

# **TENDER SPECIFICATION**

**No. - PW/NGP/PUR/SER/12/020**

**FOR**

**REPLACEMENT OF LTSH, ECONOMIZER, REHEATER COILS, S-PANEL AND  
OVERHAULING & SERVICING OF BOILER & AUXILIARIES( FANS, ESP, BOWL  
MILLS, FEEDERS, ETC.) INCLUDING DISMANTLING OF COMPONENTS TO BE  
REPLACED/ OVERHAULED OF BOILER UNITS # 7 & 9, 210 MW**

**AT**

**SATPURA THERMAL POWER STATION, SARNI  
MADHYA PRADESH POWER GENERATION COMPANY LIMITED  
DIST- BETUL (M.P)**

**PART I**

**(TECHNICAL BID SPECIFICATION, NOTICE INVITING TENDER & GCC)**



**BHARAT HEAVY ELECTRICALS LIMITED**

**(A GOVERNMENT OF INDIA UNDERTAKING)**

**POWER SECTOR : WESTERN REGION**

**345-KINGSWAY, NAGPUR – 440 001**

**BHARAT HEAVY ELECTRICALS LIMITED**  
**(A GOVERNMENT OF INDIA UNDERTAKING)**  
**POWER SECTOR - WESTERN REGION**  
**SHREEMOHINI COMPLEX**  
**345-KINGSWAY, NAGPUR 440 001**

**TENDER SPECIFICATION DOCUMENT ISSUE DETAILS**

**TENDER SPECIFICATION No.: PW/NGP/PUR/SER/12/020**

**Replacement of LTSH, Economizer, Reheater coils, S-Panel and Overhauling & Servicing of Boiler & auxiliaries - Fans,, ESP, Bowl Mills, Feeders, etc.- including dismantling of components to be replaced/ overhauled of Boiler Units # 7 & 9, 210 MW**

**AT**

**SATPURA THERMAL POWER STATION, SARNI**  
**MADHYA PRADESH POWER GENERATION COMPANY LIMITED**  
**DIST- BETUL**  
**MADHYA PRADESH**

**EARNEST MONEY DEPOSIT** : Please see Special Conditions of Contract.

**LAST DATE FOR  
TENDER SUBMISSION** : Please See Notice Inviting Tender

**THESE TENDER SPECIFICATION DOCUMENTS CONTAINING **PART-I** AND **PART-II** ARE  
ISSUED TO:**

**M/s. ....**

**.....**

**PLEASE NOTE:**  
**THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.**

**For Bharat Heavy Electricals Limited**

**Manager (Pur-SAS)**  
**Place: Nagpur**  
**Date:**

## **NOTICE INVITING TENDER**

Sealed tenders are invited in two bid system (viz. Part-I: Technical cum Commercial Bid and Part-II : Price Bids) from bidders. Brief details of job and Tender Specification (T.S.) Number is as under

**T. S. No. : PW/NGP/PUR/SER/12/020**

REPLACEMENT OF LTSH, ECONOMIZER, REHEATER COILS, S-PANEL AND OVERHAULING & SERVICING OF BOILER & AUXILIARIES - FANS, ESP, BOWL MILLS, FEEDERS, ETC.- INCLUDING DISMANTLING OF COMPONENTS TO BE REPLACED/ OVERHAULED OF BOILER UNITS # 7 & 9, 210 MW, AT SATPURA THERMAL POWER STATION MADHYA PRADESH POWER GENERATION COMPANY LIMITED DIST- BETUL,M.P

- **Date of Issue of T. S. Documents** : **14/08/2012**
- **Last Date for Tender Submission** : **21/08/2012 upto 15.00 hrs.**
- **Date of Opening Technical Bid** : **21/08/2012 at 16.00 hrs.**

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### **GENERAL**

**1) Seeking Clarifications on Tender Specification:**

Clarifications on the Tender Specifications, if any, may be sought by the bidders so as to reach this office at least seven days before the due date for submission.

**2) Customer Approval:** In case customer approval is required for this package, bidder's offer will be accepted subject to approval of bidder by customer

**3) Earnest Money Deposit (EMD):** Refundable, Non-interest bearing EMD for Tender indicated herein is Rs 1.0 lakh. EMD shall be paid only by Account Payee Demand Draft in favour of "Bharat Heavy Electricals Limited" payable at Nagpur. Those bidders who have already deposited 'One Time EMD' earlier need not submit EMD with the this tender. However they shall attach a copy of 'One Time EMD' Certificate.  
Tender received without specified / adequate earnest money is liable for rejection.

**4) Liquidated Damages/Penalty:** BHEL will impose Liquidated Damages and Penalty as per suitable clauses in the respective Tender Specifications on account of delay, violation of contract conditions and non-performance attributable to the contractor.

**5) Late Tender :** Tenders received after the specified time of submission shall not be considered under any circumstances.

**6) Other Conditions**

- BHEL takes no responsibility for any delay/loss of documents or correspondences sent by courier/post.
- BHEL reserves the right to accept or reject any or all tenders without assigning any reasons whatsoever.
- BHEL will operate Purchase Preference Policy of the Government of India as applicable.
- **Dates of Price Bid opening will be intimated to bidders later.**

- All corrigenda, addenda, amendments and clarifications to Tender Specifications will be intimated separately.
- BHEL reserves the right to reject any tender on the basis of unsatisfactory performance of the bidder in any ongoing job or any similar job in the last seven years or for furnishing false information/declaration in the offer
- Scope of work shall be as detailed in tender specification No: PW/NGP/PUR/SER/12/020

Manager (Pur-SAS)  
BHEL: PSWR:Nagpur

BHARAT HEAVY ELECTRICALS LIMITED  
(A Government of India Undertaking)  
POWER SECTOR - WESTERN REGION  
345-KINGSWAY, NAGPUR 440 001

**PROCEDURE FOR SUBMISSION OF SEALED TENDERS**

The Tenderers must submit their tenders as required in two parts in separate sealed covers prominently superscribed as Part-I Technical Bid and Part-II Price Bid and also indicating on each of the covers the **tender specification number and due date and time as mentioned in the tender notice**.

**PART-I (TECHNICAL BID) COVER-I**

Excepting Rate Schedule, all other schedules, data sheets and details called for in the Specification shall be enclosed in Part-I "Technical Bid" only.

**PART-II (PRICE BID) COVER-II**

All indications of price shall be given in this Part-II "Price Bid".  
EMD shall not be included in this cover.

These two separate covers-I and II (Part-I and Part-II) shall together be enclosed in a third envelope (Cover-III) alongwith requisite EMD as indicated earlier and this sealed cover shall be superscribed and submitted to Regional Service Manager at the above mentioned address on or before the due date as indicated.

The qualified tenderer will be intimated separately about the status of their offer.

Tenderers are requested to make specific note of the following conditions:

- Contractor should have adequate resources including major t&ps at his disposal for this job.
- Contractor should have sound financial stability.
- Tenderer should meet quality requirement regarding workmanship, deployment of personnel, erection tools and necessary inspection, measurement & testing instruments.
- All information as called for in various appendices and clauses of tender specification should be furnished in completeness. please refer the checklist.
- Clarification on tender if any, shall be obtained by the tenderer before submitting their offer.
- Offers must be submitted without any deviation.
- Offers received with any deviation or without relevant information as described above are liable to be rejected. price bids received in the form other than specified in part-ii (price bid) are liable to be rejected.
- In case customer approval is required for this package, bidder's offer will be accepted subject to approval of bidder by customer.

## **PROJECT INFORMATION**

### **BACKGROUND**

BHEL's Client M/s Madhya Pradesh Power Generation Company Limited (MPPGCL) has pulverized coal based Power Plant at Satpura Thermal Power Plant, Distt-Betul, Madhya Pradesh. The said client will be undertaken Overhauling/ Servcing of Boiler Pressure parts and auxiliaries viz. Fans, Bowl Mills, Feeders, ESP, etc.and replacement of LTSH, Economiser, Reheater & S Panel of Units # 7 & 9 of 210 MW rating.

