



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 03

Ref: PSER:SCT:VIZ-M1232:TCN-03

Date: 06-09-2011

Sub	Tender change notice (TCN) 03.	
Job	Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x520 MW units at HNPCL Vizag TPS, Andhra Pradesh.	
Ref	1.0	Tender no PSER:SCT:VIZ-M1232:11
	2.0	BHEL's NIT, vide reference no PSER:SCT:VIZ-M1232:2484, dated 09-08-2011.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:VIZ-M1232:TCN-01, dated 23-08-2011.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:VIZ-M1232:TCN-02, dated 25-08-2011.
	5.0	Other references (if any).

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Amendment/ clarification to tender as per enclosed Annexure-A.
- 2.0 ESP Building layout, Drawing no PG-DG-361-100-E007_R1(WIP) Model (1) for tender purpose.
- 3.0 Plot Plan, Drawing no PE_DG_361_100_M001_R2 Model(1) for tender purpose.
- 4.0 MEP layout, Drawing no PE_DG_361_100_M002_R0 Model(1) for tender purpose.
- 5.0 Revised Volume-III A, Price Schedule, Rev-2, superseding previous version, is attached. You are requested to submit offer as per attached revised price schedule.
- 6.0 **Order of Precedence:**
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
 - a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
 - b. Notice Inviting Tender (NIT)
 - c. Price Bid- Volume-III A
 - d. Special Conditions of Contract (SCC) —Volume-IC & ID
 - e. General Conditions of Contract (GCC) —Volume-IA & IB
 - f. Forms and Procedures —Volume-IE
- 7.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder to submit 'No deviation certificate' as per attached format only.
- 8.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

ENGR (SCT)

Encl

As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

JOB

Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x520 MW units at HNPCL Vizag TPS, Andhra Pradesh.

TENDER NO - PSER:SCT:VIZ-M1232:11.

A				
AMENDMENT TO EXISTING CLAUSES IN SECTION-C OF TECHNICAL SPECIFICATION				
SL NO	Description/ page no	Clause no	Existing Description	To be read as/ remarks
1.0	Volume - II B Section – C, Specific Technical requirement	NEW Clause Nos. 3.1.13.1 To 3.1.13.8 Added		3.1.13 Equipment Load for different areas shall be as under: 3.1.13.1 Control Room Areas at 17.0 M level = 140 kW 3.1.13.2 C & I Lab at 17.0 M level = 8kW 3.1.13.3 Conference Room Areas at 17.0 M level = 6 kW 3.1.13.4 DC Charger at 8.5Mtr. level = 45 kW 3.1.13.5 SWAS Room at 0.0Mtr. level = 7kW 3.1.13.6 ESP-VFD Control Room Unit-1 = 138 kW 3.1.13.7 ESP-VFD Control Room Unit-2= 138 kW 3.1.13.8 Service Building, Equipment Load shall be considered as per office area to take care of computer load. 3.1.14 Chilled Water Pump capacity shall be selected on the design basis of 0.7 CMH/TR or actual whichever is higher. 3.1.15 Condenser Water Pump Capacity shall be selected on the design basis Of 1 CMH/TR or actual whichever is higher.
2.0	do	NEW Clause No. 6.7.2 Added		The BEE rating of the split ACs shall be minimum 4 star.
B	Fire Damper Quantities & Grilles/diffuser quantity for AC plant#1 and 2 are being split. Please refer to Volume-III, R-2.			
C	VOLUME-II & VOLUME-III			
	QUERY		CLARIFICATION	

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211798/ 23211691

1.0	<p>In reference to your drawing attached along with tender documents perunit 1 & 2 vide drawings no:-</p> <ol style="list-style-type: none"> 1) PE-DG-361-100-M001(PEM) 2) PE-DG-361-100-M002(PEM) 3) PE-DG-361-100-M003(PEM) 4) PE-DG-361-100-M004(PEM) 5) PE-DG-361-100-M005(PEM) 6) PE-DG-361-100-M006(PEM) 7) PE-DG-361-100-M007(PEM) 7) PE-DG-361-100-M008(PEM) <p>We are unable to locate the actual Air Conditionig area in order to evaluate the capacity for ahus Please furnish the sizes/layout of the area,eqipment load to be area conditioned for 0.0,8.5,17.0 &24.0 meter level in order to provide the capacity TR of AHU along withstand by capacity.</p>	<ol style="list-style-type: none"> 1. AC area at 17.0Mtr. Level :Grid no. 9a to 14 BC Bay Control Room , Grid no. 10 to 12 C-D-E-F-G EER area, C & I Lab Grid no. 1 -3 BC Bay Conference Room. 2. AC area at 8.5 Mtr. Level :Grid no. 10 to 12 C-D-E Bay C & I Maintenance Room, DC Charger. 3. AC area at 0.0Mtr. Level :Grid no. 10 to 12 BC Bay Dry Panel Room.
2.0	Do we have to quote the AHU for ESP / VFD CONTROL ROOM AREA for unit 1 and unit 2 because it does not mentioned in price sheet of In VOL-III A_M1232 clause 1.1 and mentioned in power consumption of the price sheet VOL-III A_M1232 only.	Bidder to refer revised Price Schedule.
3.0	We are quoting FCU'S capacity of 2 TR,1.5 TR as per In VOL-III A_M1232 clause 1.1 but in power consumption we have to quote for the 3 TR FCU. Please clarify these above points at an earliest so that to submit the tender in specified time accuratly.	Bidder to refer revised Price Schedule.
4.0	How much is the total hieght of atruim from the ground floor ?	Ht of Atrium = 21 mtr.from the ground floor.
5.0	By what means atrium space is covered on the roof or in b/w the roof ?	Covered with poly carbonate sheet
6.0	Should the atrium space be air conditioned with all floor ahus or we considered ground floor AHU and AHU at 17 meter ?	Bidder to considered with all the floor.
7.0	Whether Roof is insulated on the top of 17 meter ?	Roof is insulated on the top of 17 meter i.e underdeck insulation
8.0	In given layout of ESP & VFD Control Building Area are supposed to be airconditioning	
8.1	EL 11.2 m (A/C Area) total or few parts ?	Already shown in the tender drawing
8.2	EL 3.7 m (A/C Area) total or few parts ?	Non AC area
8.3	EL 0.0 m (A/C Area) total or few parts ?	Non AC area
9.0	In this layout unit 1 and unit 2 are together or seperate please specify the area for unit-1 and unit-2 ?	There are two different unit of ESP Building, but AC area are same.

