



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

( भारत सरकार का उपक्रम )

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 02**

Ref: PSER:SCT:BRM-M1307:TCN-02

Date: 23/03/2012

Sub	Tender change notice (TCN) 02	
Job	Design, engineering, manufacturing, supply, Testing, commissioning etc including O & M of Air Condition System Package for 2x250 MW BARAUNI Extension Project unit # 8 & 9 at Begusarai , Bihar.	
Ref	1.0	Tender no PSER:SCT:BRM-M1307:12
	2.0	BHEL's NIT, vide ref no Ref: PSER:SCT:BRM-M1307:12 Dated 17/03/2012
	3.0	BHEL's TCN-01 vide ref. no. PSER:SCT:BRM-M1307:TCN-01 Dated 21/03/2012
	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 Due date of submission is extended from 26/03/2012 to 10/04/2012 at 14-00 Hrs
- 2.0 Revised BOQ cum price schedule format VOL-III- PRICE SCHEDULE, REV-01 superseding VOL-III PRICE SCHEDULE, REV-00 issued earlier along with NIT.  
**Bidders are requested to submit their offer as per revised BOQ (Rev-01) only.** Offer from bidders in superseded price schedule (Vol-III, REV-00) shall not be considered. Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid in sealed envelope as per **REVISED price schedule format (VOL-III- PRICE SCHEDULE, REV-01)**
- 3.0 Revised 'No deviation certificate' is attached. 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

- 1.0 VOL-III- PRICE SCHEDULE, REV-01
- 2.0 Revised 'No deviation certificate' format .

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

**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, Testing, commissioning etc including O & M of Air Condition System Package for 2x250 MW BARAUNI Extension Project unit # 8 & 9 at Begusarai , Bihar.	
Ref	1.0	Tender no PSER:SCT:BRM-M1307:12
	2.0	BHEL's NIT, vide ref no Ref: PSER:SCT:BRM-M1307:12 Dated 17/03/2012
	3.0	BHEL's TCN-01 vide ref. no. PSER:SCT:BRM-M1307:TCN-01 Dated 21/03/2012
	4.0	BHEL's TCN-02 vide ref. no. PSER:SCT:BRM-M1307:TCN-02 Dated 23/03/2012
	5.0	Other references (if any).

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)

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>VOLUME-III PRICE SCHEDULE, REV-1</b>	
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>	
<b>TENDER NO. PSER:SCT:BRM-M1307:12</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 & except for tender on lumpsum basis, for all item rate based tenders, the quantities of the various items mentioned in price schedule 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  
PRICE SCHEDULE, REV-1**

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni  
TPS, BIHAR**

**TENDER NO. PSER:SCT:BRM-M1307:12**

**SCH-1 - TOTAL PRICE**

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	TOTAL QUOTED PRICE ( <sup>₹</sup> )
1.0	Total price for supply part & service part together for design, engineering, manufacturing, inspection and testing, painting, supply/ delivery duly packed at project site including freight, receipt, unloading, storage & handling at site, erection, commissioning, trial run, handing over to customer, operation & maintenance (O&M), etc in line with drawings/ documents/ test procedures approved by BHEL/ customer, including supply of consumables, start-up & commissioning spares, special tools & tackles for maintenance, for the total scope defined in technical specification PE-TS-374-553-A001 and terms & conditions of tender, taking into account all clarifications, confirmations and agreements till date for Air Conditioning System.	
<b>Note</b>		
1.0	Bidder to note that total price indicated above at 1.0 shall be considered for evaluation and hence should be complete in all respect for the full scope defined and considering all terms and conditions.	
2.0	While total price at sl no 1.0 as per above will be considered for evaluation, bidder shall furnish further break-up of price in the following schedules.	
2.1	SCH-2 - Main price break-up.	
2.2	SCH-3 - Supply price break-up.	
2.3	SCH-4 - Service price break-up.	
2.4	SCH-5 - GUARANTEED POWER CONSUMPTION	
3.0	Any item as per scope of work if not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.	
4.0	Total price of 1.1 & 1.2 should match with 1.0.	
5.0	Total price of supply price break up should match with 1.1.	
6.0	Total price of service price break up should match with 1.2.	
7.0	Bidder shall note that VAT, ED, CST & 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 components and evaluation of bidders total price will be done on this basis.	
8.0	If freight component is not specifically indicated, 2 % of total amount will be considered as freight component against each item for further processing.	
9.0	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 with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.	

