

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
पावर सेक्टर- पश्चिमी क्षेत्र
श्रीमोहिनी कॉम्प्लेक्स, 345 - किंग्सवे
नागपुर- 440 001



Bharat Heavy Electricals Limited
Power Sector-Western Region
Shreemohini complex, 345 - Kingsway
Nagpur-440 001

फोन / Phone 0712- 3048600 TO 604 फैक्स FAX: 0712- 3048698- 699/ 3048605 www.bhelpswr.co.in

Ref: BHE/PW/PUR/VNT-STG/732/Corrigendum-01

Date 11/06/2010

Sub: Corrigendum-01: Issue of clarifications to Vindhyachal STG Tender.

T.S.no: BHE/PW/PUR/VNT-STG/732

Page 1 of 5

To

ALL BIDDERS

JOB: COLLECTION OF MATERIALS FROM BHEL/CLIENT'S STORES/STORAGE YARD; TRANSPORTATION TO SITE ; ERECTION ,TESTING & ASSISTANCE FOR COMMISSIONING, TRIAL OPERATION AND HANDING OVER OF **STEAM TURBINE,TURBO- GENERATOR** SET AND ITS AUXILIARIES, HP/LP HEATER AND DEAEATOR, INSULATION AND FINAL PAINTING, ETC OF 2X500 MW VINDHYACHAL SUPER THERMAL POWER PROJECT **UNIT Nos -11 & 12 AT NTPC VINDHYACHAL, SIDDHI, MADHYA PRADESH**

Bidders to kindly take note of the following:

AA) CLARIFICATION TO QUERIES OF SOME BIDDERS:

QUERY 01: Refer Clause 4.7 (Page 26 of 113) of Part – I technical bid specification: It is mentioned that contractor has to provide the required higher capacity crane for lifting of FST and Deareator. Kindly confirm.

CLARIFICATION TO QUERY 01: Referred Tender conditions holds good and it is again clarified that the Contractor has to make all arrangements on his own for the lifting of De-areator and FST as mentioned in the tender specification.

QUERY 02: Refer Clause 4.6.2 (Page 25 of 113) of Part – I technical bid specification: It is mentioned that the Generator Stator has to be lifted and placed by the contractor using Strand & Jack/Lift & Shift arrangement method. In terms of payment 1.5% payment against Generator Stator lifting and Placement on foundation is very less compared to the actual expenses. Kindly review

CLARIFICATION TO QUERY 02: Clause 12.1 'STAGES OF PROGRESSIVE PRO-RATA PAYMENT' of Part – I technical bid specification has been revised and shall be as below:

Clause 12.1 STAGES OF PROGRESSIVE PRO-RATA PAYMENT

RATE SCHEDULE FOR TG AND AUX PACKAGE

S N	DESCRIPTION	% TAGE
I	STEAM TURBINE, GENERATOR AND AUX	
1.00	CONDENSER (16.00%)	
1.01	Preparation of foundation	1.00%
1.02	Placement, Alignment, Assembly and welding of bottom plate segments, Hot well with NDT and placement of Spring elements	1.00%
1.03	Assembly and positioning of water chambers, water boxes, side plates, bottom plates, welding and NDT	2.00%
1.04	Erection, Alignment and welding & NDT of tube support plates and internals like Baffle plates, Air evacuation pipes etc	2.00%
1.05	Assembly, welding and NDT of dome walls and stiffeners, extraction piping and steam throw device, LPH1, supports etc	2.00%
1.06	Insertion, expansion, end milling of Condenser tubes	3.00%
1.07	Hydraulic test of Steam and Water side	3.00%

Ref: BHE/PW/PUR/VNT-STG/732/Corrigendum-01

Date 11/06/2010

Sub: Corrigendum-01: Issue of clarifications to Vindychal STG Tender.