10.0	Please specify how much TR/CFM shall we assume 400 or else plz provide ?	As per Section C in the tender specification.
11.0	Please specify the space b/w TG building and ESP & VFD Control building ?	Bidder to refer Plot Plan & MEP attached drawings .
12.0	Please provide the space where Cooling Tower, condensor water pump and chilled water pump (2w+2s) AC PLANT-1 are going to put for determining the head of the pump	As per Section C in the tender specification.
13.0	5 nos. FCU are required at 0.0 m level of TG equipment building for SWAS room but in BOQ it is given 2 TR FCU 4 nos. Plz clarify ?	Bidder to consider 4 nos. FCU as per BOQ ,which is variable, Qty shall be finalized during detailed engineering.
D	General	
1.0	Bidder shall submit offer strictly in compliance with technical specification and tender terms along with amendment/ clarifications issued subsequently till date.	
2.0	All other terms & conditions shall remain unchanged.	

VOLUME-III A	
PRICE SCHEDULE, REV-2	
Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.	
TENDER NO - PSER:SCT:VIZ-M1232:11	
PREAMBLE	
01	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with Volume-IA, Volume-IB, Volume-IC, Volume-ID, Volume-II together with subsequent changes/ modifications etc thereto as applicable as on date of submission of price offer.
02	The work shall be carried out strictly as per specifications, description of the items in these schedule and/ or engineer's instructions.
03	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
04	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc equipment, strengthening of roads/culverts/bridges etc including arranging all clearances etc required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule.
05	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc including fixing of grid pillars, benchmarks etc required for commencement of site activities. No separate payment will be made towards the same.
06	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English.
07	The tender shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
08	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
09	Unless otherwise specified and in case of item rate based price schedule and not on lumpsum basis, the quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or to be deleted altogether. The quoted/ accepted rates shall remain firm and valid as long as variation in total value of work executed under this contract including extra items, but excluding any price escalation, remains within +/- 30% (thirty percent) of the contract price given in the LOI/WO.

VOLUME-III A
PRICE SCHEDULE, REV-2

Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.

TENDER NO - PSER:SCT:VIZ-M1232:11

SCH-1- TOTAL PRICE

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUOTED PRICE (Rs)			
		BASIC PRICE	CST (If any, as per tender)	FREIGHT	TOTAL PRICE
(1)	(2)	(3)	(4)	(5)	(6)=(3+4+5)
1.0	Total price for supply part & service part together for design, engineering, manufacturing, inspection & testing at manufacturers' works, painting at manufacturers' works, supply/ delivery duly packed at project site including freight, unloading, storage & handling at site, erection & commissioning, carrying out acceptance test/ trial run, final painting and handing over to customer including supply of special tools & tackles for maintenance, commissioning spares, as required for total scope defined as per technical specification PE-TS-361-553-A001 and terms & conditions of tender taking into account all clarifications, confirmations and agreements till date of Air Conditioning System for 2x520 MW units, at 2x520 MW HNPCL Vizag Project, A. P.				
NOTE					
1.0	Bidder to note that total price indicated above at 1.0 shall be considered for evaluation as such, shall be complete in all respect for the full scope defined and considering all terms & conditions.				
2.0	Bidder to furnish break-up of total price (1.0 above of this SCH-1) and other details in the following manner. While, evaluation will be done on 1.0 above, separate orders will be placed for supply part & service part for Package #1 & Package #2, on the basis of respective price components in the corresponding schedules.separate orders will be placed by BHEL based on subsequent break-up of prices.				
2.1	SCH-2 - Main price break-up (Summation of prices at sl no 1.1 & 1.2 of SCH-2 shall match with total price at sl no 1.0 above).				
2.2	SCH-3 - Supply part price (Total price of SCH-3 shall match with total price at sl no 1.1 of SCH-2).				
2.3	SCH-4 - Service part price (Total price of SCH-4 shall match with total price at sl no 1.2 of SCH-2)				
2.17	SCH-5 - Guaranteed power consumption.				
3.0	Bidder shall note that VAT & Service Tax (On service part) shall be paid extra at actual as per tender provision. As such, bidder's price shall be exclusive of these 2 components and evaluation of bidders total price will be done on this basis.				
4.0	There shall be no technical loading for evaluation of bids. However, in case the power consumption is noted higher than estimated power consumption figure (KW) during the inspection/ PG test, the penalty @ Rs1.3 lac per additional KW shall be levied on the vendor.				

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUOTED PRICE (Rs)			
		BASIC PRICE	CST (If any, as per tender)	FREIGHT	TOTAL PRICE
5.0	The bidder shall furnish unit rates for variable item (marked *) for necessary adjustment (plus or minus) variation during detailed engineering stage. The quantity of variable items is likely to vary during detailed design & engineering stage mainly due to changes in building layouts/ dimensions etc necessitating change in quantities of variable items as above. The unit rates quoted & accepted by BHEL shall be considered and no separate unit rates shall be quoted. Unit rates shall be valid throughout the contract. Bidder to note that BHEL reserve the right to rationalize the rates quoted by L-1 bidder against variable items and optional item with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.				
6.0	Any item as per scope of work if not included in price quoted above & shown separately will not be taken cognizance of and offer shall be liable for rejection.				
7.0	Offer is liable to be rejected in case bidder fail to furnish item-wise break-up as desired in various schedules and submit price bid complete in all respects.				
8.0	If absence of freight component, 2 % of total amount will be considered as freight component against each item for further processing of the tender.				
9.0	Price format shall not be changed by bidder in any case, since it may lead to cancellation of bidder's offer.				

**VOLUME-III
PRICE SCHEDULE, REV-2**

Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.