<b>VOLUME-III</b>		
<b>PRICE SCHEDULE, REV-1</b>		
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>		
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>		
<b>SCH-1 - TOTAL PRICE</b>		
<b>SL NO</b>	<b>DESCRIPTION OF EQUIPMENT/ ITEM</b>	<b>TOTAL QUOTED PRICE (<sup>₹</sup>)</b>
10.0	Price format shall not be changed by bidder in any case, since it may lead to cancellation of bidder's offer.	
11.0	Estimated power consumption figure for the Air Conditioning System (for MAIN POWER HOUSE BLDG. AREAS AND ESP/VFD CONTROL ROOM) has been considered is 255 kw.	
12.0	Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in guaranteed shall be demonstrated by the successful bidder during performance testing at works/site.	
13.0	There will be no technical loading for evaluation of bids on power consumption. However, in case power consumption is noted higher than estimated total power consumption figure specified in relevant portion schedule during the inspection/ PG test, penalty @ Rs 1.6 lac per additional KW shall be levied on vendor.	

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

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni TPS, BIHAR**

**TENDER NO. PSER:SCT:BRM-M1307:12**

**SCH-2 - TOTAL PRICE BREAK-UP**

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUOTED PRICE (₹)		
		BASIC PRICE	FREIGHT	TOTAL
(1)	(2)	(3)	(4)	(5)=(3) + (4)
1.1	Total price for supply part for design, engineering, manufacturing, inspection and testing, painting, supply/delivery duly packed at project site including freight, in line with drawings/ documents/ test procedures approved by BHEL/ customer, including supply of consumables, start-up & commissioning spares, special tools & tackles for maintenance, for the total scope defined in technical specification and terms & conditions of tender, taking into account all clarifications, confirmations and agreements till date for Air Conditioning System.			
1.2	Total price for service part for receipt, unloading, storage & handling at site, erection, commissioning, trial run, handing over to customer, operation & maintenance (O&M), etc in line with drawings/ documents/ test procedures approved by BHEL/ customer, for the total scope defined in technical specification and terms & conditions of tender, taking into account all clarifications, confirmations and agreements till date for Air Conditioning System.			
<b>TOTAL</b>				

<b>VOLUME-III</b>						
<b>PRICE SCHEDULE, REV-1</b>						
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>						
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>						
<b>SCH-3 - SUPPLY PRICE BREAK-UP</b>						
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	BASIC UNIT RATE (₹)	FREIGHT (₹)	AMOUNT (₹)	
		(1)	(2)	(3)	(4)	(5)= (1)*(3) + (4)
<b>Price break-up of 1.1 of SCH-2.</b>						
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.1.1	Microprocessor controlled, water cooled water chiller package of capacity 75 TR (Net) consisting of <b>Screw/Reciprocating type refrigerant compressor</b> complete with motor, unit mounted starter, complete with suction and discharge shut off valves, HP / LP cutouts, oil pressure failure switch, gauge panel, automatic capacity control, condenser, relief valve, chiller, controls such as thermostatic/electronic expansion valve, cooling thermostat, antifreeze thermostat, water flow switch, integral refrigerant pipes & fittings, strainer, sight glass, isolating valves, chiller drain valve, chiller insulation, refrigerant piping insulation, first charge of gas and oil, base frames, vibration isolators, integral wiring, unit mounted isolator / fuse switch and other accessories as specified.	3	NO			
1.1.1.2	Sheet metal cabinet type air handling units, as per specification consisting of chilled water cooling coil, centrifugal blower, TEFC Sq. cage induction motor drive set, pre-filters, 3 way motorised mixing valve with thermostatic controls, return air temperature sensor and humidity sensor, outlet volume control damper and other accessories to meet the AC load of control room areas at (+) 13.5 M of power house building and kept at 19 M floor level as per specification.(each AHU must be having matching capacity with the AC load requirement during peak condition. 3 nos AHU (2W +1 S) are located in Ahu Room in BC Bay Unit-1 and 3 nos AHU (2W +1 S) are located in Ahu Room in BC Bay Unit-2	6	NO			
1.1.1.3	Fine Filters in Common discharge plenum for AHUs at in AHU Room 19.0 M level in AHU Room BC bay Unit-1 & 2	1	LOT			
1.1.1.4	Fibreglass reinforced plastic (FRP) construction cooling towers of capacity as specified and complete with fan, motor FRP basin, nozzles make up water & quick fill water connection, Level switch, drains, piping, valves, strainers, ladder & all accessories to meet system requirements.	3	NO			
1.1.1.5	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	3	NO			