T.S.no: BHE/PW/PUR/VNT-STG/732

Page 2 of 5

S N	DESCRIPTION	% TAGE
1.08	Welding and NDT of Condenser neck joint and completion of balance works on condenser	1.00%
1.09	Erection of Condenser water box handling system	1.00%
	SUB TOTAL - 1	16.00%
2.00	TURBINE (18.50%)	
2.01	Matching, leveling, alignment of base plates and bearing pedestals	1.50%
2.02	Grouting of pedestals and base plate	1.00%
2.03	Placement and alignment of LP outer casing bottom half of LP cylinder and Centre guide keys	1.00%
2.04	Placement of LP rotor and alignment with inner casing and checking of blade clearance	1.00%
2.05	Assembly, alignment and welding of LP outer casing upper half	1.00%
2.06	Placement and alignment of IP Turbine outer casing and inner casing bottom half of IP cylinder	0.50%
2.07	Placement and alignment of IP rotor with lower casing and boxing up of inner & outer casing (Upper halves)	1.50%
2.08	Boxing up of LP inner - inner and inner - outer and roll check	1.00%
2.09	Placement of H.P. Turbine, lowering of HP rotor on bearings and checking of clearance, coupling etc	1.00%
2.10	Alignment of HP/IP/LP rotor	1.00%
2.11	Reaming and coupling of HP/IP/LP rotor	1.00%
2.12	Assembly of regulation system	1.00%
2.13	Erection, Alignment and welding of Cross around piping	1.00%
2.14	Installation of IVs, ESVs, LPBP valves, MS strainers (internals), HRH strainers (internals)	1.00%
2.15	Final box up of LP Turbine	1.00%
2.16	Completion of Turbovisory works	1.00%
2.17	Final boxing up of bearing pedestals after oil flushing completion	1.00%
2.18	Erection of extraction piping inside the condenser	1.00%
	SUB TOTAL - 2	18.50%
S N	DESCRIPTION	% TAGE
3.00	GENERATOR (19.50%)	
3.01	Checking and preparation of foundation, placement of foundation plate	1.00%
3.02	Grouting of foundation plates	1.00%
3.03	Lifting of Gen stator and placing on foundation	8.0%
3.06	Fixing of bushings	1.00%
3.07	Leveling and alignment of stator	1.00%
3.05	Generator rotor insertion	1.00%
3.07	Box up of Generator and assembly of Hydrogen seals	1.00%
3.08	Alignment of generator rotor with LP rotor	1.00%
3.09	Coupling reaming and honing	1.00%
3.10	Preparation of Exciter set foundation and grouting	1.00%
3.11	Erection of Excitation equipment and alignment of Generator - Exciter rotors including swing check	1.00%

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
पावर सेक्टर- पश्चिमी क्षेत्र
श्रीमोहिनी काम्पलेक्स, 345 - किंग्सवे
नागपुर- 440 001



Bharat Heavy Electricals Limited
Power Sector-Western Region
Shreemohini complex, 345 - Kingsway
Nagpur-440 001

फोन / Phone 0712- 3048600 TO 604 फैक्स FAX: 0712- 3048698- 699/ 3048605 www.bhelpswr.co.in

Ref: BHE/PW/PUR/VNT-STG/732/Corrigendum-01

Date 11/06/2010

Sub: Corrigendum-01: Issue of clarifications to Vindychal STG Tender.

T.S.no: BHE/PW/PUR/VNT-STG/732

Page 3 of 5

S N	DESCRIPTION	% TAGE
3.12	Excitation system completion	0.50%
3.13	Final Gas tightness test of stator with complete system	1.00%
	SUB TOTAL - 3	19.50%
4.00	CONDENSATE EXTRACTION PUMPS (3.00%)	
4.01	Preparation of foundation and placement of canister	1.00%
4.02	Placement of pump and motor	1.00%
4.03	Alignment of coupling	1.00%
	SUB TOTAL - 4	3.00%
5.00	PIPING (10.50%)	
5.01	Turbine lub oil piping, jacking oil piping	1.50%
5.02	Generator seal oil piping	1.00%
5.03	Turbine water and Steam drainage piping	1.50%
5.04	Extraction piping	1.50%
5.05	Control oil piping for ESV, IV, LPBP valves, NRV	1.00%
5.06	Desuperheater for wet steam washing, debris filter with associated piping	1.50%
5.07	Condensate spray piping	1.00%
5.08	Generator Primary water piping	1.50%
	SUB TOTAL - 5	10.50%
6.00	OTHER SYSTEMS (12.50%)	
6.01	Generator gas system with all equipments and fittings	1.00%
6.02	Erection of Central lub oil system (pumps, tanks, strainers and piping etc) with associated fittings	1.00%
6.03	Erection of lube oil pumps (AOP, EOP, JOP etc), Main oil tank and oil coolers	1.00%
6.04	Erection of Control fluid tank, CF coolers, CF pumps, purification unit etc	1.00%
6.05	Erection of Vacuum pumps and piping	1.00%
6.06	Erection of seal oil, Primary water and gas system units / racks / equipments	1.00%
6.07	Erection of gland steam condenser, drain cooler with fittings	0.50%
6.08	Erection of Boiler fill pump and Condensate transfer pumps with fittings	0.50%
6.09	Erection of HP / LP By Pass system with all equipment, piping and fittings	1.00%
6.10	Erection of Flash tanks and connection to incoming pipes	1.00%
S N	DESCRIPTION	% TAGE
6.11	Insulation of all equipments, piping etc except spray insulation	2.00%
6.12	Electric wire rope hoists and chain pulley blocks with traveling trolley	0.50%
6.13	Final painting of all equipments and system covered in the scope	1.00%
	SUB TOTAL - 6	12.50%
II	HP/LP HEATERS AND DEAERATOR (4.00%)	
7.01	Placement of HP Heaters	1.00%
7.02	Placement of LP Heaters	0.50%
7.03	Lifting and placement of Deaerator and Feed Storage Tank with fittings and associated platform	2.00%