TENDER NO - PSER:SCT:VIZ-M1232:11

SCH-2- SUPPLY PART & SERVICE PART BREAK-UP OF PRICE

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUOTED PRICE (Rs)			
		BASIC PRICE	CST (If any, as per tender)	FREIGHT	TOTAL PRICE
(1)	(2)	(3)	(4)	(5)	(6)=(3+4+5)
1.1	Total price for supply part for design, engineering, manufacturing, inspection & testing at manufacturers' works, painting at manufacturers' works, supply/ delivery duly packed at project site including freight, including supply of special tools & tackles for maintenance, commissioning spares, as required for total scope defined as per technical specification and terms & conditions of tender taking into account all clarifications, confirmations and agreements till date of Air Conditioning System at 2x520 MW HNPCL Vizag Project, A. P.				
1.2	Total price for service part for unloading, storage & handling at site, erection & commissioning, carrying out acceptance test/ trial run, final painting and handing over to customer as required for total scope defined as per technical specification and terms & conditions of tender taking into account all clarifications, confirmations and agreements till date of Air Conditioning System at 2x520 MW HNPCL Vizag Project, A. P.				
NOTE					
1.0	Total of 1.1, 1.2 shall match with 1.0 of SCH-1.				

**VOLUME-III A
PRICE SCHEDULE, REV-2**

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL
VIZAG Project, A.P.**

TENDER NO - PSER:SCT:VIZ-M1232:11

SCH-3- SUPPLY PRICE BREAK-UP

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)					
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL		
1.1.1	PACKAGE # 1 (AC PLANT-1) (Main control room areas in Power House Building & ESP Building)												
1.1.1.1	Water chilling packages, each of minimum 200 TR (net) capacity consisting of (a) Centrifugal refrigerant compressor complete with motors, microprocessor based control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.	4	NO										
1.1.1.2	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of control room areas at +17.00 M of power house building.	3	NO										
1.1.1.3	Fine Filters in Common discharge plenum for AHUs at 24.0 M level	1	LOT										
1.1.1.4	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet AC load of control room areas at +8.50 M.	2	NO										
1.1.1.5	Fine Filters in Common discharge plenum for AHUs at 8.5 M level	1	LOT										

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)					
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL		
1.1.1.6*	FCU 2.0TR with all accessories like 2 way stop valve, local control unit, etc. as specified for Dry Panel / SWAS Room	4	NO*										
1.1.1.7*	FCU 1.5TR with all accessories like 2 way stop valve, local control unit, etc. as specified for C & I Lab / Conference Room	8	NO*										
1.1.1.8	Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make up water & quick fill water connection, level witch, drains, piping, valves, strainers, ladder & all accessories as specified.	4	NO										
1.1.1.9	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	4	NO										
1.1.1.10	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	4	NO										
1.1.1.11	MS Makeup cum Storage tank to cooling towers with level switch, pr switch and other accessories as required. Capacity of each tank 8 m3 .	2	NO										
1.1.1.12	MS Expansion Tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO										
1.1.1.13	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT										
1.1.1.14	Chilled water piping from AC plant to AHU rooms & FCU within power house building complete with valves supports, fittings, strainers, EPS section insulation with finish as per specification.	1	LOT										
1.1.1.15	MS medium class drain piping upto nearest drain point.	1	LOT										
1.1.1.16	GI medium class drain piping insulated and cladged upto the nearest drain point.	1	LOT										
1.1.1.17	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.	1	LOT										
1.1.1.18	Pan type humidifier for each AHU room.	1	LOT										
1.1.1.19*	Fire damper.												
1.1.1.19.1*	Fire damper with auto resetting, limit switches, indication lamps etc.	15	SQM*										

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)				
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	
1.1.1.19.2*	Motorized actuator with single phase power supply for the above fire damper.	22	NO*									
1.1.1.20*	Diffuse/ Grill											
1.1.1.20.1*	Supply air diffuser with VCD (Extruded Aluminium).	45	SQM*									
1.1.1.20.2*	Return air diffuser without VCD (Extruded Aluminium).	45	SQM*									
1.1.1.21	Acoustic insulation of the first 6 m of ducting from AHU outlets.	1	LOT									
1.1.1.22	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT									
1.1.1.23	Common PLC based Control System for AC Plant-1, AC Plant-2 and Ventilation system (for Air washer & UAF only) with Hot redundant PLC consisting of PLC Panel, OWS, Key board, I/O modules, I/O adopter modules, power supply, printer, WAN connectivity , local pusp button station (LCP) for AHU Rooms, Air Washer Rooms, and UAF etc as specified.	1	LOT									
1.1.1.24	Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.	1	LOT									
1.1.1.25	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load ESP & VFD control room for unit # 1. Each AHU capacity to suit but not less than 28,000 CFM at static pressure 60 mm WC.	3	NO									
1.1.1.26	Fine Filters in Common discharge plenum for AHUs at 16.7 M level for ESP unit#1	1	LOT									
1.1.1.27	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower,	3	NO									

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)					
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL		
1.1.1.28	Fine Filters in Common discharge plenum for AHUs at 16.7 M level for ESP unit#2	1	LOT										
1.1.1.29	Chilled water piping complete with valves supports, fittings, strainers, expanded polystyrene insulation with sand cement plaster etc from central AC plant room to ESP & VFD control rooms.												
1.1.1.29.1*	150 NB MS pipe.	1600	MTR*										
1.1.1.29.2*	75 mm thick expanded polystyrene pipe section.	1600	MTR*										
TOTAL PRICE FOR PACKAGE # 1													
1.1.2	PACKAGE # 2												
1.1.2.1	AC Plant -2 (SERVICE BUILDING).												
1.1.2.1.1	Water chilling packages, each of minimum 200 TR capacity consisting of (a) Screw refrigerant compressor complete with motors, control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.	2	NO										
1.1.2.1.2	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), fine filters in the discharge of AHU, 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of Service Building.	5	NO										
1.1.2.1.3	Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make-up water & quick fill water connection, Level witch, drains, piping, valves, strainers, ladder & all accessories as specified.	2	NO										
1.1.2.1.4	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	2	NO										
1.1.2.1.5	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	2	NO										

