



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 02**

Ref: PSER:SCT:VIZ-M1232:TCN-02

Date: 25-08-2011

Sub	Tender change notice (TCN) 02.	
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	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 Extension of due date of submission of offer from 30-08-11 to **12-09-2011** (15:00 hrs).
- 2.0 Amendment/ clarification to tender as per enclosed Annexure-A.
- 3.0 Revised Volume-III A, Price Schedule, Rev-1, superseding previous version, is attached. You are requested to submit offer as per attached revised price schedule.
- 4.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder to submit 'No deviation certificate' as per attached format only.
- 5.0 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

<b>JOB</b> 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.

SL NO	AMENDMENT/ MODIFICATION
<b>1.0</b>	<b>Volume-IC</b>
1.1	Clause no 23.0 of VOLUME-IC stands revised as under.
	<p>23.0 For Package#1 and Package#2, separate security deposit shall be applicable. Security deposit for this part of specification shall be governed by the provision of GCC, Volume-IA for package#1 and Package#2 separately.</p> <p>Alternately, bidder may submit separate bank guarantee equivalent to 100 % of security deposit amount for Package#1 and Package#2 respectively.</p> <p>For this purpose, Total Price of Sl. No. 1.1.1 of SCH-3.0 of Volume-IIIA shall be considered as contract price for Package#1 and total Price of Sl. No. 1.1.2 of SCH-3.0 of Volume-IIIA shall be considered as contract price for Package#2.</p>
1.2	Clause no 24.0 of VOLUME-IC stands revised as under.
	<p>24.0 For Package#1 and Package#2, separate Performance Bond shall be applicable. Performance bond for this part of specification shall be governed by the provision of GCC, Volume-IA, for package#1 and Package#2 separately.</p> <p>For this purpose, Total Price of Sl. No. 1.1.1 of SCH-3.0 of Volume-IIIA shall be considered as contract price for Package#1 and total Price of Sl. No. 1.1.2 of SCH-3.0 of Volume-IIIA shall be considered as contract price for Package#2.</p>
1.3	Clause no 27.1 of VOLUME-IC stands revised as under.
	<p>27.1 If vendor fail to complete the job as per aforesaid completion period, BHEL shall have the right to recover as liquidated damages (LD) a sum equivalent to 0.5 % of the contract price, including taxes, duties (supply part) for delay of each week for each Package #1 and Package#2 respectively. The liability for delay shall not in any case exceed 10 % (ten percent) of the contract price, including taxes, duties (supply part) for each Package #1 and Package#2 respectively.</p> <p>For this purpose, Total Price of Sl. No. 1.1.1 of SCH-3.0 of Volume-IIIA, shall be considered as contract price (Supply) for Package#1 and Total Price of Sl. No. 1.1.2 of SCH-3.0 of Volume-IIIA shall be considered as contract price (Supply) for Package#2.</p>
<b>2.0</b>	<b>Volume-ID</b>
2.1	Clause no 21.0 of VOLUME-ID stand revised as under.
2.1.1	<p>21.1 For Package#1 and Package#2, separate security deposit shall be applicable. Security deposit shall be as per respective clauses of GCC-IB for services contract.</p> <p>For this purpose, Total Price of Sl. No. 1.2.1 of SCH-4.0 of Volume-IIIA</p>

		shall be considered as contract price for Package#1 and Total Price as per Sl. No. 1.2.2 of SCH-4.0 of Volume-IIIA shall be considered as contract price for Package#2.
2.1.2	21.2	<p>Performance bond, in the form of bank guarantee for an amount of 5 % of contract price for the services scope of work (separately for Package#1 and Package#2 respectively) shall be submitted by the contractor within 30-days of issue of LOI. The bond shall be kept valid till six months after the expiry of warranty/ guarantee period for Package#1 and Package#2 respectively. The respective PBG shall be revalidated as per requirement.</p> <p>For this purpose, Total Price of Sl. No. 1.2.1 of SCH-4.0 of Volume-IIIA shall be considered as contract price for Package#1 and and Total Price of Sl. No. 1.2.2 of SCH-4.0 of Volume-IIIA shall be considered as contract price for Package#2.</p>
2.2	Clause no 29.1 of VOLUME-ID stand revised as under.	
	29.1	<p>If you fail to complete the job as per aforesaid completion period, BHEL shall have the right to recover as liquidated damages (LD) a sum equivalent to 0.5 % of contract price, including taxes, duties (service part) for delay of each week for each Package#1 and Package#2 respectively. The liability for delay shall not in any case exceed 10 % (ten percent) of contract price, including taxes, duties where the contract price(service part) for each Package#1 and Package#2 respectively</p> <p>For this purpose, Total Price of Sl. No. 1.2.1 of SCH-4.0 of Volume-IIIA shall be considered as contract price for Package#1 and Total Price of Sl. No. 1.2.2 of SCH-4.0 of Volume-IIIA shall be considered as contract price for Package#2.</p>
3.0	<b>General</b>	
3.1	Bidder shall submit offer strictly in compliance with technical specification and tender terms along with amendment/ clarifications issued subsequently till date.	
3.2	All other terms & conditions shall remain unchanged.	