The Bidder shall acquaint himself by a visit to the site, if felt necessary, with the conditions prevailing at site before submission of the bid. The information given here in under is for general guidance and shall not be contractually binding on BHEL/ Owner. All relevant site data/information as may be necessary shall have to be obtained /collected by the Bidder.

### **LOCATION AND APPROACH:**

- 1) Project: Thermal Power Station (old)Units # 7 & 9 (210 MW each).
- 2) Project Location: Satpura, Dist: Betul, Madhya Pradesh, India.
- 3) Transport facilities:
  - A) Nearest Railway Station: Ghodadongri on Nagpur - Itarsi route. Ghoradongri is 71 Kms from Itarsi on the Itarsi – Betul State Highway.
  - B) Road: Sarni/Satpura TPS is connected to Ghodadongri by 20 Km long all-weather district road.

## PRE QUALIFYING CRITERIA

<b>JOB</b>	<b>REPLACEMENT OF LTSH, ECONOMIZER, REHEATER COILS, S-PANEL AND OVERHAULING &amp; SERVICING OF BOILER &amp; AUXILIARIES (FANS, ESP, BOWL MILLS, FEEDERS, ETC.) INCLUDING DISMANTLING OF COMPONENTS TO BE REPLACED/ OVERHAULED OF BOILER UNIT # 7, 210 MW</b>
<b>TENDER NO</b>	<b>PW/NGP/PUR/SER/12/020</b>

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. <b>Bidder must fill up this column as per applicability</b>
A	<b><u>Technical</u></b>  1. Bidder should have executed the following work during last seven years. Erection/ R&M/Overhauling of Boilers of Rating <b>190 MW</b> and above of minimum <b>two (2) units</b> . Work should consists of Erection/ Overhauling including replacement of pressure parts (LTSH, Economiser, Reheater coils)and Overhauling of rotating equipment such as Bowl Mills, ID/FD/PA Fans, RC Feeders and ESP, Ducts & Dampers, Valves/actuators, etc. <b>Relevant documents such as work order copies along with completion certificates should be submitted in support of above.</b>	APPLICABLE	
B- 1	<b><u>Financial TURNOVER</u></b>  Bidder must have achieved an average annual financial turnover (Audited) of Rs 350 Lakhs or more over last three Financial Years i.e. 2009-2010, 2010-2011, 2011-12 or for 2008-2009, 2009-2010 and 2010-11 if Annual Accounts for FY 2011-12 are not audited.	APPLICABLE	
B-2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'B-1' above should be positive.	APPLICABLE	

B-3	<b>PROFIT</b> Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'B-1' above based on latest Audited Accounts.	APPLICABLE	
	<b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b> 1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against B-1 above along with all annexures 2. B-2:-NET WORTH: Shall be calculated based on the latest Audited Accounts as furnished for B-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies) 3. B-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in B-1 above 4. Time period for achievement of the 'Technical' criteria of PQR (as in 'A' above) will be the last 7 years ending on the 'latest date' of Bid submission 5. Boiler means HRSG or WHRB or any other types of Steam Generator		

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.



## CHECK LIST

(VIDE PARA 1.3 OF SECTION-I OF GENERAL CONDITIONS OF CONTRACT)

1	NAME OF THE TENDERER WITH ADDRESS	
2	NATURE OF THE FIRM	LIMITED / PARTNERSHIP / PROPRIETARY
3	EMD DETAILS (Rs. 1.0 LAC BY DD ONLY OR ONE TIME EMD)	
4	VALIDITY OF OFFER (REQUIRED 12 MONTHS FROM TENDER OPENING DATE)	
5	MOBILIZATION TIME (one week before shutdow)	
6	WHETHER NO DEVIATION CERTIFICATE FURNISHED	YES NO
7	TENDERER HAS VISITED THE PROJECT SITE AND ACQUAINTED WITH THE SITE CONDITIONS	YES NO
8	DETAILS OF CONCURRENT JOBS ARE FURNISHED (AS PER RELEVANT APPENDIX)	YES NO
9	HEAD QUARTER'S ORGANISATION IS FURNISHED	YES NO
10	PROPOSED SITE ORGANISATION IS FURNISHED	YES NO
11	FINANCIAL STATUS OF THE COMPANY (ANNEXURE 'A' OF GCC) IS FURNISHED	YES NO
12	MANPOWER DEPLOYMENT PLAN (AS PER RELEVANT APPENDIX) IS FURNISHED	YES NO
13	ANALYSIS OF UNIT RATES QUOTED (AS PER RELEVANT APPENDIX ) IS FURNISHED	YES NO
14	POWER OF ATTORNEY ENCLOSED IN FAVOUR OF PERSON MAKING OFFER.	YES NO
15	PROGRAMME FOR THE SUBJECT WORK FURNISHED	YES NO
16	BIDDER HAS FAMILIARIZED HIMSELF WITH ALL RELEVANT LOCAL LAWS & CONDITIONS.	YES NO
17	WHETHER ALL THE PAGES OF THE TENDER DOCUMENTS ARE READ, UNDERSTOOD AND SIGNED	YES NO

18	<p>WHETHER THE FOLLOWING DETAILS PERTAINING TO YOUR BANK ACCOUNT DULY ENDORSED BY THE BANK HAVE BEEN FURNISHED {TO ENABLE BHEL RELEASE PAYMENTS THROUGH ELECTRONIC FUND TRANSFER (EFT/RTGS) AS SPECIFIED IN SECTION 12 }</p> <ol style="list-style-type: none"> <li>1. Name of the Company</li> <li>2. Name of Bank</li> <li>3. Name of Bank Branch</li> <li>4. City/Place</li> <li>5. Account Number</li> <li>6. Account type</li> <li>7. IFSC code of the Bank Branch</li> <li>8. MICR Code of the Bank Branch</li> </ol> <p>NOTE: In case Bank endorsed certificate regarding above has already been submitted earlier, Kindly submit photocopy of the same</p>	YES	NO
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NOTE : STRIKE OFF YES OR NO, AS APPLICABLE

DATE :

SIGNATURE OF TENDERER

## DECLARATION BY BIDDER'S AUTHORIZED SIGNATORY

**TENDER SPECIFICATION No. PW/NGP/PUR/SER/12/020**

I, \_\_\_\_\_, HEREBY CERTIFY THAT ALL THE INFORMATION AND DATA FURNISHED BY ME WITH REGARD TO THIS TENDER SPECIFICATION ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I HAVE GONE THROUGH THE SPECIFICATIONS, CONDITIONS AND STIPULATIONS IN DETAIL AND AGREE TO COMPLY WITH THE REQUIREMENTS AND INTENT OF THE SPECIFICATION. I FURTHER CERTIFY **THAT I AM DULY AUTHORISED REPRESENTATIVE OF THE UNDERMENTIONED BIDDER AND A VALID POWER OF ATTORNEY TO THIS EFFECT IS ALSO ENCLOSED.**

DATE:

SIGNATURE OF AUTHORIZED SIGNATORY WITH SEAL

## **CERTIFICATE OF NO-DEVIATION**

**TENDER SPECIFICATION No.: PW/NGP/PUR/SER/12/020**

I/WE, M/s .....

HEREBY CERTIFY THAT NOTWITHSTANDING ANY CONTRARY INDICATIONS/ CONDITIONS ELSEWHERE IN OUR OFFER DOCUMENTS, I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE IS ANY DEVIATION TAKEN FROM THE CONDITIONS OF BHEL'S TENDER SPECIFICATIONS, EITHER TECHNICAL OR COMMERCIAL, AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN BHEL'S TENDER SPECIFICATION WITH ASSOCIATED AMENDMENTS AND CLARIFICATIONS.

Date:

Signature of the Bidder

**CERTIFICATE CONFIRMING BIDDER'S  
KNOWLEDGE ABOUT SITE CONDITIONS**

**TENDER SPECIFICATION No. PW/NGP/PUR/SER/12/020**

We, M/s .....

hereby declare and confirm that we have visited the project site as referred in BHEL's Tender Specification under reference above and acquired full knowledge and information about the site conditions. We further confirm that the above information is true and correct and we shall not be eligible for any additional payment of any nature due to lack of knowledge or non-familiarization of site conditions.