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)				
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	
1.1.2.1.6	MS Makeup water cum Storage tank make up tank to cooling towers with level switch, pr switch and other accessories as required. Capacity of each tank 4 m3.	2	NO									
1.1.2.1.7	MS Expansion tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO									
1.1.2.1.8	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT									
1.1.2.1.9	Chilled water piping from AC plant to AHU rooms & FCU within Service building complete with valves supports, fittings, strainers, EPS section insulation with finish as per specification.	1	LOT									
1.1.2.1.10	MS medium class drain piping upto nearest drain point.	1	LOT									
1.1.2.1.11	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT									
1.1.2.1.12	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors	1	LOT									
1.1.2.1.13	Pan type humidifier for each AHU room.	1	LOT									
1.1.2.14*	Fire damper.											
1.1.2.14.1*	Fire damper with auto resetting, limit switches, indication lamps etc.	10	SQM*									
1.1.2.14.2*	Motorized actuator with single phase power supply for the above fire damper.	15	NO*									
1.1.2.15*	Diffuse/ Grill											
1.1.2.15.1*	Supply air diffuser with VCD (Extruded Aluminium).	45	SQM*									
1.1.2.15.2*	Return air diffuser without VCD (Extruded Aluminium).	45	SQM*									
1.1.2.1.16	Acoustic insulation of the first 6M of ducting from AHU outlets.	1	LOT									
1.1.2.1.17	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT									
1.1.2.1.18	Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.	1	LOT									

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)				
				BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	
1.1.2.2	Air conditioning system for Administrative Building / Aux control rooms etc as specified.											
1.1.2.2.1*	Air-cooled package type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation etc.											
1.1.2.2.1.1*	15.0 TR capacity.	14	NO*									
1.1.2.2.1.2*	10.0 TR capacity.	8	NO*									
1.1.2.2.2*	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.											
1.1.2.2.2.1*	1 bank of strip type duct heater of 3.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	10	NO*									
1.1.2.2.2.2*	3.0 kW Pan Type Humidifier (415 V, 3 Phase, 50 Hz, Contactor Controlled).	10	NO*									
1.1.2.2.3*	Air-cooled split type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation, isolation switch (MCB) etc.											
1.1.2.2.3.1*	5.0 TR capacity (ductable type, 415 V, 3 phase with isolation switch).	2	NO*									
1.1.2.2.3.2*	2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch).	15	NO*									
1.1.2.2.3.3*	1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch).	10	NO*									
1.1.2.3	Total lumpsum price for commissioning spares inclusive of packing forwarding, transportation up to site, etc. (You shall submit item-wise price break-up).	1	LOT									
1.1.2.4	Total lumpsum price for special tools & tackles for maintenance inclusive of packing forwarding, transportation up to site, etc. (You shall submit item-wise price break-up).	1	LOT									
TOTAL PRICE FOR PACKAGE # 2												

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	RATE (Rs)				AMOUNT (RATExQUANTITY) (Rs)			
			BASIC	CST (If any, as per tender)	FREIGHT	TOTAL	BASIC	CST (If any, as per tender)	FREIGHT	TOTAL
TOTAL OF PACKAGE#1 + PACKAGE#2 (in Rs.)										
NOTE										
1.0	Above total shall match with 1.1 of SCH-2.									

**VOLUME-III
PRICE SCHEDULE, REV-2**

Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.

TENDER NO - PSER:SCT:VIZ-M1232:11

SCH-4- SERVICE PRICE BREAK-UP

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	RATE (Rs)	AMOUNT (Rs)
1.2.1	PACKAGE # 1 (AC PLANT-1) (Main control room areas in Power House Building & ESP Building)			
1.2.1.1	Water chilling packages, each of minimum 200 TR (net) capacity consisting of (a) Centrifugal refrigerant compressor complete with motors, microprocessor based control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.	4	NO	
1.2.1.2	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of control room areas at +17.00 M of power house building.	3	NO	
1.2.1.3	Fine Filters in Common discharge plenum for AHUs at 24.0 M level	1	LOT	
1.2.1.4	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet AC load of control room areas at +8.50 M.	2	NO	
1.2.1.5	Fine Filters in Common discharge plenum for AHUs at 8.5 M level	1	LOT	
1.2.1.6*	FCU 2.0TR with all accessories like 2 way stop valve, local control unit, etc. as specified for Dry Panel / SWAS Room	4	NO*	
1.2.1.7*	FCU 1.5TR with all accessories like 2 way stop valve, local control unit, etc. as specified for C & I Lab / Conference Room	8	NO*	
1.2.1.8	Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make up water & quick fill water connection, level witch, drains, piping, valves, strainers, ladder & all accessories as specified.	4	NO	
1.2.1.9	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	4	NO	
1.2.1.10	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	4	NO	
1.2.1.11	MS Makeup cum Storage tank to cooling towers with level switch, pr switch and other accessories as required. Capacity of each tank 8 m3 .	2	NO	
1.2.1.12	MS Expansion Tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO	
1.2.1.13	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT	
1.2.1.14	Chilled water piping from AC plant to AHU rooms & FCU within power house building complete with valves supports, fittings, strainers, EPS section insulation with finish as per specification.	1	LOT	
1.2.1.15	MS medium class drain piping upto nearest drain point.	1	LOT	

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)	AMOUNT (Rs)
1.2.1.16	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT		
1.2.1.17	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.	1	LOT		
1.2.1.18	Pan type humidifier for each AHU room.	1	LOT		
1.2.1.19*	Fire damper.				
1.2.1.19.1*	Fire damper with auto resetting, limit switches, indication lamps etc.	15	SQM*		
1.2.1.19.2*	Motorized actuator with single phase power supply for the above fire damper.	22	NO*		
1.2.1.20*	Diffuse/ Grill				
1.2.1.20.1*	Supply air diffuser with VCD (Extruded Aluminium).	45	SQM*		
1.2.1.20.2*	Return air diffuser without VCD (Extruded Aluminium).	45	SQM*		
1.2.1.21	Acoustic insulation of the first 6 m of ducting from AHU outlets.	1	LOT		
1.2.1.22	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
1.2.1.23	Common PLC based Control System for AC Plant-1, AC Plant-2 and Ventilation system (for Air washer & UAF only) with Hot redundant	1	LOT		
1.2.1.24	Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.	1	LOT		
1.2.1.25	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load ESP & VFD control room for unit # 1. Each AHU capacity to suit but not less than 28,000 CFM at static pressure 60 mm WC.	3	NO		
1.2.1.26	Fine Filters in Common discharge plenum for AHUs at 16.7 M level for ESP unit#1	1	LOT		
1.2.1.27	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load ESP & VFD control room for unit # 2. Each AHU capacity to suit but not less than 28,000 CFM at static pressure 60 mm WC.	3	NO		
1.2.1.28	Fine Filters in Common discharge plenum for AHUs at 16.7 M level for ESP unit#2	1	LOT		
1.2.1.29	Chilled water piping complete with valves supports, fittings, strainers, expanded polystyrene insulation with sand cement plaster etc from central AC plant room to ESP & VFD control rooms.				
1.2.1.29.1*	150 NB MS pipe.	1600	MTR*		
1.2.1.29.2*	75 mm thick expanded polysrrene pipe section.	1600	MTR*		