<b>VOLUME-III A</b> <b>PRICE SCHEDULE, REV-01</b>	
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.</b>	
<b>TENDER NO - PSER:SCT:VIZ-M1232:11</b>	
<b>PREAMBLE</b>	
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.

<b>VOLUME-III A</b> <b>PRICE SCHEDULE, REV-01</b>					
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System of main plant for 2x520 MW units at HNPCL VIZAG Project, A.P.</b>					
<b>TENDER NO - PSER:SCT:VIZ-M1232:11</b>					
<b>SCH-1- TOTAL PRICE</b>					
<b>SL NO</b>	<b>DESCRIPTION OF EQUIPMENT/ ITEM</b>	<b>QUOTED PRICE (Rs)</b>			
		<b>BASIC PRICE</b>	<b>CST</b> (If any, as per tender)	<b>FREIGHT</b>	<b>TOTAL PRICE</b>
(1)	(2)	(3)	(4)	(5)	(6)=(3+4+5)
1.0	Total price for <b>supply part &amp; service part together</b> 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 <b>Air Conditioning System</b> for 2x520 MW units, at 2x520 MW HNPCL Vizag Project, A. P.				
<b>NOTE</b>					
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 A					
PRICE SCHEDULE, REV-01					
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 <b>supply part</b> 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 <b>Air Conditioning System</b> at 2x520 MW HNPCL Vizag Project, A. P.				
1.2	Total price for <b>service part</b> 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 <b>Air Conditioning System</b> at 2x520 MW HNPCL Vizag Project, A. P.				
<b>NOTE</b>					
1.0	Total of 1.1, 1.2 shall match with 1.0 of SCH-1.				

VOLUME-III A											
PRICE SCHEDULE, REV-01											
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								
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*								



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
1.1.1.8	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 cladded 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 & humidista/ 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.	25	SQM*								
1.1.1.19.2*	Motorized actuator with single phase power supply for the above fire damper.	37	NO*								
1.1.1.20*	Diffuse/ Grill										
1.1.1.20.1*	Supply air diffuser with VCD (Extruded Aluminium).	90	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
1.1.1.20.2*	Return air diffuser without VCD (Extruded Aluminium).	90	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, 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								

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								
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								

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
1.1.2.1.7	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								
1.1.2.1.14	Acoustic insulation of the first 6M of ducting from AHU outlets.	1	LOT								
1.1.2.1.15	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT								
1.1.2.1.16	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											
<b>TOTAL OF PACKAGE#1 + PACKAGE#2 (in Rs.)</b>											
<b>NOTE</b>											
1.0	Above total shall match with 1.1 of SCH-2.										

**VOLUME-III A**  
**PRICE SCHEDULE, REV-1**

**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	<b>PACKAGE # 1 (AC PLANT-1)</b> (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.	25	SQM*		
1.2.1.19.2*	Motorized actuator with single phase power supply for the above fire damper.	37	NO*		
1.2.1.20*	Diffuse/ Grill				
1.2.1.20.1*	Supply air diffuser with VCD (Extruded Aluminium).	90	SQM*		
1.2.1.20.2*	Return air diffuser without VCD (Extruded Aluminium).	90	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 polysrrrene pipe section.	1600	MTR*		
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*		

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)	AMOUNT (Rs)
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		
1.2.2.1.14	Acoustic insulation of the first 6M of ducting from AHU outlets.	1	LOT		
1.2.2.1.15	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
1.2.2.1.16	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 Builing / 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*		



SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		RATE (Rs)	AMOUNT (Rs)
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					
<b>TOTAL PRICE FOR PACKAGE # 1 AND PACKAGE#2</b>					
<b>NOTE</b>					
1.0	Above total shall match with 1.2 of SCH-2				

VOLUME-III A				
PRICE SCHEDULE, REV-01				
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)
<b>1.0</b>	<b>AC PLANT FOR MAIN CONTROL ROOM AREAS AND ESP BUILDING</b>			
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 3.0 TR	12 NO		
1.6	FRP Cooling Tower	2 NO		
1.7	Condenser water pumps	2 NO		
1.8	Chilled water pumps	2 NO		
1.9	Fresh Air Fans for above AHU room	4 NO		
<b>2.0</b>	<b>AC PLANT FOR SERVICE BUILDING</b>			
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		
<b>TOTAL</b>				<b>600 KW</b>

**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	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)

<b>TENDER NO</b>	<b>PSER:SCT:VIZ-M1232:11</b>	
<b>VOLUME</b>	<b>IIIA, REV-1</b>	<b>PRICE SCHEDULE (ABSOLUTE VALUE)</b>

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

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