



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN – 02**

Ref: PSER:SCT:ABJ:T1178:TCN-02

Date: 22-02-2011

Sub	<b>Tender Change Notice (TCN- 02).</b>	
Job	Identification & Receipt of materials, Erection, Testing, Commissioning, Handing over etc of Steam Turbine & Auxiliaries, Generator & Auxiliaries, Pumps, Piping, Misc Equipments, Insulation, Painting including Unloading & Placement of Generator Stator on Foundation of TG & Auxiliaries for 2x270 MW Chandwa Project, unit-1 & 2 , Latehar, Jharkhand.	
Ref	1.0	Tender no <b>PSER:SCT:ABJ:T1178:11</b>
	2.0	BHEL's NIT, vide reference no PSER:SCT:ABJ:T1178 Date: 09-02-2011.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:ABJ:T1178:TCN-01 Date: 21-02-2011.
	4.0	Other References,if any.

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

- 1) BOQ cum Price Schedule format "VOLUME-III A - PRICE SCHEDULE (PACKAGE-A) , REV-00 and VOLUME-III B PRICE SCHEDULE (PACKAGE-B), REV-00" has been revised as "VOLUME-III A-PRICE SCHEDULE (PACKAGE-A),REV-01 and VOLUME-III B- PRICE SCHEDULE (PACKAGE-B), REV-01" which is enclosed herewith.  
Bidders are requested to submit their offer as per revised BOQ/Price Schedule only and quote their price accordingly. Offer from bidders in superseded price schedule (Vol-III A, REV-00 & Vol-III B, REV-00) shall not be considered.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 envelopes as per REVISED Price Schedule format .
- 2) Annexure-A (TCC-PART-2-COMMON TECHNICAL CONDITIONS in Volume-IF is revised as per Annexure-A (REV-01) - (TCC-PART-2-COMMON TECHNICAL CONDITIONS) - (BILLING SCHEDULE). ATTACHED.
- 3) Due date of submission of offer is extended from 23-02-2011 to 25-02-2011, 14-00 hrs.
- 4) Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
- 5) All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

**DGM (SCT)**

**Encl:**

- 1.0 Revised BOQ cum Price Schedule format " (VOLUME-III A- PRICE SCHEDULE (PACKAGE-A) , REV-01) AND (VOLUME-III A- PRICE SCHEDULE (PACKAGE-B) , REV-01)"
- 2.0 Annexure-A (REV-01) - (TCC-PART-2-COMMON TECHNICAL CONDITIONS)-(BILLING SCHEDULE).
- 3.0 Revised Format of 'No deviation certificate'.

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

**TENDER NO:PSER:SCT:ABJ:T1178:11**

**VOLUME -- IIIA**

**PRICE SCHEDULE-PACKAGE-A  
(REV-01)**

**FOR**

**IDENTIFICATION & RECEIPT OF MATERIALS, ERECTION, TESTING, COMMISSIONING, HANDING OVER ETC OF STEAM TURBINE & AUXILIARIES, GENERATOR & AUXILIARIES, PUMPS, PIPING, MISC EQUIPMENTS, INSULATION, PAINTING ETC. ALONG WITH COMMON SYSTEM AS PER SPECIFICATION INCLUDING UNLOADING & PLACEMENT OF GENERATOR STATOR ON FOUNDATION OF TG & AUXILIARIES**

**FOR**

**1 X270 MW (UNIT # 1)**

**CHANDWA PROJECT  
LATEHAR, JHARKHAND**



**BHARAT HEAVY ELECTRICALS LIMITED  
( A GOVT. OF INDIA UNDERTAKING )  
POWER SECTOR – EASTERN REGION  
PLOT NO. – 9 / 1, DJ – BLOCK,  
SECTOR – II, KARUNAMOYEE,  
SALT LAKE CITY,  
KOLKATA – 700091.**