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)	AMOUNT (Rs)
1.2.1.30*	Round the clock operation and maintenance of the AC plant-1 after trial run, in case of delay in completion of PG test/ demonstration test (s) of the system/ package, as applicable and handing over of the system /package to the owner by more than two months, for reasons not attributable to the vendor or after handing over of AC Plant-1 till completion of the entire package.	8	months*		
TOTAL PRICE OF PACKAGE #1					
1.2.2	PACKAGE #2				
1.2.2.1	AC Plant -2 (SERVICE BUILDING)				
1.2.2.1.1	Water chilling packages, each of minimum 200 TR capacity consisting of (a) Screw refrigerant compressor complete with motors, control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.	2	NO		
1.2.2.1.2	Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, filters (pre filter), fine filters in the discharge of AHU, 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of Service Building.	5	NO		
1.2.2.1.3	Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make-up water & quick fill water connection, Level witch, drains, piping, valves, strainers, ladder & all accessories as specified.	2	NO		
1.2.2.1.4	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	2	NO		
1.2.2.1.5	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	2	NO		
1.2.2.1.6	MS Makeup water cum Storage tank make up tank to cooling towers with level switch, pr switch and other accessories as required. Capacity of each tank 4 m3.	2	NO		
1.2.2.1.7	MS Expansion tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO		
1.2.2.1.8	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT		
1.2.2.1.9	Chilled water piping from AC plant to AHU rooms & FCU within Service building complete with valves supports, fittings, strainers, EPS section insulation with finish as per specification.	1	LOT		
1.2.2.1.10	MS medium class drain piping upto nearest drain point.	1	LOT		
1.2.2.1.11	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT		
1.2.2.1.12	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.	1	LOT		
1.2.2.1.13	Pan type humidifier for each AHU room.	1	LOT		
1.2.2.14*	Fire damper.				
1.2.2.14.1*	Fire damper with auto resetting, limit switches, indication lamps etc.	10	SQM*		
1.2.2.14.2*	Motorized actuator with single phase power supply for the above fire damper.	15	NO*		
1.2.2.15*	Diffuse/ Grill				
1.2.2.15.1*	Supply air diffuser with VCD (Extruded Aluminium).	45	SQM*		

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)	AMOUNT (Rs)
1.2.2.15.2*	Return air diffuser without VCD (Extruded Aluminium).	45	SQM*		
1.2.2.1.16	Acoustic insulation of the first 6M of ducting from AHU outlets.	1	LOT		
1.2.2.1.17	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
1.2.2.1.18	Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.	1	LOT		
1.2.2.2	Air conditioning system for Administrative Building / Aux control rooms etc as specified.				
1.2.2.2.1*	Air-cooled package type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation etc.				
1.2.2.2.1.1*	15.0 TR capacity.	14	NO*		
1.2.2.2.1.2*	10.0 TR capacity.	8	NO*		
1.2.2.2.2*	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.				
1.2.2.2.2.1*	1 bank of strip type duct heater of 3.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	10	NO*		
1.2.2.2.2.2*	3.0 kW Pan Type Humidifier (415 V, 3 Phase, 50 Hz, Contactor Controlled).	10	NO*		
1.2.2.2.3*	Air-cooled split type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation, isolation switch (MCB) etc.				
1.2.2.2.3.1*	5.0 TR capacity (ductable type, 415 V, 3 phase with isolation switch).	2	NO*		
1.2.2.2.3.2*	2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch).	15	NO*		
1.2.2.2.3.3*	1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch).	10	NO*		
TOTAL PRICE FOR PACKAGE # 2					
TOTAL PRICE FOR PACKAGE # 1 AND PACKAGE#2					
NOTE					
1.0	Above total shall match with 1.2 of SCH-2				

VOLUME-III A				
PRICE SCHEDULE, REV-2				
Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.				
TENDER NO - PSER:SCT:VIZ-M1232:11				
SCH-5- GUARANTEED POWER CONSUMPTION				
SL NO	DESCRIPTION	QUANTITY (WORKING)	POWER CONSUMPTION AS GUARANTEED (KW) AT MOTOR INPUT TERMINAL	TOTAL POWER CONSUMPTION AS GUARANTEED (KW)
1.0	AC PLANT FOR MAIN CONTROL ROOM AREAS AND ESP BUILDING			
1.1	Screw Chiller 200TR	2 NO		
1.2	AHU for MCR	2 NO		
1.3	AHU for at 8.5M level	1 NO		
1.4	AHU for ESP control room	4 NO		
1.5	FCU 2.0 TR	4 NO		
1.6	FCU 1.5TR	8 NO		
1.7	FRP Cooling Tower	2 NO		
1.8	Condenser water pumps	2 NO		
1.9	Chilled water pumps	2 NO		
1.10	Fresh Air Fans for above AHU room	4 NO		
2.0	AC PLANT FOR SERVICE BUILDING			
2.1	Water screw chilling package 200TR	1 NO		
2.2	AHU	5 NO		
2.3	FRP Cooling Tower	1 NO		
2.4	Condenser water pumps	1 NO		
2.5	Chilled water pumps	1 NO		
2.6	Fresh Air Fans for above AHU room	5 NO		
TOTAL				600 KW

