

परियोजना  
इंजीनियरिंग  
प्रबंधन

Project Engineering  
Management

भारत हेवी इलेक्ट्रिकल्स लिमिटेड  
( भारत सरकार का उपक्रम )  
**Bharat Heavy Electricals Limited**  
( A Govt. of India Undertaking )



Ref: PE/PG/NT1/E-5085/2015 /Corrigendum/03

Date: 10/DEC/2015

PE/PG/NT1/E-5085/2015 /Corrigendum/02 dated 27.11.15

PE/PG/NT1/E-5085/2015 /Corrigendum/01 dated 12.11.15

<b>DUE DATE</b>
<b>19-Dec-2015</b>
<b>BY 10:00 AM (IST)</b>

**Subject: Technical Clarifications & Bid Submission Due Date extension for VENTILATION SYSTEM Tender of 2X500 MW NEW NEYVELI TPP (SG PKG.)**

With reference to the above Tender Enquiry, Bidders to note the following:

1. Amendment No. 01 to Technical Specification No. 'PE-TS-400-554-A001', as per enclosed Annexure A.
2. Pre-Bid queries' clarifications, as per enclosed Annexure-B.
3. Revised BOQ cum Price Schedule w.r.t. amendment No. 01 to Technical Specification No. 'PE-TS-400-554-A001', as per enclosed Annexure – C.
4. The due date of submission of tender is extended from existing date **10/12/2015, 02:00 PM (IST) to 19/12/2015, 10:00 AM (IST)**. Part-I bids shall be opened on **19/12/2015, 11:00 AM (IST)**

Bidders have to ensure the submission of their offer/revised offer, inline to above points, before the due date i.e. 19.12.2015 by 10:00 AM (IST).

Thanking You

With regards

For & on behalf of BHEL

DHEERAJ SINGH

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पीपीइआई भवन PPEI Building,  
प्लॉट नं २५, सेक्टर १६ ए Plot No.25, Sector 16A,  
नोएडा - २०१ ३०१ उ प्र Noida-201301 (U.P.)  
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**VENTILATION SYSTEM  
2X500 MW NNTPP  
SG PACKAGE**

**SPECIFICATION NO. PE-TS-400-554-A001**

**ADDENDUM No. 1**

**DATE: 08.12.2015**

**SHEET 2 OF 2**

**AMENDMENT TO EXISTING CLAUSES OF TECHNICAL SPECIFICATION**

Sl. No.	Clause	Existing description	To be read as (Amendment)
1	Suggestive price format 2.2.5.a	Thermal insulation 25 mm expanded polystyrene finished with sand cement plaster as specified for supply air duct.	Thermal insulation 50 mm mineral wool finished with sand cement plaster as per specification.




**2X500 MW NNTTP  
VENTILATION SYSTEM  
(SG PACKAGE)  
PRE-BID CLARIFICATION  
SCHEDULE**

SPECIFICATION NO: PE-TS-400-553-A001. Rev 01  
VOLUME: III  
SECTION: 3  
REV. NO. 00      DATE: AUG 2015  
SHEET: 1 OF 1

**PRE-BID CLARIFICATION SCHEDULE**

S. NO.	SECTION/CLAUSE/PAGE NO.	STATEMENT OF THE REFERRED CLAUSE	CLARIFICATION REQUIRED
1	Clause No. 12.7.3 of Section C2A Customer Specification and 5.1 (g) of Section C1	..... Air Washer Tank will be 6.0 mm & body of the Air Washer will be 5.0 mm .....	Kindly confirm the thickness of the material of UAF instead of Air Washer since there is no such Air Washer in this Package.

**BHEL CLARIFICATION:**  
MENTIONED THICKNESSES ARE APPLICABLE FOR UAF ALSO

2	Typical Scheme of UAF, Drawing No. PE-DG-400-554-A001, REV-04 of your Specification.	Double bank Spray Arrangement was shown in the referred Drawing where as in your specification vide cl.no 5.1(d) under Section C1 & 12.7.3 of C2A Single bank Spray Arrangement have been mentioned.	Please confirm which one to be followed.	<b>BHEL CLARIFICATION:</b> Bidders to follow Scheme 
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24500 MW NEW NEVVELL TPP (SG PACKAGE)  
BOQ-CUM-PRICE SCHEDULE (VENTILATION SYSTEM) - Rev.01