**TENDER NO:PSER:SCT:ABJ:T1178:11**

**VOLUME -- IIIB**

**PRICE SCHEDULE-PACKAGE-B  
(REV-01)**

**FOR**

**IDENTIFICATION & RECEIPT OF MATERIALS, ERECTION, TESTING, COMMISSIONING,  
HANDING OVER ETC OF STEAM TURBINE & AUXILIARIES, GENERATOR & AUXILIARIES,  
PUMPS, PIPING, MISC EQUIPMENTS, INSULATION, PAINTING INCLUDING UNLOADING &  
PLACEMENT OF GENERATOR STATOR ON FOUNDATION OF TG & AUXILIARIES**

**FOR**

**1 X 270 MW (UNIT # 2)**

**CHANDWA PROJECT  
LATEHAR, JHARKHAND**



**BHARAT HEAVY ELECTRICALS LIMITED  
( A GOVT. OF INDIA UNDERTAKING )  
POWER SECTOR – EASTERN REGION  
PLOT NO. – 9 / 1, DJ – BLOCK,  
SECTOR – II, KARUNAMOYEE,  
SALT LAKE CITY,  
KOLKATA – 700091.**

<b>VOLUME-III A</b>	
<b>PRICE SCHEDULE, REV-01</b>	
<b>Job: Identification &amp; Receipt of materials, Erection, Testing, Commissioning, Handing over etc of Steam Turbine &amp; Auxiliaries, Generator &amp; Auxiliaries, Pumps, Piping, Misc Equipments, Insulation, Painting etc. along with common system as per specification including Unloading &amp; Placement of Generator Stator on Foundation of TG &amp; Auxiliaries for 1 x 270 MW (Unit # 1) Chandwa Project, Latehar, Jharkhand.</b>	
<b>TENDER NO - PSER:SCT:ABJ-T1178:11</b>	
<b>PRICE SCHEDULE-PACKAGE-A</b>	
<b>PREAMBLE</b>	
1.0	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 other volumes of tender as applicable.
2.0	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
3.0	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4.0	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.
5.0	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.
6.0	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 language.
7.0	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.
8.0	The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
9.0	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.
10.0	The Total lumpsum price is to be quoted in the Price Schedule.
11.0	Evaluation & awarding will be done separately on Package-A & Package-B.

VOLUME-III A				
PRICE SCHEDULE, REV-01				
Job: Identification & Receipt of materials, Erection, Testing, Commissioning, Handing over etc of Steam Turbine & Auxiliaries, Generator & Auxiliaries, Pumps, Piping, Misc Equipments, Insulation, Painting etc. along with common system as per specification including Unloading & Placement of Generator Stator on Foundation of TG & Auxiliaries for 1 x 270 MW (Unit # 1) Chandwa Project, Latehar, Jharkhand.				
TENDER NO - PSER:SCT:ABJ-T1178:11				
PRICE SCHEDULE-PACKAGE-A				
Bidder must refer all terms & conditions and specification while quoting.				
SL NO	ITEM DESCRIPTION	QUANTITY		TOTAL PRICE (IN RS)
1.0	Providing manpower, supervision, T&P etc for identification & arranging issue & taking delivery of materials from BHEL stores / storage yard, transportation of these to pre-assembly yard/place of erection, temporary storage, preservation as required prior to erection after receipt, watch & ward, erection, chemical cleaning of piping etc, testing, commissioning, trial operation, PG test, handing over etc of steam turbine, generator, condenser, auxiliaries, pumps, piping, miscellaneous equipments, Insulation, Painting etc including common systems as per specification, terms & conditions of tender for 1x270 MW, unit #1 at AINL, Chandwa, Dist-Latehar, Jharkhand as enumerated in detail in the tender document.	1	LS	
2.0	Providing manpower, supervision, arranging and erection of the temporary structure & strand jack system etc arranging all required including grouting of structure and fixing of foundation bolt for unloading & lifting the Generator Stator and placement of the same in position including design of the lifting system as per specification, terms & conditions of tender for 1x270 MW, unit #1 at AINL, Chandwa, Dist-Latehar, Jharkhand as enumerated in detail in the tender document.	1	LS	
3.0	GRAND TOTAL PRICE (IN RS)			

NOTE: Bidder to note that evaluation and awarding will be done on the Grand Total Quoted Price against Sl. No.3.0 above i.e, summation of total price quoted under Sl No 1.0 and Sl. No. 2.0.