Ref: BHE/PW/PUR/VNT-STG/732/Corrigendum-01

Date 11/06/2010

Sub: Corrigendum-01: Issue of clarifications to Vindychal STG Tender.

T.S.no: BHE/PW/PUR/VNT-STG/732

Page 4 of 5

S N	DESCRIPTION	% TAGE
7.04	Welding of FST shells	0.50%
	SUB TOTAL - 7	4.00%
III	BOILER FEED PUMPS (MDBFP AND TDBFPs) (7.00%)	
8.01	Motor driven Boiler Feed Pump - 1 No	
	a) Foundation chipping, blue matching of foundation and levelling, centring of grillage / foundation frame and bolt grouting	0.50%
	b) Placement of Feed pumps, Booster pump, motor, Hydraulic coupling and preliminary alignment	0.50%
	c) Grouting of grillage / foundation and final alignment of BFP, BP, Motor and HC	0.50%
	d) Erection of lub oil piping and other balance piping like mechanical seal etc, erection of panel / rack and oil flushing of oil piping	0.50%
8.02	Turbine driven Boiler Feed Pump - 2 Nos	
	a) Foundation chipping, blue matching of foundation and levelling, centring of grillage / foundation frame and bolt grouting	1.00%
	b) Placement of Turbine, Feed pumps, Booster pump, Gear box and preliminary alignment	1.00%
	c) Grouting of grillage/foundation and alignment of Turbine, Gear box, BFP & BP	1.00%
	d) Erection of lub oil piping, jacking oil piping, Governing oil piping, Governing oil console, Oil tanks, oil pumps, oil purification units, coolers and other equipments, acid cleaning, oil flushing of pipelines	1.00%
	e) Erection of gland steam piping, drainage piping, cooling water piping, sealing lines etc	1.00%
	SUB TOTAL - 8	7.00%
IV	CONDENSATE POLISHING UNIT (0.50%)	
9.01	Erection of condensate polishing unit	0.50%
	SUB TOTAL - 9	
V	ON LINE CONDENSER TUBE CLEANING SYSTEM (1.00%)	
10.01	Erection of condenser on line Tube cleaning system	1.00%
	SUB TOTAL - 10	
VIII	CHEMICAL DOSING SYSTEM (0.50%)	
13.01	Erection of chemical dosing system	0.50%
	SUB TOTAL - 13	
IX	COMMISSIONING (7.00%)	
14.01	Oil Flushing	1.00%
14.02	Barring Gear	1.00%
14.03	Commissioning of condensate system	1.00%
14.04	Commissioning of Feed water system	1.00%
14.05	Synchronisation	3.00%
	SUBTOTAL - 14	7.00%
	GRAND TOTAL	100.00%

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
पावर सेक्टर- पश्चिमी क्षेत्र
श्रीमोहिनी काम्पलेक्स, 345 - किंग्सवे
नागपुर- 440 001



Bharat Heavy Electricals Limited
Power Sector-Western Region
Shreemohini complex, 345 - Kingsway
Nagpur -440 001

फोन / Phone 0712- 3048600 TO 604 फैक्स FAX: 0712- 3048698- 699/ 3048605 www.bhel.com

Ref: BHE/PW/PUR/VNT-STG/732/Corrigendum-01

Date 11/06/2010

Sub: Corrigendum-01: Issue of clarifications to Vindychal STG Tender.

T.S.no: BHE/PW/PUR/VNT-STG/732

-----Page 5 of 5-----

=====

All other Terms and conditions of the Tender Specification shall remain unaltered unless expressly amended by BHEL in writing.

Bidders are requested to submit as a part of Technical Bid, a copy of this corrigendum duly countersigned by the authorized signatory and stamped with the Official seal as a token of Bidder's unqualified acceptance of this corrigendum.

This letter is hosted as file titled "Corrigendum-01 (Clarification - 732)" against NIT-8284 in BHEL web page (www.bhel.com→Tender Notifications → View Corrigendum).

Thanking you,
Yours faithfully,

Sr DGM (Purchase)