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x520 MW units at HNPCL Vizag TPS, Andhra Pradesh.	
Ref	1.0	Tender no PSER:SCT:VIZ-M1232:11
	2.0	BHEL's NIT, vide reference no PSER:SCT:VIZ-M1232:2484, dated 09-08-2011.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:VIZ-M1232:TCN-01, dated 23-08-2011.
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:VIZ-M1232:TCN-02, dated 25-08-2011.
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:VIZ-M1232:TCN-03, dated 06-09-2011.
	6.0	All other pertinent issues till date.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

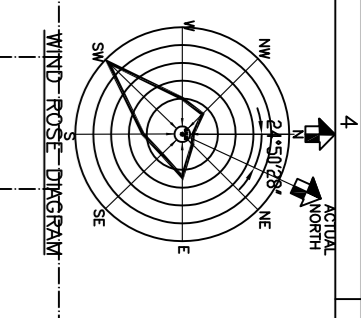
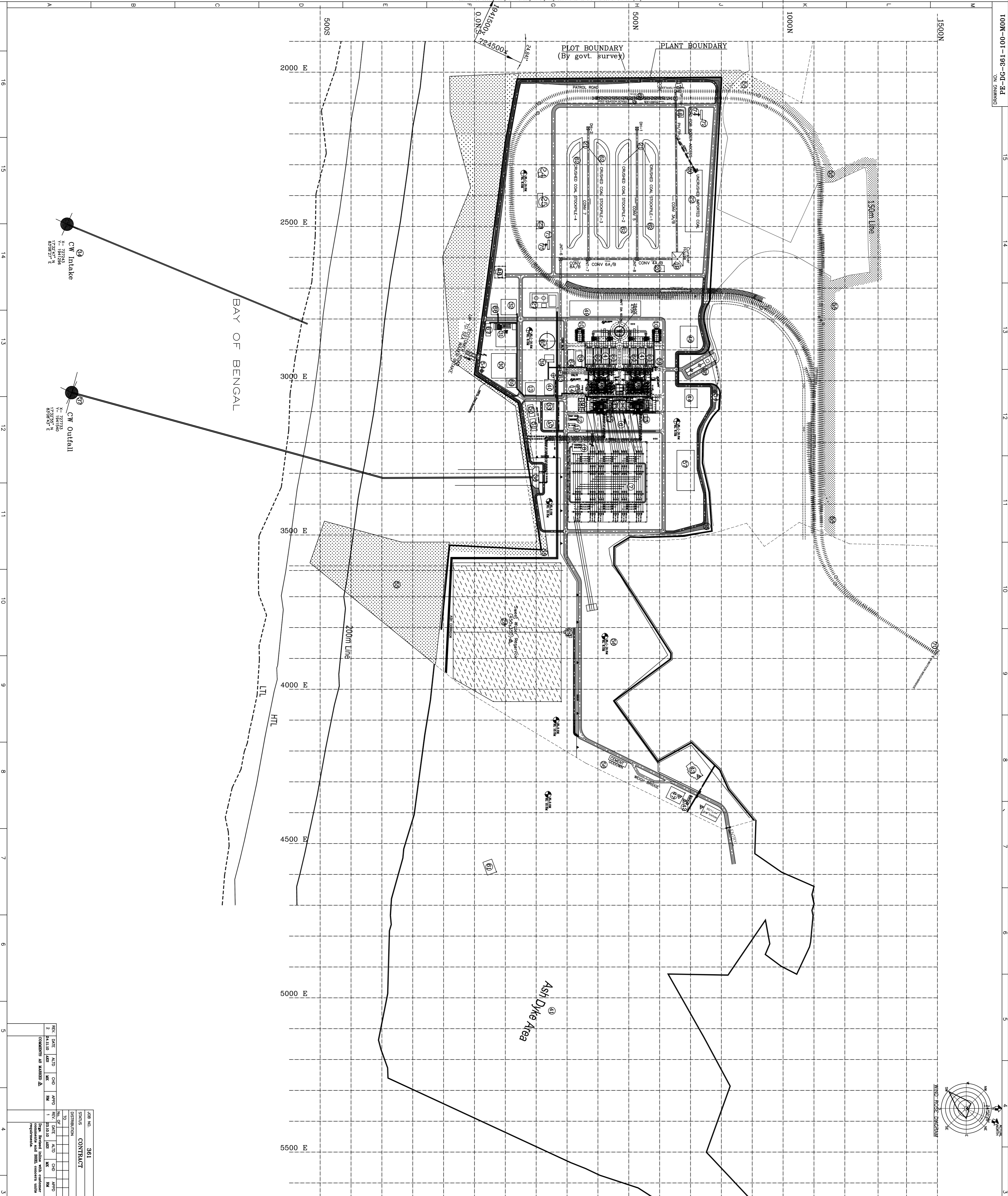
TENDER NO	PSER:SCT:VIZ-M1232:11	
VOLUME	IIIA, REV-2	PRICE SCHEDULE (ABSOLUTE VALUE)

JOB	DESIGN, ENGINEERING, MANUFACTURING, SUPPLY, ERECTION, COMMISSIONING ETC OF AIR CONDITIONING SYSTEM.
CAPACITY	2x520 MW UNITS
PROJECT	HNPCL VIZAG TPS, ANDHRA PRADESH

BHARAT HEAVY ELECTRICALS LIMITED
(A Govt Of India Undertaking)
POWER SECTOR – EASTERN REGION
PLOT – DJ 9/1, SECTOR II, SALT LAKE
KOLKATA – 700 091

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ELECTRONIC FILE NAME: 361_100_M001R2