<b>VOLUME-IIIB</b>	
<b>PRICE SCHEDULE, REV-01</b>	
<b>Job: Identification &amp; Receipt of materials, Erection, Testing, Commissioning, Handing over etc of Steam Turbine &amp; Auxiliaries, Generator &amp; Auxiliaries, Pumps, Piping, Misc Equipments, Insulation, Painting including Unloading &amp; Placement of Generator Stator on Foundation of TG &amp; Auxiliaries for 1 x 270 MW (UNIT # 2) Chandwa Project, Latehar, Jharkhand.</b>	
<b>TENDER NO - PSER:SCT:ABJ-T1178:11</b>	
<b>PRICE SCHEDULE-PACKAGE-B</b>	
<b>PREAMBLE</b>	
1.0	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 other volumes of tender as applicable.
2.0	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
3.0	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
4.0	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.
5.0	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.
6.0	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 language.
7.0	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.
8.0	The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
9.0	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.
10.0	The Total lumpsum price is to be quoted in the Price Schedule.
11.0	Evaluation & awarding will be done separately on Package-A & Package-B.

**VOLUME-IIIB  
PRICE SCHEDULE, REV-01**

**Job: Identification & Receipt of materials, Erection, Testing, Commissioning, Handing over etc of Steam Turbine & Auxiliaries, Generator & Auxiliaries, Pumps, Piping, Misc Equipments, Insulation, Painting including Unloading & Placement of Generator Stator on Foundation of TG & Auxiliaries for 1 x 270 MW (UNIT # 2) Chandwa Project, Latehar, Jharkhand.**

**TENDER NO - PSER:SCT:ABJ-T1178:11**

**PRICE SCHEDULE-PACKAGE-B**

Bidder must refer all terms & conditions and specification while quoting.

SL NO	ITEM DESCRIPTION	QUANTITY		TOTAL PRICE (IN RS)
1.0	Providing manpower, supervision, T&P etc for identification & arranging issue & taking delivery of materials from BHEL stores / storage yard, transportation of these to pre-assembly yard/place of erection, temporary storage, preservation as required prior to erection after receipt, watch & ward, erection, chemical cleaning of piping etc, testing, commissioning, trial operation, PG test, handing over etc of steam turbine, generator, condenser, auxiliaries, pumps, piping, miscellaneous equipments, Insulation, Painting etc as per specification, terms & conditions of tender for 1x270 MW, unit #2 at AINL, Chandwa, Dist-Latehar, Jharkhand as enumerated in detail in the tender document.	1	LS	
2.0	Providing manpower, supervision, arranging and erection of the temporary structure & strand jack system etc arranging all required including grouting of structure and fixing of foundation bolt for unloading & lifting the Generator Stator and placement of the same in position including design of the lifting system as per specification, terms & conditions of tender for 1x270 MW, unit # 2 at AINL, Chandwa, Dist-Latehar, Jharkhand as enumerated in detail in the tender document.	1	LS	
3.0	<b>GRAND TOTAL PRICE (IN RS)</b>			

**NOTE:** Bidder to note that evaluation and awarding will be done on the Grand Total Quoted Price against SI. No.3.0 above i.e, summation of total price quoted under SI No 1.0 and SI. No. 2.0.