<b>VOLUME-III</b>						
<b>PRICE SCHEDULE, REV-1</b>						
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>						
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>						
<b>SCH-3 - SUPPLY PRICE BREAK-UP</b>						
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	BASIC UNIT RATE (₹)	FREIGHT (₹)	AMOUNT (₹)	
<b>Price break-up of 1.1 of SCH-2.</b>		(1)	(2)	(3)	(4)	<b>(5)= (1)*(3) + (4)</b>
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.1.6	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	3	NO			
1.1.1.7	FAN COIL UNIT					
1.1.1.7.1	FAN COIL UNIT 2.0TR	4	NO*			
1.1.1.7.2	FAN COIL UNIT 1.5TR	4	NO*			
1.1.1.8	MS Expansion Tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO			
1.1.1.9	MS Make up Tank 6m3 ( Tanks shall be MS & inner surface spray galvanised. Make up water line with float valve & backup, quick fill line with ball valve, drain line with ball valve, overflow & vent line, level gauge shall be provided).	1	Nos			
1.1.1.10	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT			
1.1.1.11	Chilled water piping from AC plant to AHU rooms within power house building complete with valves supports, fittings, strainers, insulation with finish as per specification.	1	LOT			
1.1.1.12	MS medium class drain piping upto nearest drain point.	1	LOT			
1.1.1.13	GI medium class drain piping insulated and cladged upto the nearest drain point.	1	LOT			
1.1.1.14	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.	1	LOT			
1.1.1.15	Pan type humidifier for each AHU room.	1	LOT			
1.1.1.16	Fire damper.					
1.1.1.16.1	Fire damper with auto resetting, limit switches, indication lamps etc.	25	SQM*			

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

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni  
TPS, BIHAR**

**TENDER NO. PSER:SCT:BRM-M1307:12**

**SCH-3 - SUPPLY PRICE BREAK-UP**

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	BASIC UNIT RATE ( <sup>₹</sup> )	FREIGHT ( <sup>₹</sup> )	AMOUNT ( <sup>₹</sup> )	
<b>Price break-up of 1.1 of SCH-2.</b>		(1)	(2)	(3)	(4)	<b>(5)= (1)*(3) + (4)</b>
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.1.16. 2	Motorized actuator with single phase power supply for the above fire damper.	37	NO*			
1.1.1.17	Ducting, diffuse/ grill, thermal insulation for duct.					
1.1.1.17. 1	GSS zinc coating 200 gms/ m <sup>2</sup> ducting complete with hangers/ supports, dampers, grilles, diffusers (with & without VCD) etc.					
1.1.1.17. 1.1	18G.	200	SQM *			
1.1.1.17. 1.2	20G.	500	SQM *			
1.1.1.17. 1.3	22G.	1000	SQM *			
1.1.1.17. 1.4	24G.	1500	SQM *			
1.1.1.17. 2	Supply air diffuser with VCD (Extruded Aluminium).	20	SQM *			
1.1.1.17. 3	Return air diffuser without VCD (Extruded Aluminium).	20	SQM *			
1.1.1.17. 4	Acoustic insulation of the first 6 of ducting from AHU outlets.	1	LOT			
1.1.1.17. 5	Thermal insulation of supply air duct & return air duct with finish as specified.	3350	SQM *			
1.1.1.18	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT			

