LOCATED AT GRADE / MAN APPROACHABLE HEIGHT.
 - Instruments indicated in P&ID are BARE minimum. Redundancy of these instruments shall be governed by clause no.17,20,26 & Annexure 1 of Section C4 (C&I portion) of tender specification.

CUSTOMER		UPRUVUNL				
CONSULTANT		NTPC & DCPL				
PACKAGE:		AIR CONDITIONING SYSTEM.				
PROJECT		1X660MW PANKI TPP				
	BHARAT HEAVY ELECTRICALS LTD. POWER SECTOR, PROJECT ENGINEERING MANAGEMENT, NOIDA.	DEPT CODE	NAME	SIGN	DATE	
		M	DESIGN	XXXX	SA/-	XX.XX.XXXX
			DRAWN	XXXX	SA/-	XX.XX.XXXX
			CHECKED	XXXX	SA/-	XX.XX.XXXX
			APPROVED	XXXX	SA/-	XX.XX.XXXX
TITLE		PROCESS & INSTRUMENTATION DIAGRAM FOR AC SYSTEM CHILLED WATER SYSTEM FOR ADMIN BUILDING				
		DEPT.	SCALE	DRAWING No.		
		SDN		PE-DG-426-553-A101		
		DATE		SHEET 01 OF 01		
				REV 00		



Sub Supplier Experience Format

DOC- PE-TS-426-553-A001

Chillers proposed to be supplied under this package would be sourced from following manufacturers. Experience details of the manufacturers are given below :

- (a) Type of vapour compression type chilling unit offered Centrifugal / Screw compressor
- (b) Name and Address of Manufacturer from whom the above equipment is sourced
- (c) For the above type of chiller
Experience details of the
Manufacturer is as follows :

Sl.No.	Item Description	Plant No.1	Plant No. 2
1.	Name of the Client with address, name of contact person(s), tel. no. & fax no.		
2.	Purchase Order no. and date		
3.	Date of Commissioning		
4.	No. of years of successful operation prior to the on date of techno-commercial bid opening		
5.	Capacity of chiller unit	 TR	 TR
6.	Clients certificate to demonstrate successful operation of machine for atleast two (2) years prior to the date of techno-commercial bid opening enclosed	Yes/No	Yes/No
7.	Documentary evidence in support of Sl.No. 2 to 7 above enclosed	Yes/No	Yes/No

Date : (Signature).....
 Place : (Printed Name).....
 (Designation).....
 (Common seal).....

Signature of authorized signatory.....