**Annexure-A (REV-01)**  
**(TCC-PART-2-COMMON TECHNICAL CONDITIONS)**  
**(BILLING SCHEDULE)**

32.7	Description of activity	Percent allocated
32.7.1	CONDENSER	
32.7.1.1	Foundation preparation	1.00%
32.7.1.2	Assembly of condenser parts.	
32.7.1.2.1	Completion of box assly including welding.	1.00%
32.7.1.2.2	Erection & welding of tube support plates.	1.50%
32.7.1.2.3	Erection & welding of dome walls.	0.50%
32.7.1.2.4	Erection of stiffeners/ bracing pipes of dome walls.	0.75%
32.7.1.2.5	Welding of stiffeners/ bracing pipes.	0.75%
32.7.1.2.6	Erection and welding of stiffeners etc of condenser.	0.50%
32.7.1.3	Insertion of tube & tube expansion.	
32.7.1.3.1	Insertion of tubes.	3.00%
32.7.1.3.2	Trimming, expansion & bell mouthing, cutting of tubes.	0.50%
32.7.1.3.3	Water fill test.	0.50%
32.7.1.3.4	Assembly of water boxes.	1.00%
32.7.1.4	Hyd test of condenser spring adjustment & final setting.	
32.7.1.4.1	Hydraulic test of condenser tubes & water box.	0.50%
32.7.1.4.2	Spring adjustment & final setting and condenser neck erection & welding.	0.50%
32.7.1.4.3	Erection of water box handling arrangement.	0.50%
32.7.1.4.4	Condenser vacuum leak test.	0.50%
32.7.1.5	Inside painting of condenser.	0.50%
32.7.2	TURBINE	
32.7.2.1	Placement, centering, leveling & grouting of brg pedestal & base plates.	1.25%
32.7.2.2	Erection of LP turbine.	
32.7.2.2.1	Installation of LPT outer casing B/H.	0.50%
32.7.2.2.2	Installation of LPT inner outer casing B/H.	0.50%
32.7.2.2.3	Placement of LP rotor, radial & axial clearance setting in LPT top & bottom casing.	0.50%
32.7.2.2.4	Roll check and fitting of final axial & radial keys.	0.50%
32.7.2.2.5	Erection & welding of LP inlet bellows and bracing pipes.	0.50%
32.7.2.2.6	Erection & welding of LP top cover.	0.50%
32.7.2.2.7	Boxing up of turbine & erection of CAP.	1.00%
32.7.2.3	Placement & positioning of HP & IP turbine.	
32.7.2.3.1	Placement, positioning of HPT & IPT.	1.75%
32.7.2.3.2	Taking HP & IP rotor load on bearing and preliminary alignment of HP - IP & IP - LP coupling.	1.50%
32.7.2.3.3	Assly of elbows & breech nut in HPT & in IPT.	0.50%
32.7.2.3.4	Horn drop & roll check of HPT & IPT.	0.50%
32.7.2.3.5	Fitting of axial & radial key in HPT & IPT.	0.50%
32.7.2.4	Alignment.	
32.7.2.4.1	Alignment of HP-IP & IP-LP coupling.	1.75%
32.7.2.4.2	Reaming, honing & coupling bolt fitting.	0.75%
32.7.2.4.3	Coupling bolt stretching & swing check.	0.50%
32.7.2.5	Erection of stop & control valves and governing control system.	
32.7.2.5.1	Erection of MS & RH stop cum control valves.	0.80%
32.7.2.5.2	Erection of Gov Control rack & LPBP rack.	0.50%
32.7.2.5.3	Erection of LP bypass valves.	0.50%
32.7.2.6	Boxing up of bearing pedestal.	1.50%