S.No.	DESCRIPTION	SCOPE	COORDINATES
		E	N
1.	Turbo Generator Building	BHEL (PEM)	3098.35 363.5
2.	Coal Mill & Burner Boy	BHEL (PEM)	- -
3.	Steam Generator	BHEL (PEM)	- -
4.	Electrostatic Precipitator	BHEL (PEM)	- -
5.	Chimney	BHEL (PEM)	2840 470
6.	Transformer Yard	BHEL (PEM)	- -
7.	400 KV Switch Yard (AS)	BHEL (PEM)	3197.972 568.028
8.	Switch Yard Control Room	BHEL (PEM)	3095.222 171.813
9.	Service Building	BHEL (PEM)	3093.444 326.5
10.	SP/ VFD Control Room #1	BHEL (PEM)	2871.5 597.5
11.	SP/ VFD Control Room #2	BHEL (PEM)	3138.35 305
12.	Air Compressor House	BHEL (PEM)	3110.85 305
13.	CPU Regeneration	BHEL (PEM)	3046 165
14.	400 KV Switch Yard #1	BHEL (PEM)	3038.85 350.75
15.	Condensate Storage Tank #1	BHEL (PEM)	3077.65 334.75
16.	Condensate Storage Tank #2	BHEL (PEM)	3077.65 334.75
17.	Air P/F & Air Washer Room	BHEL (PEM)	3109.35 428
18.	Wagon Tippler	BHEL (PEM)	2061.6 688.8
19.	W/RTM MCC1 Room	BHEL (PEM)	2146.3 662.25
20.	Coupler House	BHEL (PEM)	2605.6 658.22
21.	CHP Control Room	BHEL (PEM)	2644.3 615
22.	Slaker Receiver (2 Nos.)	BHEL (PEM)	2517.5 738
23.	Unwashed Inerted Coal	BHEL (PEM)	2507.35 201
24.	Boiler Shed	BHEL (PEM)	2342.32 207.15
25.	CHP Office Cum Maint. Building	BHEL (PEM)	2392.08 220.08
26.	Tunnel Hopper	BHEL (PEM)	- -
27.	Fuel Oil Complex (H/O & L/O)	BHEL (PEM)	2764 271
28.	Sweet Water Reservoir	BHEL (PEM)	4040 281
29.	Raw Water Pump House	BHEL (PEM)	3789 365
30.	Raw Treatment Plant (RTP)	BHEL (PEM)	2991.75 134.75
31.	DM Plant/Storage Tank/Pump	BHEL (PEM)	4279.98 739.27
32.	Effluent Treatment Plant (ETP)	BHEL (PEM)	2789.25 136
33.	Sea Water Intake	BHEL (PEM)	3074.75 257
34.	Sea Water Intake	CUSTOMER	- -
35.	Sea Water Outfall	CUSTOMER	- -
36.	Fly Ash Silo	BHEL (PEM)	2965.83 702.20
37.	Raw Water Pump House	BHEL (PEM)	2939.5 297
38.	Ash Slurry Pump House	BHEL (PEM)	3046 297
39.	Ash Dike Area	BHEL (PEM)	- -
40.	Gate Complex & Security Office	BHEL (PEM)	4324.4 722.4
41.	Admin building with front parking	BHEL (PEM)	4279.98 739.27
42.	Work Shop	BHEL (PEM)	3087 721.5
43.	Concemen	BHEL (PEM)	3153 262
44.	Permanant Store	BHEL (PEM)	2893 721.5
45.	Fire Station Building	BHEL (PEM)	4311 600
46.	Hydrogen Generation Plant	BHEL (PEM)	1665 95
47.	Space for FSD	BHEL (PEM)	- -
48.	Control Room	BHEL (PEM)	3114.5 195.5
49.	Construction Office (Owner)	BHEL (PEM)	3160 203
50.	Labour Colony	BHEL (PEM)	3089 743
51.	Watch Tower	BHEL (PEM)	3089 743
52.	Material Store Yard	CUSTOMER	- -
53.	Space for Fabrication/Asy.	BHEL (PEM)	3386 712
54.	Accommodation & APF MCC2	BHEL (PEM)	2953.6 605
55.	APF Comp House & APF MCC2	BHEL (PEM)	2953.6 605
56.	FLY Ash Evaporation Tower	BHEL (PEM)	4592 137.75
57.	AMS Pump House & APF MCC4	BHEL (PEM)	4592 137.75
58.	Green Belt	BHEL (PEM)	2974.6 279
59.	APF MCC3 Room at unit-5	BHEL (PEM)	2953.6 322
60.	APF MCC3 Room/Control Room	BHEL (PEM)	2871.5 235.5
61.	Clarifier/Coagulator-Ash Water	BHEL (PEM)	2786.25 74
62.	Clarifier/Coagulator-Ash Water	BHEL (PEM)	2815 52
63.	Clarified Water Pump House	BHEL (PEM)	- -
64.	TRACK HOPPER	BHEL (PEM)	3021.75 134.75
65.	GAS CHLORINATION BUILDING	BHEL (PEM)	3874.16 1444.7
66.	GAS CHLORINATION BUILDING	BHEL (PEM)	2101.5 488
67.	Compressor House	BHEL (PEM)	2150.76 238.58
68.	DSPH-1, 30m/6m	BHEL (PEM)	2517.8 237.65
69.	DSPH-2, 30m/6m	BHEL (PEM)	2517.8 237.65
70.	DSPH Tank-1 (6 m)	BHEL (PEM)	2337.96 228.36
71.	DSPH Tank-2 (6 m)	BHEL (PEM)	2337.96 228.36
72.	DSPH Tank-2 (6 m)	BHEL (PEM)	2337.96 228.36

NOTES

- ALL LEVELS MENTIONED IN THIS ARE PL. ONLY. TO BLDG. GROUND. FLOOR ELEVATION IS ± 0.00M WHICH CORRESPONDS TO RL 85M.
- DETAILS OF GROUNDERS SHOWN IN THIS ARE IN CUSTOMER'S SCOPE.
- LOCATION AND SIZES OF VARIOUS BUILDINGS AND FACILITIES SHOWN IN THIS ARE IN CUSTOMER'S SCOPE.
- WIDTH OF ROAD SHOWN IN THIS ARE INCLUDED ITS SHOULDERS.