BIDDER'S NAME AND ADDRESS: .....

PLACE  
DATE:

SIGNATURE & OFFICIAL SEAL OF BIDDER'S  
AUTHORISED SIGNATORY

### SECTION-3

#### OFFER OF THE BIDDER

To,  
Regional Service Manager  
Bharat Heavy Electricals Limited  
Power Sector - Western Region  
Shreemohini Complex  
345, Kingsway  
Nagpur 440 001

Dear Sir,  
Sub: Offer against Tender Specification No. **PW/NGP/PUR/SER/12/020**

I/we hereby offer to carry out the work detailed in the tender specification issued by Bharat Heavy Electricals Limited, Power Sector-Western Region, Nagpur, in accordance with the terms and conditions thereof.

I/we have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Instructions to bidders.
2. General conditions of contract
3. Special conditions of contract
4. Other sections, appendices, schedules and drawings.

I/we have deposited / forwarded herewith the requisite Earnest Money Deposit (EMD) details of EMD payment are furnished in the check list.

EMD shall be refunded should our offer not be accepted / EMD need not be refunded and the amount may be treated as "one time EMD" for erection and commissioning tenders of BHEL-PSWR, Nagpur. Should our offer be accepted, i/we further agree to deposit security deposit for the work as provided for in the tender specification within the stipulated time as may be indicated by BHEL, Power Sector-Western Region, Nagpur.

I/we further agree to execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

Place:  
Date:

Signature of bidder:  
Address:

Witnesses with their address

Signature	Name	Address
1.		
2.		

## **SCOPE OF WORK**

### **1.0 BRIEF SCOPE OF WORK:**

- a. Overhaul of Boiler pressure parts
- b. Overhaul of Burner system
- c. Overhaul of PA fans, FD fans & ID fans
- d. Overhaul of Ducts & Dampers/Gates, Expansion joints
- e. Overhaul of Bowl Mills
- f. Overhaul of Raw Coal Feeder
- g. Overhaul of Valves & actuators
- h. Overhaul of ESP
- i. Replacement of Economiser
- j. Replacement of LTSH
- k. Replacement of Reheater
- l. Replacement of S-Panel. ( Unit # 7 only )

The detailed scope of work for the subject work is as enclosed in Annexure-I.

### **2.0 PERIOD OF COMPLETION:**

Entire works as per Annexure-I are to be completed within a period of **40 days** from the date of start of work till completion of all activities. It is to be noted that time is essence of the contract and the job should be completed to the fullest satisfaction of BHEL within the specified time period. In the event of delay in completion of the job, action will be taken as per relevant clauses of contract.

### **3.0. MAN POWER & T&P: (as per Annexure III)**

- a. Adequate manpower, T&P along with consumables should be deployed at site and should reach the site immediately on placement of LOI. All the lifting tools /measuring instruments shall be duly tested / calibrated and valid certificate to that effect should be submitted to BHEL Site In-charge before start of the work.
- b. A deployment plan along with experience and name of the Site In-charge, Engineers, Supervisors, Foreman and main technicians to be submitted on per shift basis.
- c. Two office boys in each shift are to be provided for BHEL site office and two cook for BHEL mess to be provided.
- d. **Special Manppower** :Successful bidder has to engage ex-BHEL Engineers one for each area (i.e. Sl. No. - a to l) with more than 25 years of experience in erection & overhaul of Boiler pressure parts & auxiliaries during entire overhauling period in consultation with BHEL. In case of failure of deployment of above engineers, a deduction of Rs.4,000/- per day for each engineer shall be made from the bills by BHEL. The above engineers are required three days before start of work and three days after full load operation of the machine.

### **4.0. TOOLS AND TACKLES:**

Ref. Clause 3.6 of General & Special condition of contract. List of anticipated tools and tackles required for the above jobs are as indicated vide Annexure-III of the enquiry letter.

All the tools and tackles/measuring instruments shall be duly tested/calibrated and valid certificate to that effect should be submitted to our site in-charge before the start of work.

## 5.0. CONSUMABLES:

Please refer clause 3.6 of 'General & Special condition of contract.

List of anticipated consumables are as indicated vide Annexure IV of this enquiry letter.

## 7.0 RATES:

Bidders should quote lowest and most competitive lump sum price for total works (Sl. No. 1 to 11) and based on this value evaluation for L1 shall be decided. The lump sum prices for each activity shall be calculated on the Percentage mentioned keeping quoted price as 100%.

Following percentages shall be operated for various parts of work.

SNo.	Description	Percentage
1.	Overhaul of Boiler pressure parts	9
2.	Overhaul of Burner system	9
3.	Overhaul of PA fans, FD fans & ID fans	9
4.	Overhaul of Ducts & Dampers/Gates, Expansion joints	8
5.	Overhaul of Bowl Mills	11
6.	Overhaul of Raw Coal Feeder	3
7.	Overhaul of Valves & actuators	5
8.	Overhaul of ESP	8
9.	Replacement of Economiser	13
10.	Replacement of LTSH	11
11.	Replacement of Reheater	14
12.	Replacement of S-Panel ( For Unit# 7 Only)	15% of Sl.No 1-11

Rates quoted by the bidder should be exclusive of Service Tax on applicable scope of work and the Service Tax shall be reimbursed on submission of the following documentary evidence:

1. Claim for reimbursement of service tax.
2. The claim should indicate clearly the serial number of document, date of issue, description and value of the service on which service tax is claimed
3. The service tax paid along with challan copy.
4. Service tax registration no.

### Note:

- Certain deficiencies may get revealed only after dismantling of components and may not be detailed in the scope of work of tender enquiry. Any work arising out of such site requirement and for successful completion of the work shall have to be taken up by the contractor without any extra cost subject to a maximum of 10% of the main contract value.
- **If any work / activity mentioned in the scope of work is not carried out due to any reason like non-availability of materials/spares, etc., appropriate deduction mentioned against that activity shall be effected from contractor's bill.**

## 8.0. EXTRA/ ADDITIONAL WORKS:

In case BHEL decides to do any additional work by engaging your manpower, then average man-hour rate (inclusive of your profit, overhead, supervision, normal T&P and consumables) @Rs.60/-



will be paid. The same rate is applicable for overtime hours also. Alternatively BHEL may also offer to carry out the extra/additional work on lump sum rate basis, the discretion of operating the basis of man-hr rate or lump sum rates lies with BHEL. The lump sum rate will be decided on mutual agreement between the subcontractor and BHEL.

## **9.0. TAXES AND DUTIES:**

9.1. Refer to Clause 2.8.4 of General Conditions of Contract wherein it has been mentioned as follows:

“The Contractor shall pay all Taxes, Fees, License charges, Deposits, Duties, Tolls, Royalty, Commissions or other charges which may be levies able on account of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills OR otherwise as deemed fit”. Notwithstanding the aforesaid, following provisions shall be applicable for this contract.

### **9.2. Service Tax & Cess On Service Tax:**

Service Tax and Cess on it are excluded from contractor scope; therefore contractor's price/rates shall be exclusive of Service Tax and Cess on Service Tax “.

In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the service tax from BHEL and deposit the same with the concerned tax authorities, the will be paid by BHEL. Contractor shall submit to BHEL documentary evidence of service Tax Registration and remittance record of such tax immediately after depositing the tax with concerned authorities. Contractor shall obtain prior written consent from BHEL before billing the amount towards such Taxes.

With introduction of Cenvat Credit Rules 2004 which came into force w.e.f. 10.09.2004, excise duty paid on input goods including capital goods used for providing the output service and service tax paid on input services can be taken credit of against the service tax payable on output service. As such, while offering their rates, the bidders may take into account the benefit of the above provision as the cost of input to the bidders will be the cost net of excise duty and services tax and adjust their offer price accordingly to make it competitive.