Sl No	DESCRIPTION OF EQUIPMENT/ ITEM	QTY	UNIT	SUPPLY				ERECTION AND COMMISSIONING			TOTAL				
				Unit Ex-works price (Rs)	Total Ex-works price (Rs)	EB (inc. Cash) for self-manufactured items only @ .5% (Rs)	GST / VAT @.5% (Rs)	Freight (including service tax, if applicable) @ .5% of Quoted Total Ex-works (Rs)	TOTAL FOR site price (SUPPLY) (Rs)	Unit E & C Price (Rs)		Total E & C price (Rs)	Service Tax @ .5% on E & C price (Rs)	TOTAL E & C PRICE (including Service tax)	
10	Total lumpsum firm prices for equipment & Services as specified, Comprising Engineering, design, manufacture, inspection & Testing at manufacturer's/subvendor's works, Painting at manufactures works, duly packed for transportation, delivery to site, unloading, storage & handling at site, fabrication, erection and commissioning, performance and guarantee testing, substitution of as built drawing, O&M Manual, carrying out acceptance tests at site, and final painting of complete Ventilation system on turnkey basis as per specification PE-TS-400-554-A001 including mandatory spares, special tool & tackle for maintenance, commissioning spares, all taxes, duties etc.					Nil AGAINST PAC for self-manufactured items only. Refer SCC Sl. No. 18A									
2.0	Break up prices for items covered in clause 1.0 above in case, price indicated above does not match with item wise break-up given at 2.0 (2.1 to 2.15), the highest price so calculated shall be considered for evaluation but in case of order, the same shall be placed at the lowest price.														
2.1	Unitary air filtration unit with centrifugal fan with motor, pumps with motors, dry panel filters (fabric type pre-filter), UAF Internals, MS structures, piping as per IS:1239 pt 1 (heavy class galvanized), valves including motorised valves for auto start of standby equipment, nozzles, level switch, pressure switches, temp indicators, back wash arrangement, galvanized drain piping etc as per spec (fan capacity 75,000 CMH at 50 mmwc static pressure) as specified. The UAF and fan casing shall be spray galvanized on inside and outside.	2	NO												
2.2*	Supply air ducting (finished) for above area complete with dampers, grille, supports (painted) and all accessories as specified.														
2.2.1*	Finished GSS (zinc coating 275 gms/sqm) Ducting with support structure etc.														
	a)* 18G	1000	SQM												
	b)* 20G	1000	SQM												
	c)* 22G	500	SQM												
	d)* 24G	500	SQM												
	MS duct (20 G) with epoxy paint for hallway room.	50	SQM												
2.2.2*	Extruded Aluminum grilles with VCD.	50	SQM												
2.2.3*	Extruded Aluminum grilles without VCD.	2	SQM												
2.2.4*	INSULATION														
2.2.5*	Thermal insulation 50 mm mineral wool finished with sand cement plaster as per specification.	400	SQM			Nil AGAINST PAC for self-manufactured items only. Refer SCC Sl. No. 18A									
b)*	Acoustic insulation for duct	50	SQM												
2.2.6*	Wall mounted dampers (Gravity operated) for different areas.	6	SQM												
2.2.7*	Inlet Louvers	1	SQM												
2.2.8*	GI volume control dampers for ducts	3	SQM												
2.3*	FIRE DAMPER														
a)*	Fire dampers (motor operated) with auto resetting, limit switch, Indicating lamps etc as specified.	6	SQM												
b)*	Motorised Actuator with single phase power supply for the above fire damper with auto resetting, limit switches, indication lamps etc	6	NO												
2.4*	Roof extractor units (axial flow type) with hood, disconnect switch and all accessories as specified. Following fan shall have 15 mmwc static pressure.														
A)*	Capacity 40,000 CMH with Motor rating 5.5 KW	10	NO												
B)*	Capacity 20,000 CMH with Motor rating 2.2 KW	1	NO												
2.5*	Axial flow supply fans with pre and fine filter (wall mounted) complete with casing, TFC sq cage induction motors & mounting frame, MS rain protection cowl, blind screen and all other accessories (suitable for 415V/3-phase supply). Following fan shall have 30 mmwc static pressure.														
a)*	Capacity 10,000 CMH with Motor rating 2.2 KW	1	NO												
b)*	Capacity 7,500 CMH with Motor rating 1.5 KW	1	NO												
c)*	Capacity 6,000 CMH with Motor rating 1.1 KW	1	NO												
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	2	NO												

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2x500 MW NEW NEVELLI TPP (SG PACKAGE)