LEGEND:

- Penching
- Railway Line
- Route For Sweet Water Line
- HNPEL Plot Boundary
- HNPEL Plant Boundary
- Edge of Levelled Ground
- Sweet Water Reservoir
- Green Belt
- Bore Well
- Fixed Coordinates of Buildings/Facilities

CONSULTANT: BHARTI HEAVY ELECTRICALS LTD.
PROJECT: NEW DELHI

TITLE: PLOT PLAN

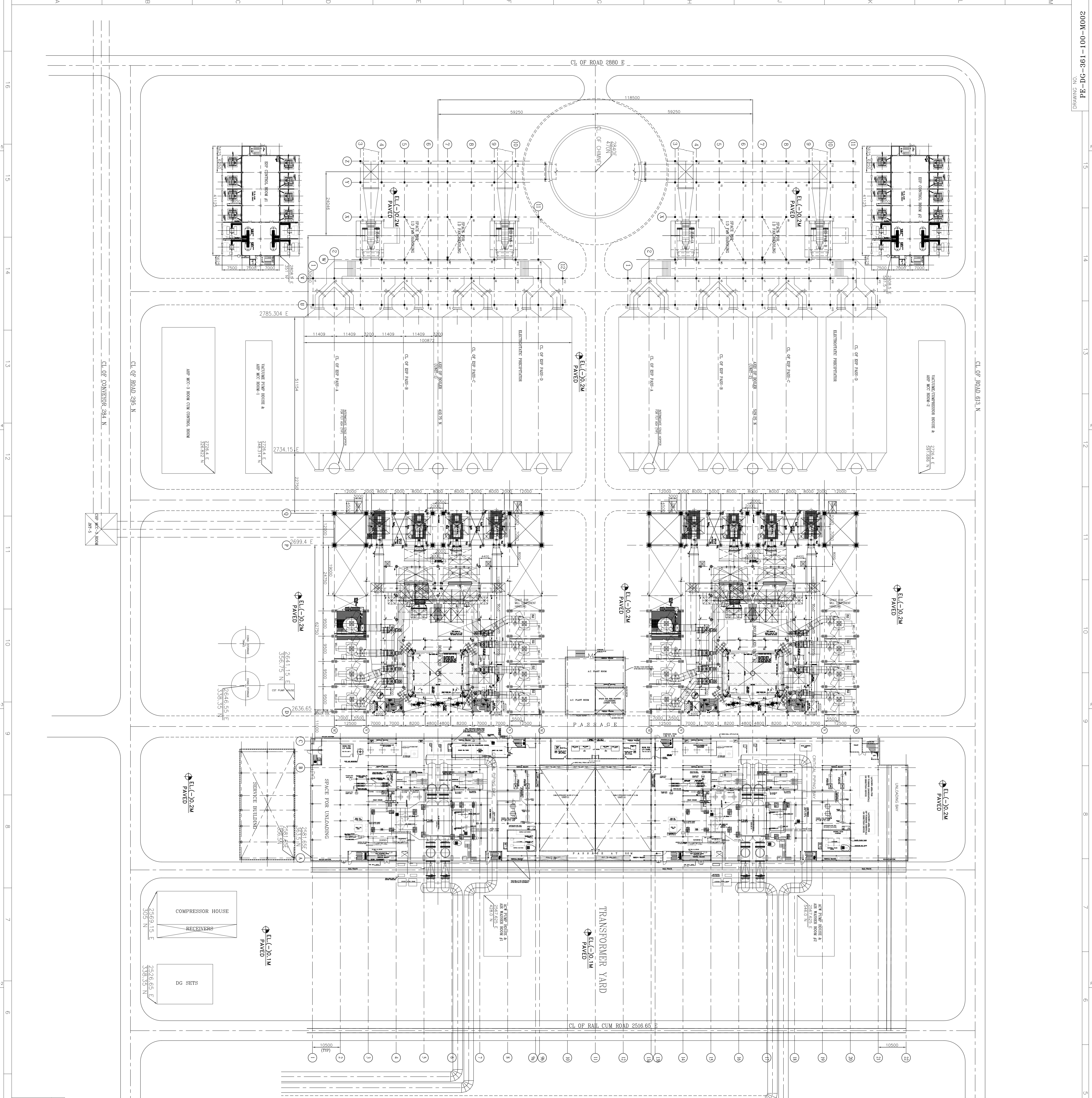
SCALE: 1:1000

DRAWING NO.: PE-DG-361-100-M001

DATE: 10/01/2010

SHEET: 1 OF 1

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REFERENCE DRAWING:

1. PLOT PLAN
 2. EQUIPMENT PLAN AT 0.0M
 3. LAYOUT OF TRANSFORMER YARD AND IP BUSDUCT
 4. GA OF BOILER SECTIONAL PLAN
 5. GA OF BOILER SECTIONAL SIDE ELEVATION
 6. LAYOUT OF ID SYSTEM PLAN
 7. GA OF ESP
 8. GA OF CONDENSER
- PE-DG-361-100-M001 (CUST.)
PE-DG-361-100-M003 (PEM)
PE-DG-361-100-E001 (PEM)
0-00-022-75591 (TRY)
0-00-022-75590 (TRY)
0-00-0XX-XXXX (TRY)
0-00-111-21772 (RAIPER)
XXXXXXXXXXXXXX (HWR)

NOTES:-

1. ALL ELEVATIONS ARE MARKED W.R.T. TO HALL FINISHED FLOOR ELEVATION OF 0.0M WHICH CORRESPONDS TO RL. ---M.
2. ALL DIMENSIONS ARE IN MM AND ELEVATIONS IN METRES UNLESS STATED OTHERWISE.
3. LOCATION & SIZES OF VARIOUS FACILITIES & BUILDINGS ARE INDICATIVE ONLY.
4. CW PIPING SHOWN IN THE DRAWING SUGGESTIVE ONLY. SHALL BE FINALIZED IN DETAILED CW PIPING LAYOUT DWG. AFTER OBTAINING CONDENSER DRG. & PEM CIVIL CONFIRMATION.

LEGEND

	RAIL TRACK
	STAIR/FIRE ESCAPE
	FLL / FOL
	PIPE/CABLE TRESTLE

NO.	DATE	BY	CHKD	APPD	REV
1					
2					

CONTRACT NO.	361
STATUS	CONTRACT
CONTRACTOR	BHARAT HEAVY ELECTRICALS LTD
CLIENT	HINDIA NATIONAL POWER CORPORATION LTD.
PROJECT	2 X 520 MW VIZAG THERMAL POWER PLANT
LOCATION	VISHAKHAPATNAM
DATE	15/08/2011
SCALE	AS SHOWN
SHEET NO.	1 OF 1
TITLE	MAIN PLANT EQUIPMENT LAYOUT