## **10.0. Payment Terms**

Clause 3.4.1 of General and Special Conditions of Contract stands amended as below:

Invoice may be claimed mentioning all activities and percentage allotted to the each activity as per price schedule:

- 1.0 15% after the mobilization site with adequate deployment of man power, T & P and consumables, submission of Insurance & Labour License and completion of IBR formalities. Penalty of 1% per day of the total contract value will be levied for improper mobilization of man power and 1% per day for T & P and consumables separately subject to maximum 10% of the contract value shall be deducted from the bill.
- 2.0 30% after completion of dismantling activities including removal of drum internals.
- 3.0 35% after completion of erection activities and hydraulic test.
- 4.0 10% on Boiler light up /commissioning.
- 5.0 Final 10% after site clearance with disposal of all cut materials / scrap and on submission of all the documents like no dues certificate from Customer, EPF challan, Insurance, Labour License, Labour Payment sheets etc).

Note: While submitting invoices, Vendor should mention their Bank Account No. on each of their Invoices for making e-payment.

### **Retention money:**

1% of the total contract value will be retained while releasing the first RA bill as a security for observing Safety measures at site and the same will be released along with final bill on certification by Site in charge after effecting recovery if any towards violation of safety norms as per tender enquiry.

Bills due for payment shall be submitted to the Engineer in-charge of BHEL at site for necessary verification and processing through proper channel. It may be noted that payment will be released from the office of the RSM/Nagpur after minimum fifteen days from the date of receipt of the duly verified bill from site.

**11.0. Expected date of commencement:**

**Work on all fronts to be started immediately.**

**12.0. Mobilization of site:**

The requisite manpower, consumables, T&P, etc. have to be mobilized immediately so that the work can be started from day one with full force.

It may be noted that mobilization of man power, consumables and T&P is not done as per the agreed terms by contractor then a penalty of 25% as specified in terms of payment will be imposed by BHEL.

BHEL decision will be final and binding regarding penalty to be imposed for the delay of work.

**13.0. Validity:**

Your offer should remain valid for twelve months from the date of opening of the tender.

**14.0. Statutory Inspection**

Please refer cl. 2.8.3 of 'General and Special Conditions of Contract'. In addition to it the scope includes getting the approvals from the statutory authorities (like IBR, smoke nuisance inspector, anti-pollution authorities, labour officials). This includes arranging for inspection visits of such authorities periodically as per requirement, submitting documents etc. and payment of fees connected with it.

**15.0. Quality:**

Please refer to annexure – V enclosed herewith.

**16.0. Safety:**

**Strict Safety measures have to be followed at Site.**

Ref. Annexure VII, Contractor shall also adhere to all the safety provisions of our customer. In case violation of any provision at site fine of Rs.500/- to Rs.2000/- at the discretion of our site in-charge shall be imposed for each of such occasion and shall be recoverable from the contractor's bill.

**17.0. Defect liability period:**

**Six months** from the date of commissioning of the unit. Clause 2.13 of general and special conditions of contract stands modified to that effect, keeping remaining portion of the clause unchanged.

**18.0 Security Deposit**

Please refer Clause no. 1.8 to 1.8.9 of our "General and special conditions of contracts".

**19.0 Other terms and conditions**

- 1.0 A copy of tender document with each page duly signed and stamped shall be submitted along with your offer as a token of your unconditional acceptance to this tender condition. Also any deviation to the tender conditions shall be submitted in a separate paper duly signed by the bidder, any overwriting / correction by the bidder on the tender will not be recognized and the offer may be rejected on this ground.
- 2.0 'General and special conditions of contract' enclosed herewith will be fully applicable, except otherwise stated in this enquiry. In case of any conflict, the conditions specified in this enquiry letter will prevail over that of the 'General and special conditions of contract'.

## 20.0 Special terms and conditions

### ***This tender is for 2 Units of 210MW of Satpura Sarni MPPGCL (UNIT#7&9)***

1. Tender specification is common for both the Units.
2. Both the Units shall be awarded to separate agencies, subject to instructions given at Point 9.
3. Scope of work for Both the Units are identical except additional work of **"Replacement of S-Panel"** in Unit#7
4. Price Bid is invited **only for Unit#7 (without Replacement of S-Panel)** . Price Bid comprises of Part A which includes "Overhauling of Boiler & auxiliaries, LTSH, Economizer, Reheater coils"; Bidders are requested to quote Prices **only for Part A**.
5. Lumpsum price for the "Replacement of S-Panel" shall be **15 % of the Lumpsum price** quoted by the bidder for "Overhauling of Boiler & auxiliaries, LTSH, Economizer, Reheater coils" of price bid specification (Part A).
6. Bidders shall not quote any rate for the 'Replacement of S-Panel'.
7. L-1 bidder shall be considered for award of UNIT#7 (Inclusive of Replacement of S-Panel).
8. For the award of UNIT#9 (Without Replacement of S-Panel), next bidder in the order of their price competitiveness (i.e L-2, then L-3 and hence forth) shall be given an option to match their Lumpsum rate, with the Awarded/finalized Lumpsum rate of UNIT#7.
9. In case none of the bidders agree to match the Awarded Lumpsum rate of UNIT#7, then BHEL may consider awarding the UNIT#9 (except Replacement of S-Panel) to L-1 bidder or opt any other suitable method to finalize Unit#9.

Thanking you,

Yours faithfully,

Manager (Coml. & Pur)

Encl: As Above

**DETAILED SCOPE OF WORK:****OVER HAULING OF BOILER & AUXILIARIES**

**Main scope of work:-**Overhauling of Boiler Pressure Parts, Burner System, ID Fans, FD Fans, P.A. Fans, Repairing of Ducts & Dampers, Bowl Mills etc.

**A. BOILER PRESSURE PARTS:**

- a) External cleaning of Boiler by Water Washing (up to Floor)
- b) Erection of scaffolding in stages inside furnace up to roof radiant tube, SH, RH and 2<sup>nd</sup> pass area as required to cover all pressure parts area for external surface cleaning by high pressure water jet, inspection, D-metering and tube replacement of the Boiler wherever required. The cup lock /scaffolding should be with provisions of platforms at every 3 to 3.5 meter with railing supports and stair case for easy access to tube /coils.
- c) High pressure water jet cleaning of Boiler followed by wire brush & scrubber cleaning if, surface is not properly cleaned high pressure water jet pump to be used. Checking of pressure parts for erosion /cracks or any other abnormality & replacement /rectification.
- d) Dismantling, cleaning, inspection of drum internals, replacement /repairing of damaged components, Re-fixing and re-aligning and NDT (UT or DPT) of welding joints and other components and repair and rectification, Through cracking /cleaning of CBD line, chemical lines, sampling lines. Collection of drum deposits for testing.
- e) Through cleaning of bottom ring header by cutting the drain pipes and re-welding.
- f) Through checking of Eco, Steam cool wall header stub joint and rectification.
- g) Thickness survey of pressure parts tubes by De-metering. Thickness survey will have to be carried in the following erosion prone area after cleaning the surfaces by wire brush /buffing wheel.
  - 1) Water Wall : Burner transition tubes, S-panel lower & upper bends & straight tubes. Goose neck bends, side wall bends straight portion near ring header, upper corner transition tubes, bends of peep & manhole, soot blower holes, hanger tubes, rear arch wall tube bends.
  - 2) Platen water wall: All bends & coils including straight portion checking and rectification.Note: Adequate no. of D-Meters to be arranged by the contractor.
- 3) SH/RH/Platen SH/Final SH : Through de-metering /inspection and necessary replacement inside pent house header including straight portion and offset bends and dissimilar joints.  
All re-heater offset bend protection Sleeves to be fixed up. All stubs of inlet /outlet header to be checked and if required to be replaced.
- 4) Screen Tubes: Through de-metering of screen tubes (WW, SH) and replacement of defective tubes and replacement of all protection sleeves. After removal of existing Protection sleeves, all tubes to be thoroughly checked and replaced.