PACKAGE : VENTILATION SYSTEM

MANDATORY SPARE LIST

SUPPLY

Sl.No	DESCRIPTION OF EQUIPMENT/ ITEM	QUANTITY	UNIT	Unit Ex-works	Total Ex-works	ED (Inc. Cass) for self-manufactured items only @ ...% (Rs)	CST / VAT @...% (Rs)	Freight (including service tax, if applicable) @ ...% of Quoted Total Ex-works (Rs)	TOTAL FOR site price (SUPPLY) (Rs)	REMARKS
				price (Rs)	price (Rs)					
1	Contactor (For each type and rating)	No.	Minimum 1 no. of each type							
2	Over load relay (For each type and rating)	No.	2 no. of each type							
3	Relay/Timer (For each type and rating)	No.	3 no. of each type							
4	Fan motor (For each type and rating)	No.	30% of each rating							
5	Electronics cards (For each type and rating)	No.	20% of each rating							
6	Switch fuse unit/MCCB/EICB (For each type and rating)	No.	2 no. of each rating							
7	Blower motor (For each type and rating)	No.	30% of each rating							
8	Pump (For each type and size)	No.	2							
8.1	Impeller (For each type and size)	No.	1							
8.2	Shafts (For each type and size)	No.	1							
8.3	Start sleeve (For each type and size)	Set	3							
8.4	Casing wear ring (For each type and size)	Set	6							
8.5	Impeller bearing (For each type and size)	Set	2							
8.6	Motor bearing (For each type and size)	Set	2							
8.7	Thrust bearing (For each type and size)	Set	2							
8.8	Rigid bearing (For each type and size)	Set	2							
8.9	Gland packing (For each type and size)	Set	2							
8.10	Fasteners (For each type and size)	Set	1							
8.11	Complete coupling (pump & motor) (For each type and size)	Set	1							
8.12	Motor (For each type and rating)	No.	1							

Applicable items considered. Applicable items are those which are installed in the system.

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2 x 500 MW NEW NWWVELI (SG PACKAGE)		
PACKAGE : VENTILATION SYSTEM		
APPENDIX - A		
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Percentage of total price
1	Total lumpsum firm prices for equipment & Services as specified, Comprising Engineering, design, manufacture, inspection & Testing at manufacturer's/subvendor's works, Painting at manufactures works, duly packed for transportation, delivery to site, unloading, storage & handling at site, fabrication, erection and commissioning, performance and guarantee testing, submission of as built drawing, carrying out acceptance tests at site, and final painting of complete Ventilation system on turnkey basis as per specification PE-TS-400-554-A001 including special tool & tackels for maintenance, commissioning spares, all taxes, duties etc. (Without mandatory spare - Sr. No. 2.15 of BOQ CUM PRICE SCHEDULE)	100%
2.0	<b>BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE (To be used during contract execution for payment)</b>	
2.1	Total lump sum firm price for <b>EQUIPMENT (SUPPLY)</b> for Engineering, design, manufacture, inspection & Testing at manufacturers works/subvendor's work, Painting at manufactures works, duly packed for transportation, delivery to site, unloading storage & handling at site, for the complete scope of supply of Ventilation system and as defined in the technical specification ( PE-TS-400-554-A001).	80%
2.2	<b>Erection &amp; commissioning</b> , carrying out acceptance tests at site, final painting and handing over to customer the complete ventilation system on turnkey basis as per specification PE-TS-400-554-A001 including special tool & tackels for maintenance, commissioning spares, all taxes, duties etc.	20%
3.0	<b>Break-up (%) of prices given at SI No-2.1 above (To be used during contract execution for payment)</b>	Percentage of total price of SL No 2.1 above
3.1	UAF - (Item no 2.1 of BOQ CUM PRICE SCHEDULE)	23.00%
3.2	GSS Duct work - (Item no 2.2.1 of BOQ CUM PRICE SCHEDULE)	25.00%
3.3	MS duct and Aluminium grills (Item no 2.2.2, 2.2.3 & 2.2.4 of BOQ CUM PRICE SCHEDULE)	5.00%
3.4	Thermal Insulation (Item no 2.2.5 of BOQ CUM PRICE SCHEDULE)	1.90%
3.5	Gravity damper, Inlet louver, Fire damper, VCD, (Item no 2.2.6 to 2.2.8 & 2.3 of BOQ CUM PRICE SCHEDULE)	3.00%
3.6	RE units (Item no 2.4 of BOQ CUM PRICE SCHEDULE)	10.00%
3.7	Supply air fans (Item no 2.5 and 2.6 of BOQ CUM PRICE SCHEDULE)	15.00%
3.8	Exhaust fans (Item no 2.7 to 2.9 of BOQ CUM PRICE SCHEDULE)	15.00%
3.9	Manually operated, platform trolley (Item no 2.10 of BOQ CUM PRICE SCHEDULE)	0.10%
3.10	Tools and tackels & Commissioning Spares (Item no 2.11 to 2.12 of BOQ CUM PRICE SCHEDULE)	1.00%
3.11	Field Instruments and any other accessories/item (Item no 2.13 to 2.14 of BOQ CUM PRICE SCHEDULE)	1.00%

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