<b>VOLUME-III</b>						
<b>PRICE SCHEDULE, REV-1</b>						
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>						
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>						
<b>SCH-3 - SUPPLY PRICE BREAK-UP</b>						
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		BASIC UNIT RATE (₹)	FREIGHT (₹)	AMOUNT (₹)
<b>Price break-up of 1.1 of SCH-2.</b>		(1)	(2)	(3)	(4)	<b>(5)= (1)*(3) + (4)</b>
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.1.19	Relay based control panel complete for above AC Plant with all controls, interlocks, including the local control panels as required for individual AHU rooms for control of AHU, Heater, Fire Dampers, special cable etc as specified.	1	LOT			
1.1.1.20	Field instruments as specified	1	LOT			
	<b>(ESP building for unit#1).</b>					
1.1.1.21	Air Cooled Precision AC of 10TR (Net) complete with all accessories as specified	2	NO			
1.1.1.22	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT			
1.1.1.23	Acoustic insulation of the first 5M of ducting from Package AC outlets.	1	LOT			
1.1.1.24	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT			
	<b>(ESP building for unit#2).</b>					
1.1.1.25	Air Cooled Precision AC of 10TR (Net) complete with all accessories as specified	2	NO			
1.1.1.26	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT			
1.1.1.27	Acoustic insulation of the first 5M of ducting from Package AC outlets.	1	LOT			
1.1.1.28	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT			
1.1.1.29	Total price for special tools & tackles for maintenance. (Bidder to submit item-wise un-priced break-up in techno-commercial offer and price offer).	1	LOT			
1.1.1.30	Total price for start-up and commissioning spares. (Bidder to submit item-wise un-priced break-up in techno-commercial offer and price offer)	1	LOT			
<b>1.1.2</b>	<b>AC PLANT-2(Air conditioning system for Auxiliary Buildings including the Service &amp; Administrative Building / Aux control rooms etc as specified.)</b>					
<b>1.1.2.1</b>	Air-cooled package type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation etc.					

<b>VOLUME-III</b>						
<b>PRICE SCHEDULE, REV-1</b>						
Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni TPS, BIHAR						
TENDER NO. PSER:SCT:BRM-M1307:12						
SCH-3 - SUPPLY PRICE BREAK-UP						
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY		BASIC UNIT RATE ( <sup>₹</sup> )	FREIGHT ( <sup>₹</sup> )	AMOUNT ( <sup>₹</sup> )
<b>Price break-up of 1.1 of SCH-2.</b>		(1)	(2)	(3)	(4)	<b>(5)= (1)*(3) + (4)</b>
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.2.1.1	15.0 TR capacity.	18	NO*			
1.1.2.1.2	10.0 TR capacity.	9	NO*			
1.1.2.2	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.					
1.1.2.2.1	1 bank of strip type duct heater of 3.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	12	NO*			
1.1.2.2.2	1 bank of strip type duct heater of 6.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	6	NO*			
1.1.2.2.3	3.0 kW Pan Type Humidifier (415 V, 3 Phase, 50 Hz, Contactor Controlled).	9	NO*			
1.1.2.3	Fire damper.					
1.1.2.3.1	Fire damper with auto resetting, limit switches, indication lamps etc.	25	SQM*			
1.1.2.3.2	Motorized actuator with single phase power supply for the above fire damper.	37	NO*			
1.1.2.4	Ducting, diffuse/ grill, thermal insulation for duct.					
1.1.2.4.1	GSS zinc coating 200 gms/ m <sup>2</sup> ducting complete with hangers/ supports, dampers, grilles, diffusers (with & without VCD) etc.					
1.1.2.4.1 .1	22G.	1500	SQM*			
1.1.2.4.1 .2	24G.	2000	SQM*			

<b>VOLUME-III</b>						
<b>PRICE SCHEDULE, REV-1</b>						
Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni TPS, BIHAR						
TENDER NO. PSER:SCT:BRM-M1307:12						
SCH-3 - SUPPLY PRICE BREAK-UP						
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	BASIC UNIT RATE ( <sup>₹</sup> )	FREIGHT ( <sup>₹</sup> )	AMOUNT ( <sup>₹</sup> )	
<b>Price break-up of 1.1 of SCH-2.</b>		(1)	(2)	(3)	(4)	<b>(5)= (1)*(3) + (4)</b>
<b>1.1.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>					
1.1.2.4.2	Supply air diffuser with VCD (Extruded Aluminium).	20	SQM *			
1.1.2.4.3	Return air diffuser without VCD (Extruded Aluminium).	20	SQM *			
1.1.2.4.4	Acoustic insulation at the outlet of the Package AC upto 5 M with finish as specified.	130	SQM *			
1.1.2.4.5	Thermal insulation of supply air duct & return air duct with finish as specified.	3675	SQM *			
1.1.2.5	Local relay based control panel for package AC Room. (Each panel shall be suitable for control of 3 nos package ACs, 3 banks of strip heater, 1 no pan type humidifier, 3 to 4 motor opearted fire dampers)	9	NO*			
1.1.2.6	Air-cooled split type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation, isolation switch (MCB) with minimum 4 star rating as per BEE.					
1.1.2.6.1	5.0 TR capacity (ductable type, 415 V, 3 phase with isolation switch, i.e., MCB of required rating along with socket box as required).	2	NO*			
1.1.2.6.2	2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch, i.e., MCB of required rating along with socket box as required).	10	NO*			
1.1.2.6.3	1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch, i.e., MCB of required rating along with socket box as required).	30	NO*			
1.1.2.7	Any other item not indicated above, but required to complete air-conditioning package as per system requirements.	1	LOT			
<b>TOTAL</b>						