- 5) LTSH /Supply Tubes & Bends.:  
All stubs to be thoroughly checked by DPT, UT or by other modern method as per IBR. Replacement of all LTSH supply tubes bends and straight tubes. Through de-metering /inspection and necessary replacement / repair of bends facing flue gas path of LTSH including straight portion and bends and through inspection and joint in between LTSH and economizer hanger tube.
  - 6) Steam Cooled Wall /Screen Tube :  
All stub joints of header No. 4L 4R, 5 and 8 are to be thoroughly checked by DPT, UT and other modern method and rectification. All bends including offset bends and straight tubes and bends of header if found eroded are to be replaced. Proper laying of refractory is to be ensured in steam cool area and LTSH supply tube area.
  - 7) Steam Cooled Spacers :  
Spacer tube, straight portion and bends to be replaced.
  - 8) Wall Blower Area :  
Water wall tubes around wall blowers for through de-metering and rectification and replacement if necessary.
  - 9) RANDOM DP TEST & NDT :  
For platen SH, Final SH & RH, Platen water wall header.
  - 10) ROOF RADIANT TUBES :  
Sagging portion of tubes are to be replaced. If complete set of radiant roof tubes are available with customer same are to be replaced as per standard procedure.
  - 11) Replacement of tubes based on inspection carried out.
    1. All the joints to be of HP welding of root by TIG and subsequent MAW.
    2. Tangent /fins /wear bar welding wherever applicable -2500 mtr.
    3. 100% Radiography for tubes repair if any and stress relieving as per IBR norms.
    4. Radiography of 2000 no. of old approachable joints to be done in first week of overhaul.
2. Replacement of complete economizer coils (270 Nos.)
  3. Replacement of complete LTSH coils 134 Nos,
  4. Replacement of Reheater coils
  5. Replacement of Super heater, De-superheater assembly 2 Nos. Necessary preheating and stress relieving to be done.
  6. Replacement of damaged / worn out platen coil seal box, tie rod, crown plate & connected support in pent house.
  7. Replacement of complete S-panel assembly (front & rear) till at the bowed portion of W/W tube area. Activity includes replacement of supporting channel & the tie rod for S-panel. All the header stub joints of S-panel are to be checked through DPT &UT and other modern method as per IBR. Fixing of wear bar is to be done if same are not available with tube. Restoration of ring header to its position.
  8. Fabrication of H.P. tube bends by cold bending machine as per requirement. Contractor shall arrange bending machine.
  9. Replacement of water wall soot blower line, Super heater drain lines, common drain header of spray drain. RH /SH spray drain line.

- 10 Replacement of SH and RH spray line as per requirement.
- 11 Measurement of bowing at furnace water walls and necessary correction by replacement of tubes as much as possible from 15m elevation to 40m elevation.
- 12 Inspection of cassette baffle, roof shield and erosion protection shield for Superheater screen tubes, water wall screen tubes, Superheater, Reheater and fixing the same if found missing /eroded.
- 13 Checking of buck stay links and corner connections (supporting pins, gussets plates etc.), Seismic guides of down comers, furnace guides, leveller guides and their rectification as required, Checking of scalloped bars, stirrup plates of buck stay channels and repairing /replacement if necessary. Removal of insulation and re-insulation after necessary correction to be done.
- 14 De-insulation and re-insulation as required facilitating tube replacement.
- 15 Replacement of damaged insulation of boiler 1<sup>st</sup> & 2<sup>nd</sup> pass limited to 3000 Sq. M.
- 16 Recasting of damaged castable refractory in the pent house, cat house, dead chamber etc. Including bottom hopper limited to 50MT and repair of pent house including roof to achieve zero leakage. De-insulation and re-insulation of critical pipe like main steam, Hot and Cold Reheat feed discharge line shall be limited to 1500 Sq.M.
- 17 Checking /cleaning of sampling lines of main steam, hot /cold reheat, drum and rectification /replacement of the same.
- 18 Through inspection of hanger support of all headers and connecting pipes in pent house, cat house and dead chamber and their rectification /adjustment /replacement as required.
- 19 Through inspection of hanger of all critical piping like main steam, HRH, CRH and comers, feed lines and their rectification /adjustment /replacement as required. Hot & cold readings of above hangers are to be taken and adjustment of hangers to be done based on cold reading.
- 20 Assistance during Hydro-test. Installation of test plugs for hydro test and installation of disc in place of test plug after hydro test.
- 21 Removal of scaffolding after successful hydro-test.
- 22 Box up of drum internals including boxing up of all manholes and peep holes by providing new seals and packings, rectification /replacement of peep holes if required.
- 23 Repairing /replacement of bottom ash hopper woven wire mesh including trough seal checking and rectification as required and recasting of damaged refractory.
- 24 Providing hanging scaffolding (Four numbers) at Roof Radiant.
- 25 Through Cleaning & repairing of pent house, Cat house, Dead Chamber & Economizer hoppers, APH hopper.
- 26 Cleaning and removal of ash from pent house, Cat house, Dead Chamber & transportation of the same through disposal chute.
- 27 Complete repair and sealing work of boiler in pent house. Cat house, Dead chamber, skin casing, and Expansion joint. SH/RH crown plate, Roof support and after repairing there should not be any leakage.
- 28 Inspection of dead space for structural stability and any deformations, if any, will have to be rectified as much as possible.
- 29 During air tightness test if any leakage is found it is to be rectified as per requirement.
- 30 Cleaning of economizer hoppers and APH hoppers, and complete repairing with new plates of hoppers including supports. Repairing /Replacement of economizer /

air preheater flushing apparatus, associated pipe lines. Thorough repairing of economiser ash trench and its drain pipe.

- 31 External cleaning of Boiler by water washing and transportation of accumulated ash /debris from work site to ash disposal area.
- 32 Servicing /Fitting /alignment of wall deslaggers and long retractable soot blowers. Wall deslaggers – 48 Nos and LRSB.

**Note:**

1. Entire quick erection cup lock scaffolding materials is to be used and arranged by contractor.
2. S-panel scaffolding should be fully covered to prevent falling of debris into hopper & to facilitate work inside bottom hopper. Safety nets to be provided at three elevations.
3. High pressure water jet pump to be arranged by contractor.
4. 100% Radiography, Pre-heating, Post Weld Heat Treatment of HP weld joints as applicable shall be done.

**B. OVERHAULING OF BURNER SYSTEM**

1. Cleaning of wind box and inspection for any damage and repairing of leakage, if any including expansion joints repair.
2. Inspection, repair of SADC dampers including seals and ensuring mechanical freeness and full open /close of the dampers.
3. Making free and repairing of AA dampers and oil fuel air dampers.
4. Checking and repairing of supporting truss in wind box.
5. Dismantling /repair /replacement of coal and air nozzle assembly along with fuel inlet elbow.
6. Dismantling of oil burners.
7. Inspection of coal and air nozzle and oil burner components.
8. Replacement /repair of damaged /worn out parts and their reassembly. Hard facing of coal nozzle, divider plates, nozzle tips as required.
9. Assembly of coal and air nozzle assembly.
10. Servicing and assembly of all oil burners (12 Nos).
11. Oil line, oil hydro motors, steam hydra motor, air hydra motors, steam tracing lines-servicing /replacement-12 Nos each of oil air, steam, replacement of steam tracing and steam line. Servicing /replacement within Boiler-Firing Area is included within the Scope.
12. Final satisfactory operation checking in loaded condition.
13. Adjustment of SADC dampers.
14. Adjustment of Coal /air nozzle, oil burners.
15. Partition plate and Expansion joints of wind box to be checked and repaired.
16. Rectification of wind box leakages and damaged area of wing box. Replacement of secondary air duct worn out portion from A/H to furnace.
17. Alignment of fuel inlet elbow with coal pipes.

**C. OVERHAULING OF ID FANS:**

1. Checking and repairing of conical cover, impeller seals (replacement if required) including hard facing of impeller & replacement of internals like exchangeable vanes etc. Checking and servicing of IGV assembly and replacement as per requirement. Internals repairing /replacement of fan casing and support.

2. Erection of scaffolding required for execution of work wherever required.
3. Replacement of ID fan shaft, impeller coupling set (Motor & Fan both) if required.
4. Checking of fan /motor bearings foundation and thereafter rectification.
5. Checking /replacement of fan & motor Bearings.
6. Alignment of fan with motor.
7. Servicing and cleaning of Lube oil and replacement of lube Oil pump, if required and water system including coolers and replacement of cooling water lines and valves.
8. Removal of scaffolding and commissioning of the fans including dynamic balancing.
9. After trial run any defect has to be rectified.
10. For ID fan 7A Bearing pedestal correction for alignment, bearing height etc. However, all civil works such as breaking of old grouting & recasting of grouting including materials shall be within the scope of MPPGCL.