**Annexure-A (REV-01)**  
**(TCC-PART-2-COMMON TECHNICAL CONDITIONS)**  
**(BILLING SCHEDULE)**

32.7.2.7	Erection of turbine integral piping with oil pump etc.	3.50%
32.7.3	GENERATOR.	
32.7.3.1	Preparation of foundation and matching of base plates	1.00%
32.7.3.2	Levelling, positioning and alignment of stator.	2.00%
32.7.3.3	Rotor insertion.	2.00%
32.7.3.4	Alignment of generator rotor with turbine rotor and coupling.	1.00%
32.7.3.5	Generator box up.	1.00%
32.7.3.6	Erection of excitation system.	1.00%
32.7.3.7	Erection of hydrogen filling system.	1.00%
32.7.3.8	Erection of misc integral piping.	1.50%
32.7.4	ROTATING AUXILIARIES ALONGWITH INTEGRAL PIPING & ACCESSORIES	
32.7.4.1	Erection of BFP (3 nos).	4.50%
32.7.4.2	Erection of CEP (2 nos).	3.00%
32.7.4.3	Erection of Misc Pump (1 LOT).	2.00%
32.7.4.4	Erection of other rotating aux with associated auxiliaries.	3.00%
32.7.5	STATIC AUXILIARIES	
32.7.5.1	Erection of LP Heaters 1, 2 & 3.	1.20%
32.7.5.2	Erection of HP heaters 1&2.	1.20%
32.7.5.3	Erection of ejectors/ vacuum pumps, drain coolers & gland steam condenser.	0.75%
32.7.5.4	Erection of deaerator and feed storage tanks.	2.50%
32.7.5.5	Erection of flash tanks, flash boxes, other tanks and other static aux.	1.75%
32.7.6	MISC EQUIPMENT	
32.7.6.1	Erection of HP & LP dosing system.	0.25%
32.7.6.2	Erection of self cleaning strainers/ debris filters.	1.00%
32.7.6.3	Erection of plate heat exchanger, BF valves etc.	0.75%
32.7.7	ERECTION, WELDING, TESTING, NDT ETC OF TG PIPINGS WITH H&S, VALVES ETC	12.00%
32.7.8	INSULATION OF PIPE & EQUIPMENT	5.00%
32.7.9	COMMON SYSTEM EQUIPMENT & AUXILIARIES	
32.7.9.1	FINISH PAINTING (TO BE RELEASED ON PRO-RATA BASIS)	1.50%
32.7.10	PRE-COMMISSIONING & COMMISSIONING	
32.7.11	Starting of TG oil flushing.	1.50%
32.7.11.1	Completion of TG oil flushing & TG on barring gear.	2.00%
32.7.11.2	Generator air leakage test & dry out.	1.00%
32.7.11.3	Commissioning of 3 nos.BFPs.	1.00%
32.7.11.4	Commissioning of CEPs.	0.60%
32.7.11.5	Commissioning of misc pumps packages.	1.00%
32.7.11.6	Rolling & synchronisation.	1.00%
32.7.11.7	Full loading.	1.00%
32.7.11.8	Trial run.	2.50%
32.7.11.9	PG test.	0.70%
32.7.11.10	Attending to punch points	3.00%
32.7.12	Handing over of the unit to customer.	0.50%
32.7.13	<b>TOTAL.</b>	<b>100.00%</b>

**NOTE :**

1. THE ABOVE BILLING SCHEDULE IS APPLICABLE FOR BOTH UNITS FOR SL. NO. 1 OF THE PRICE SCHEDULE. FURTHER BREAK-UP OF THE ALLOCATED % AGAINST ACTIVITIES SHALL BE DONE AT SITE FOR PROGRESSIVE PAYMENT BASED ON ACTIVITY COMPLETION.
2. 20% PAYMENT AGAINST SL. NO. 2 SHALL BE MADE ON ERECTION & ALIGNMENT OF THE TEMPORARY STRUCTURES AND BALANCE 80% ON COMPLETION OF THE STATOR LIFTING ACTIVITY.

## NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) Tender no **PSER:SCT:ABJ:T1178:11**

2) BHEL's NIT, vide reference no PSER:SCT:ABJ:T1178 Date: 09-02-2011

3) BHEL's TCN-01, vide reference no PSER:SCT:ABJ:T1178:TCN-01 Date: 21-02-2011

4) BHEL's TCN-02, vide reference no PSER:SCT:ABJ:T1178:TCN-02 Date: 22-02-2011

5) All other pertinent issues till date.

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, 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

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