<b>VOLUME-III</b>				
<b>PRICE SCHEDULE, REV-1</b>				
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni</b>				
<b>TPS, BIHAR</b>				
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>				
<b>SCH-4 - SERVICE PRICE BREAK-UP</b>				
<b>SL NO</b>	<b>DESCRIPTION OF EQUIPMENT/ ITEM</b>	<b>QUANTITY</b>	<b>UNIT RATE</b>	<b>AMOUNT</b>
<b>( )</b>				
<b>Price break-up of 1.2 of SCH-2.</b>				
<b>1.2.1</b>	<b>AC PLANT-1 (Main control room areas in power house building &amp; ESP building)</b>			
1.2.1.1	Microprocessor controlled, water cooled water chiller package of capacity 75 TR (Net) consisting of <b>Screw/Reciprocating type refrigerant compressor</b> complete with motor, unit mounted starter, complete with suction and discharge shut off valves, HP / LP cutouts, oil pressure failure switch, gauge panel, automatic capacity control, condenser, relief valve, chiller, controls such as thermostatic/electronic expansion valve, cooling thermostat, antifreeze thermostat, water flow switch, integral refrigerant pipes & fittings, strainer, sight glass, isolating valves, chiller drain valve, chiller insulation, refrigerant piping insulation, first charge of gas and oil, base frames, vibration isolators, integral wiring, unit mounted isolator / fuse switch and other accessories as specified.	3	NO	
1.2.1.2	Sheet metal cabinet type air handling units, as per specification consisting of chilled water cooling coil, centrifugal blower, TEFC Sq. cage induction motor drive set, pre-filters, 3 way motorised mixing valve with thermostatic controls, return air temperature sensor and humidity sensor, outlet volume control damper and other accessories to meet the AC load of control room areas at (+) 13.5 M of power house building and kept at 19 M floor level as per specification.(each AHU must be having matching capacity with the AC load requirement during peak condition. 3 nos AHU (2W +1 S) are located in Ahu Room in BC Bay Unit-1 and 3 nos AHU (2W +1 S) are located in Ahu Room in BC Bay Unit-2	6	NO	
1.2.1.3	Fine Filters in Common discharge plenum for AHUs at in AHU Room 19.0 M level in AHU Room BC bay Unit-1 & 2	1	LOT	
1.2.1.4	Fibreglass reinforced plastic (FRP) construction cooling towers of capacity as specified and complete with fan, motor FRP basin, nozzles make up water & quick fill water connection, Level switch, drains, piping, valves, strainers, ladder & all accessories to meet system requirements.	3	NO	
1.2.1.5	Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.	3	NO	
1.2.1.6	Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.	3	NO	
1.2.1.7	FAN COIL UNIT			
1.2.1.7.1	FAN COIL UNIT 2.0TR	4	NO*	