#### **D. OVERHAULING OF FD FANS:**

1. Dismantling, inspection & servicing of pitch control mechanism /servomotor.
2. Inspection of fan inner and outer bearings, replacement if required.
3. Levelling of shaft.
4. Reassembly of servomotor /replacement of servomotor.
5. Checking of radial clearance of blade tips, blade condition and replacement if necessary.
6. Replacement of fan bearing if required, replacement of coupling set if required.
7. Alignment of fan with motor and coupling.
8. Servicing & cleaning of lube oil & water system including coolers and replacement of cooling water lines and valves & repair /replacement of lube oil pumps.
9. Replacement of blades.
10. Replacement of rubber expansion joint.
11. Replacement /cleaning of air element suction filter.
12. Trial run of the fan including dynamic balancing.
13. After trial run any defect has to be rectified.

#### **E. OVERHAULING OF PA FANS:**

1. Checking /replacement of impeller.
2. Checking /replacement of shafts.
3. Through cleaning of fan suction strainer.
4. Checking /replacement of impeller seal and rectification. Replacement of coupling set if required.
5. Checking /replacement of Bearings.
6. Alignment of fan with motor and coupling.
7. Servicing /replacement of lube oil system including coolers of Fan & motor side.
8. Servicing and cleaning of lube oil & water system including coolers and replacement of cooling water lines.
9. Servicing /replacement of IGV in total and replacement of components, if required.
10. Repairing of casing as required.
11. Trial run of the fan including dynamic balancing.



12. Installation and commissioning of Guillotine isolating gates at discharge duct. All works related to installation of Guillotine isolating gates will be in the scope of contractor including fabrication of structure etc.
13. After trial run if any defect observed has to be rectified.

#### **F. DUCTS AND DAMPERS:**

1. Removal of accumulated ash from the ducts.
2. Erection of safe and suitable scaffolding.
3. Through inspection and replacement / repairing of fuel gas duct as well as expansion joints from Eco. Outlet of APH inlet, repairing of interconnecting duct between APH & APH outlet to ESP inlet including isolating gates & dampers, ESP outlet to inlet to Chimney including duct after ID fan, Mill hot and cold air duct repairing thoroughly.
4. Through inspection and repairing of PA duct from PA fans outlet to APH inlet, From APH outlet to Hot PA Header, PA Header to Cold PA Header including Expansion joints upto coal mill.
5. Removal of insulation and re-insulation after thermo scanning to 3000 Sq. M.
6. Through inspection and repairing of SA duct from FD fans outlet to APH inlet APH outlet to wind box including Expansion joints.
7. Through inspection and repairing of wind box L & R including Expansion joints after removal of insulation and after repairing re-insulation.
8. Through inspection and replacement of all ducts supports with proper size of angle and pipe and Eroded / corroded plates to be removed by new plates and applicable to all duct.
9. All expansion joint have to be guarded with MS sheet to avoid erosion of the same as per requirement.
10. Repair /replacement of economizer flushing apparatus & hopper.

#### **G. SERVICING OF THE FOLLOWING DAMPER /GATES.**

1. ID Fan suction and discharge dampers – 6 Nos.
2. FD Discharge (APH inlet, outlet, interconnecting) – 2 Nos.
3. PA Discharge (APH inlet & outlet) – 6 Nos.
4. APH outlet dampers to Mill inlet, hot & cold air damper – 12 Nos.
5. Mill hot air gate & cold air gate. – 12 Nos.

#### **Activities involved**

- ✚ Removal of accumulated ash from the damper area.
- ✚ Erection of safe and suitable scaffolding.
- ✚ Repairing / replacement of damper blades /flappers.
- ✚ Flappers of the dampers are to be set properly so that there is no passing.
- ✚ Calibration of dampers for full open and full closed position with actuator.
- ✚ In case deflector blades are totally eroded then the same have to be fabricated from 6mm / 8mm S.S. plate / M.S. plate.
- ✚ Any other related job not specifically stated but required for successful completion of work has to done.

#### **REPLACEMENT OF FOLLOWING DAMPERS**

- i ID fan suction damper 2 Nos.

- ii ID fan discharge damper 2 Nos.
- iii FD fan discharge damper 2 Nos.

#### Activities involved

- Erection of safe and suitable scaffolding.
- Properly support the inlet and outlet flange of duct.
- De-insulation and re-insulation of dampers area.
- Dismantling of old dampers
- Transportation of new dampers from store.
- Placing of new dampers
- Tightening the fasteners.
- Fixing of actuator
- Make free operation of dampers with actuator with full open and full close.
- Any other related job not specified but required for successful completion of work has to done.

#### H. **OVERHAULING OF RAW COAL FEEDERS – 06 NOS.**

1. Complete Overhauling of coal feeders which includes, but not limited to checking, cleaning, repair, replacement of hinge gate system, feed pipe coupling, feed roll bush and bearing replacement both coal gate system, coal inner gate mechanism, SS liner, window and peep holes, repairing and hard facing of chute below coal feeder including gear box.
2. Replacement / rotation / repairing of center feed pipe and discharge chute by removing worn out center feed pipe including welding – 06 Nos.
3. Repairs / Replacement of P.F. Bends and Pipes. 350 mtrs. Pipe & 100 nos bends
- 3.1. Replacement of P.F. bend – Removal of worn out or patched P.F. bands. Replacement and realignment of new bends. Welding of collars and / or coupling of bends as per requirement.  
Repairing of PF bend and straight pipe by patch welding / replacement if necessary.
- 3.2. Cutting of required size patches from old unserviceable coal pipes / bends and welding of patches wherever required.  
Making all PF pipes line leak proof during initial operation.
- 3.3. Reversal of coal pipe bends after due repairing.  
Welding of the same to the adjacent coal pipes by providing PF collar / coupling, suitable supports to be provided if required.
- 3.4. Replacement of straight pipe. This includes ceramic straight pipe of length 1 and 1.5 meter as per direction of Engineer in charge.
- 3.5. Rotation of straight coal pipes by 180 degree including welding and coupling and providing hanger support as per requirement.
- 3.6. Changing of coal pipes Victaulic coupling gasket etc. Decoupling replacement of new coupling gaskets and coupling of the same with proper gap and alignment.
- 3.7. Servicing of coal pipe hanger including repairing.  
Fabrication of clamps, from given M.S. plate/ M.S. flat by cutting and bending.  
Mounting of clamps, providing supporting rod (hanger) with proper alignment.

#### **I. AOH OF COAL MILLS**

1. REPLACEMENT/ REPAIRING OF MILL TOP, MDV, MPO etc – 06 Nos.
  - a. Dismantling of MDV, MPO, Orifice, MPO plates and ventury including coal pipe up to 500 mm.
  - b. Repairing and hard facing