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

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni  
TPS, BIHAR**

**TENDER NO. PSER:SCT:BRM-M1307:12**

**SCH-4 - SERVICE PRICE BREAK-UP**

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	UNIT RATE ( <sup>₹</sup> )	AMOUNT ( <sup>₹</sup> )
1.2.1.7.2	FAN COIL UNIT 1.5TR	4	NO*	
1.2.1.8	MS Expansion Tank (insulated) for chilled water with all accessories as required, capacity 1 m3.	1	NO	
1.2.1.9	MS Make up Tank 6m3 ( Tanks shall be MS & inner surface spray galvanised. Make up water line with float valve & backup, quick fill line with ball valve, drain line with ball valve, overflow & vent line, level gauge shall be provided).	1	Nos	
1.2.1.10	Condenser water piping with necessary fittings, strainers, valves as specified.	1	LOT	
1.2.1.11	Chilled water piping from AC plant to AHU rooms within power house building complete with valves supports, fittings, strainers, insulation with finish as per specification.	1	LOT	
1.2.1.12	MS medium class drain piping upto nearest drain point.	1	LOT	
1.2.1.13	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT	
1.2.1.14	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.	1	LOT	
1.2.1.15	Pan type humidifier for each AHU room.	1	LOT	
1.2.1.16	Fire damper.			
1.2.1.16.1	Fire damper with auto resetting, limit switches, indication lamps etc.	25	SQM *	
1.2.1.16.2	Motorized actuator with single phase power supply for the above fire damper.	37	NO*	
1.2.1.17	Ducting, diffuse/ grill, thermal insulation for duct.			
1.2.1.17.1	GSS zinc coating 200 gms/ m <sup>2</sup> ducting complete with hangers/ supports, dampers, grilles, diffusers (with & without VCD) etc.			
1.2.1.17.1.1	18G.	200	SQM *	
1.2.1.17.1.2	20G.	500	SQM *	
1.2.1.17.1.3	22G.	1000	SQM *	

<b>VOLUME-III</b>					
<b>PRICE SCHEDULE, REV-1</b>					
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>					
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>					
<b>SCH-4 - SERVICE PRICE BREAK-UP</b>					
<b>SL NO</b>	<b>DESCRIPTION OF EQUIPMENT/ ITEM</b>	<b>QUANTITY</b>		<b>UNIT RATE (<sup>₹</sup>)</b>	<b>AMOUNT (<sup>₹</sup>)</b>
1.2.1.17.1.4	24G.	1500	SQM *		
1.2.1.17.2	Supply air diffuser with VCD (Extruded Aluminium).	20	SQM *		
1.2.1.17.3	Return air diffuser without VCD (Extruded Aluminium).	20	SQM *		
1.2.1.17.4	Acoustic insulation of the first 6 of ducting from AHU outlets.	1	LOT		
1.2.1.17.5	Thermal insulation of supply air duct & return air duct with finish as specified.	3350	SQM *		
1.2.1.18	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
1.2.1.19	Relay based control panel complete for above AC Plant with all controls, interlocks, including the local control panels as required for individual AHU rooms for control of AHU, Heater, Fire Dampers, special cable etc as specified.	1	LOT		
1.2.1.20	Field instruments as specified	1	LOT		
	<b>(ESP building for unit#1).</b>				
1.2.1.21	Air Cooled Precision AC of 10TR (Net) complete with all accessories as specified	2	NO		
1.2.1.22	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT		
1.2.1.23	Acoustic insulation of the first 5M of ducting from Package AC outlets.	1	LOT		
1.2.1.24	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
	<b>(ESP building for unit#2).</b>				
1.2.1.25	Air Cooled Precision AC of 10TR (Net) complete with all accessories as specified	2	NO		
1.2.1.26	GI medium class drain piping insulated and cladded upto the nearest drain point.	1	LOT		
1.2.1.27	Acoustic insulation of the first 5M of ducting from Package AC outlets.	1	LOT		
1.2.1.28	Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc.	1	LOT		
<b>1.2.2</b>	<b>AC PLANT-2(Air conditioning system for Auxiliary Buildings including the Service &amp; Administrative Building / Aux control rooms etc as specified.)</b>				

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

**Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni  
TPS, BIHAR**

**TENDER NO. PSER:SCT:BRM-M1307:12**

**SCH-4 - SERVICE PRICE BREAK-UP**

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	UNIT RATE ( <sup>₹</sup> )	AMOUNT ( <sup>₹</sup> )
1.1.2.1	Air-cooled package type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation etc.			
1.2.2.1.1	15.0 TR capacity.	18	NO*	
1.2.2.1.2	10.0 TR capacity.	9	NO*	
1.2.2.2	Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc.			
1.2.2.2.1	1 bank of strip type duct heater of 3.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	12	NO*	
1.2.2.2.2	1 bank of strip type duct heater of 6.0 kW capacity (415 V, 3 Phase, 50 Hz, Contactor controlled)	6	NO*	
1.2.2.2.3	3.0 kW Pan Type Humidifier (415 V, 3 Phase, 50 Hz, Contactor Controlled).	9	NO*	
1.2.2.3	Fire damper.			
1.2.2.3.1	Fire damper with auto resetting, limit switches, indication lamps etc.	25	SQM*	
1.2.2.3.2	Motorized actuator with single phase power supply for the above fire damper.	37	NO*	
1.2.2.4	Ducting, diffuse/ grill, thermal insulation for duct.			
1.2.2.4.1	GSS zinc coating 200 gms/ m <sup>2</sup> ducting complete with hangers/ supports, dampers, grilles, diffusers (with & without VCD) etc.			
1.2.2.4.1.1	22G.	1500	SQM*	
1.2.2.4.1.2	24G.	2000	SQM*	
1.2.2.4.2	Supply air diffuser with VCD (Extruded Aluminium).	20	SQM*	
1.2.2.4.3	Return air diffuser without VCD (Extruded Aluminium).	20	SQM*	
1.2.2.4.4	Acoustic insulation at the outlet of the Package AC upto 5 M with finish as specified.	130	SQM*	
1.2.2.4.5	Thermal insulation of supply air duct & return air duct with finish as specified.	3675	SQM*	

<b>VOLUME-III</b>					
<b>PRICE SCHEDULE, REV-1</b>					
<b>Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 &amp; 9) at Barauni TPS, BIHAR</b>					
<b>TENDER NO. PSER:SCT:BRM-M1307:12</b>					
<b>SCH-4 - SERVICE PRICE BREAK-UP</b>					
<b>SL NO</b>	<b>DESCRIPTION OF EQUIPMENT/ ITEM</b>	<b>QUANTITY</b>		<b>UNIT RATE (<sup>₹</sup>)</b>	<b>AMOUNT (<sup>₹</sup>)</b>
1.2.2.5	Local relay based control panel for package AC Room. (Each panel shall be suitable for control of 3 nos package ACs, 3 banks of strip heater, 1 no pan type humidifier, 3 to 4 motor operated fire dampers)	9	NO*		
1.2.2.6	Air-cooled split type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation, isolation switch (MCB) with minimum 4 star rating as per BEE.				
1.2.2.6.1	5.0 TR capacity (ductable type, 415 V, 3 phase with isolation switch, i.e., MCB of required rating along with socket box as required).	2	NO*		
1.2.2.6.2	2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch, i.e., MCB of required rating along with socket box as required).	10	NO*		
1.2.2.6.3	1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch, i.e., MCB of required rating along with socket box as required).	30	NO*		
1.1.2.7	Any other item not indicated above, but required to complete air-conditioning package as per system requirements.	1	LOT		
1.2.3*	<b>O&amp;M (Providing complete service for operation &amp; maintenance (O&amp;M) of main control room AC system of AC PLANT-1)</b>				
1.2.3.1*	Providing O&M service including manpower, supervision, consumables etc for operation & maintenance of cranes after commissioning.	12	MONTH		
<b>TOTAL</b>					

<b>VOLUME-III</b>				
<b>PRICE SCHEDULE, REV-1</b>				
Design, engineering, manufacturing, supply, erection, commissioning etc of Air Conditioning System for 2x250 MW Extension Units (unit # 8 & 9) at Barauni TPS, BIHAR				
TENDER NO. PSER:SCT:BRM-M1307:12				
<b>SCH-5 - GUARANTEED POWER CONSUMPTION</b>				
SL NO	DESCRIPTION	QUANTITY (WORKING )	POWER CONSUMPTION AS GUARANTEED (KW) AT MOTOR INPUT TERMINAL	TOTAL POWER CONSUMPTION AS GUARANTEED (KW)
1.0	<b>AC plant for common control room areas.</b>			
1.1	Screw chillers.	2	NO	
1.2	AHU for above AC plant.	4	NO	
1.3	Fresh air fan for above AHU rooms.	2	NO	
1.4	FCU for above AC plant	4	NO	
1.5	Chilled water pump.	2	NO	
1.6	Condenser water pump.	2	NO	
1.7	Cooling tower.	2	NO	
1.8	pump for water softening plant	1	NO	
2.0	Water cooled precision type package AC for ESP/ VFD control room.	2	NO	
2.1	Fresh air fan for above package AC rooms.	2	NO	
<b>TOTAL</b>				<b>255</b>