- c. Refitting of new prepared MDV, MPO, Orifice, MPO plates and ventury.
    - d. Replacement / Repairing of inner cone and servicing of classifier.
  - 2. REPAIRING / REPLACEMENT OF BOTTOM INSULATION PLATE – 04 SET
    - a. Removal of old bottom insulation plate and mill side bottom inners.
    - b. Fitting of insulation plate after proper application of insulation.
    - c. If the bottom insulation plate are not available , fabrication of insulation plate by cutting it from 10/12 mm M.S. sheet.
  - 3. REPAIRING / REPLACEMENT OF AIR DIVERSION PLATE – 06 MILLS
    - a. Cleaning of the clinker / coal. Repairing of diversion plate or replaced the same after cutting the old diversion plate (New diversion plate should be fabricated by 16 mm M.S. plate.)
  - 4. REPLACEMENT OF MILL SIDE BODY LINER – 03 MILLS
    - a. Fitting of body liner and placing of insulation puff and fitting of vane wheel / air port assembly.
  - 5. REPAIRING OF MILL BODY AND SEPARATOR LINERS – 06 MILLS
    - a. Replacing of mill separator body by insulation of 16/18 mm M.S. plate after bending after filling the cavities by 5 mm hard facing electrodes.
  - 6. REPLACEMENT OF BRACKET PLATE OF GRINDING ROLLS – 06 MILLS
    - a. Cutting of plate from M.S. plate of 16 mm
    - b. Welding of same with proper support.
  - 7. REPLACEMENT OF LOWER AND UPPER SKIRT AND SCRAPER ASSEMBLY – 03 MILLS
    - a. Removal of damaged upper / lower skirt and scrapper assembly from the mill as per requirement. Fitting of upper/ lower skirt and scrapper assembly.
  - 8. REPLACEMENT OF VERTICAL SHAFT UPPER BEARING OF MILL XRP-763 – 01 MILL
    - a. Scope of work as mentioned in Sr No. 1.24
  - 9. REPAIRING OF MILL BOTTOM AND FITTING AS GIVEN BELOW – 01 MILL
    - a. Dismantling of upper and lower skirt, Mill bottom cover.
    - b. Removing of bottom insulation plate and mill side bottom liner and mech. Seal.
    - c. Removal of 16 nos. bolts of mill bottom.
    - d. Lift the mill bottom and cleaning the GB cover top.
    - e. Tapping the 16 holes M-24/M-27 as per required sizes.
    - f. Refitting of all spares.
  - 10. CLEANING OF OIL COOLER LINES & SERVICING OF MAIN & COOLER ISOLATING VALVES – 06 NOS INCL. REPLACEMENT OF OIL COOLER WITH NEW ONE – 01 MILL
  - 11. REPLACEMENT OF ALL 5 BEARINGS OF COAL MILL (VERTICAL SHAFT AND WORM SHAFT) – 01 MILL
  - 12. ALIGNMENT OF MILL MOTOR WITH WORM SHAFT – 06 NOS.
  - 13. REPLACEMENT OF VERTICAL SHAFT THRUST BEARING (WHEN AUTOMATICALLY INVOLVED REPLACEMENT OF LOWER BEARING AND PUMP BUSH ETC.) – 01 NO.
  - 14. REPLACEMENT / REALIGNMENT OF WORM SHAFT RADIAL AND THRUST BEARINGS – 02 NOS.
  - 15. REPLACEMENT OF BULL RING SEGMENT AND ALL THREE GINDING ROLLS (MPSP / CONVENTIONAL) – 02 MILLS
  - 16. DISMANTALING, SERVICING AND REASSEMBLY OF MECHANICAL FACE SEAL – 02 MILLS
  - 17. REPLACEMENT, HARD FACING AND REPAIR OF AIR PORT ASSY AND INNER CONE – 06 NOS
- SCOPE OF WORK

REMOVAL AND REPAIRING OF AIR PORT ASSY AS WELL AS BOWL EXTENSION RING AND ITS WELDING ON MILL BODY AND ON BOWL AND HARD FACING OF BOWL EXTN. RING (REMOVAL OF GRINDING ROLL, PUTTING OF DUMMY IN PA CHAMBER CLEANING OF PA CHAMBER IS IN THE SCOPE OF CONTRACTOR AND REINSTALLATION OF GRINDING ROLL ASSY, SERVICING OF SPRING ASSY, JACK BOLT, SETTING THE SPRING COMPRESSION WITH THE HELP OF KIT. Special hard facing electrodes will be provided by MPPGCL for air port assy only.

18. REMOVAL, DISMANTLING, , BRG. REPLACEMENT, ALIGNMENT & REINSTALLATION OF ROLLER JOURNAL ASSY – 03 NOS

19. FABRICATION / REPLACEMENT / RAPAIRING OF EXPANSION JOINTS TO THE EXTENT POSSIBLE

- |  |           |
|--|-----------|
| a. W/box – SA connecting duct  | : 08 nos  |
| b. PA/ SA APH outlet, economizer outlet, pent house expansion joints | : 24 nos  |
| c. ESP inlet expansion joint   | : 16 nos  |
| d. ID fan suction and discharge expansion joint                      | : 24 nos  |
| e. F.G. A/H inlet expansion joint                                    | : 06 nos  |
| f. P.A. to mill inlet  | : 18 nos  |
| g. Expansion loop between SHHB and SHH4 L&R SHH-5                    | : 100 nos |

#### **J. SERVICING OF HIGH PRESSURE VALVES AND ACTUATORS**

List of valves and actuators to be serviced

- |   |         |
|---|---------|
| a. M.S. L&R & their bypass                          | 04 nos  |
| b. Electric / Pneumatic controller valve 40/65 Nb   | 14 nos  |
| c. Electric / Pneumatic controller valve 150/300 Nb | 11 nos  |
| d. Isolating valves 25 to 65 Nb                     | 130 nos |
| e. Isolating valves 4" and above                    | 08 nos  |
| f. Isolating valves ½"                              | 40 nos  |
| g. All safety valves S/H, R/H & Drum                | 09 nos  |
| h. Servicing of oil heating unit along with valves  | 01 unit |
| i. Replacement of boiler drum safety valves         | 01 nos  |
| j. Replacement of S.H. safety valves                | 01 nos  |
| k. Replacement of valve size ½" to 4"               | 30 nos  |

#### **K. OVERHAULING OF ESP**

1. Removal of accumulated ash & Water jet washing of ESP field internals
2. Visual inspection of ESP internals for defect/damage. Preparation of Status report. Submission of Bar chart, showing Overhauling activities to be taken up to EIC. Execution of overhauling activities as per mutually agreed programme.
3. Check for Ingress of any foreign material, field short circuit, damage of internals etc. Causing outage/ poor performance of field and corrective measures as required.
4. Checking for possible gas or air leakages at gasket connections and stoppage of the leakages specially at both inlet & outlet duct joints and rectification thereof.
5. Checking for corrosion where heat loss is greatest or gas temperature is low and replacement/repairing of the eroded parts.
6. Cleaning of all the ESP fields, insulation to assess condition and rectification thereof.
7. Checking for possible misalignment/wear and tear of internal components, checking of gaps between collecting plates by GO GAUGE and subsequent replacement of the defective

- parts for effective operation of ESP (like shock bars, shock bar guides, collecting & emitting electrodes, hammers, inner arm, GD screens, baffle plates support rod etc.)
8. Checking and maintenance of heaters and associated thermostat for shaft insulators/Support Insulators/ Hoppers etc. and replacement of the defective ones. Functional checking of thermostats using oil bath.
  9. Checking operation of all inlet & outlet dampers along with their motor actuators and rectification of troubles if found defective
  10. Complete overhauling, servicing, maintenance replacement (if required) of all rapping gearboxes including replacement (if required) as per requirement and instruction of EIC
  11. Checking operation of worm gear assembly. Rectification including replacement (if required) of the worm gear assembly
  12. Repair of inlet & outlet funnel for any leakage/damage noticed. On inspection to prevent ingress of rain water & dust leakage
  13. Stoppage of ash leakage from hoppers by removing damaged plate and insulation and re-fixing the same property.
  14. Repairing of insulator housing and isolator boxes and painting (with two coats primer and two coats of synthetic enamel grey paint after scrapping & de-rusting) of the same. Paint supply shall be in contractor's scope.
  15. Cleaning and water washing of ESP starting from ESP inlet duct (funnel) to ESP outlet duct (funnel), all hoppers, gas distribution baffles, all emitting and collecting electrodes and other allied zones.
  16. Inspection of collecting electrodes and rectification as required
  17. Inspection and replacement of damaged emitting electrodes with new ones wherever required
  18. Alignment checking of collecting/emitting electrodes and correction of healthy, collecting electrodes by light hammering and spot heating
  19. Inspection of shock bars, rectification and replacement as per requirement,
  20. Inspection of Collecting Electrode, Rapping mechanism (CERM) shaft, rapping hammer assembly etc. and replacement of damaged components as required
  21. Inspection of Emitting electrode, Rapping mechanism ( EERM) shaft, rapping hammer assembly etc. and replacement of damaged components as required
  22. Inspection of pin insulator/support insulator/shaft insulator and replacement as required
  23. Servicing of gear boxes of CERM and EERM
  24. Inspection/repair (patch repair) of gas distribution baffle plates and fabrication of deflection plates as per sample and fixing of the same as per requirement/instruction of EIC
  25. Inspection and replacement of GD screen as required
  26. Inspection and replacement of damaged pipe support at inlet & outlet funnel of ESP
  27. Inspection and replacement of damages hopper heaters as required. Total checking of heater circuit & servicing/replacement of heater JBS
  28. Assistance during commissioning
  29. Any de-cabling and re-cabling
  30. Servicing of CERM & EERM motors
  31. Ash transportation from work site to disposal area
  32. Any type of fabrication job as required for above scope of work
  33. Oil filtration of transformers
  34. De-Insulation and re-insulation work as per scope of duct and dampers

35. G.D. Test to ensure distribution of flue gas for efficient operation of ESP

36. MAINTENANCE OF ESP T-R SET

The works include checking of the bushings, cable box, radiator, conservator, Buchholtz relay, Silica gel breather, pipe joints, Oil Leakages, Explosion vents, winding and internals of ESP transformer, decanting of oil, cleaning of sludge in the bottom, BDV of oil re-filling of oil and re-assembly with replacement/repair of defective parts. In-situ Filtration of transformer oil of all the transformers in service and under scope of the contract 12 nos. TR set transformers and 3 no spare TR set transformers shall be carried by contractor. Arrangement/Hiring of suitable portable oil filtration machine its shifting/ replacement on ESP roof, power supply arrangement, operation & supervision during filtration, sample collection before and after filtration for testing shall be in contractor's scope. The scope shall include painting of the T-R Sets/Transformer with light gray to shade no.631 of IS-5 of semi gloss after scrapping & derusting

37. Providing assistance in carrying out the following tests as directed by BHEL.

- a) Air Drop Test
- b) Gas Tightness Test
- c) G.D. Test

Transformer/T-R set Testing : ( Insulation, Resistance, Magnetizing Current Ratio & Short Circuit test of Transformer and BDV Test of Oil Sample at 60KV)

## TERMS AND CONDITIONS:

- 1.0. Subcontractor should assure that the repair of the equipment covered in the scope of this offer will be conducted with the best of skills and know how available with Subcontractor and in conformance with the clearances and adjustments set forth in manufacture's drawing instruments and other information's furnished to Subcontractor.
- 2.0. The various setting, clearances, adjustments and benchmarks will be restored to the extent possible during rectification to the condition as per the erection and commissioning log sheets available with customer. If however we are not able to produce erection / commissioning log sheets, efforts will be made to attend the best possible parameter or the conditions as observed at the time of dismantling of the equipment in consultation with us.
- 3.0. Subcontractor must prepare PERT CHART/BAR CHART. Daily monitoring will be done jointly and log sheets of important activities should be noted down and signed jointly.
- 4.0. All the works shall be carried out as per the instructions and to the satisfaction of the Engineer In-charge.
- 5.0. The contractor will attend contributory to faulty and poor workmanship during commissioning and trial run of the equipment.
- 6.0. Guarantee / Warrantee: The work carried out shall be guaranteed for the **Twelve months** from date of commissioning towards performance of the machine. Subcontractor will have to give guarantee for the work carried out under the scope of work. Subcontractor will attend any failure on account of poor workmanship free of cost on priority. The subcontractor has to mobilize and attend the work as per customer shutdown programme.
- 7.0. Round the clock working under expert supervision shall be ensured by the contractor deploying two equal parallel strength of groups in 12 hrs. Shift with equal T&P for all the jobs so as to complete the work in stipulated period or earlier.
- 8.0. It is the responsibility of contractor to keep the plant, equipment, machinery and surrounding area clean.
- 9.0. The names of working persons like Site in-charge, supervisors, foreman, main fitters to be deployed during the job with full details has to be submitted stating their area of work and experience and specialization of the work to site in-charge before the start of work. BHEL may ask to change/delete the person not found suitable for the work at any point of time during execution of job. For any addition and deletion of the working person prior permission from BHEL shall be taken.
- 10.0. Subcontractor have to ensure that all the key persons must continue till completion of job i.e. machine comes on load. Subcontractor manpower should remain at site for a period of **3 days** after the commissioning of boiler.
- 11.0. Successful bidder should mobilise the site in full strength immediately on placement of LOI to carry out site activities.
- 12.0 Work distribution sheet for all the workers/supervisors deployed shall be submitted to BHEL one day in advance on daily basis.

- 15.0. Subcontractor should mobilize additional resources such as plant, equipments, material as may be required by site in-charge to improve the progress of the work if the progress of the work is not satisfactory.
- 16.0. Subcontractor should get registered under relevant sales tax and or work contract Act (VAT) where the jobs are executed.
- 17.0. Scrap and insulation etc. is to be shifted to scrap disposal area as indicated by the Engineer-in-charge on regular basis.
- 18.0. One administrative personnel to control the resources and attendance of the workers to be ensured.
- 19.0. Adequate quantities of consumables like Argon, Oxy- Acetylene gases and welding electrodes as required along with cutting/welding set / argon welding sets shall be arranged by the contractor.
- 20.0. Hydraulic jacks of 50T/ 100T capacity shall be arranged by the contractor rotating equipment works.
- 24.0 If the duration of work continues beyond stipulated period due to any reason, no claim for compensation will be entertained.
- 25.0 The work details are brief & for Subcontractor knowledge only. Subcontractor will have to do all the related works as per requirement.
- 26.0. The contractor will be responsible to pay the damages to the property of Board or individual caused by his worker during the course of contract. If the contractor fails to pay the same it will be recovered from his bill.
- 27.0. No compensation claimed for idle labor for any reason will be entertained by BHEL.
- 28.0. All general tools and plants for execution of the work will have to be arranged/ maintained by the contractor at his own cost & risk.
- 29.0. In normal course, the interpretation of the under signed on any matter or decision given by him on any disputable points will be final and binding on the contractor.
- 30.0. Successful bidder is to obtain necessary "No Dues" certificate before de-mobilization from site.
- 31.0. Successful bidder has to arrange 10 copies of overhauling reports which will include various protocols with necessary data/ MOMs / important correspondences / log sheets ect. and the book shall be spiral bound with thick acetate papers in front and back along with BHEL logo printed suitably on thick art paper at the front.
- 32.0. Accommodation for the sub-contractor's manpower will be provided if made available by the customer as per the applicable charges.



## **GENERAL SCOPE OF WORK:**

1. Successful bidder to deploy minimum two nos. of 12 T/15T Hydra-Cranes with operator & minimum one Trolley Tractor / Truck /Trailer and minimum 04 nos. of Electrical Winches – 5 T cap.
2. Transportation of materials / spares from Satpura TPS/MPPGCL stores /yard to work site and removal of ash / debris / scrap / materials from work site to ash disposal area / scrap yard / stores engaging contractors own vehicle.
3. Fabrication of site store near work site.
4. Fabrication / repair / machining of components / spares.
5. Fabrication of fixtures and illumination of work zone.
6. Removal and relaying of insulation wherever applicable.
7. Cleaning of work area during and after execution of work.
8. All tools and tackles, measuring instruments including Welding Generators (20 nos. minimum) and Transformers (10 nos. minimum), Gas cutting sets- 15 Nos, Bevel Proctors, 24 Volt electrical hand lamps, lifting hoist etc., OPT kits as required are to be provided by the contractor. Contractor has to use only 24 Volt hand lamps with protective cage in the enclosed area of work to ensure safety of workmen.
9. Minimum 10 curie Radiography sources- 2 sources along with qualified personnel are to be arranged.
10. Contractor should have running IBR Registration for Pressure Parts Repair work in Madhya Pradesh and has to obtain necessary works & HP welders approvals under section 392 of IBR from the Boiler Directorate / Madhya Pradesh. Co-ordination with boiler inspector is the responsibility of the contractor.
11. Contractor has to arrange for necessary labour licence, insurance etc. for their workmen at the start of work and other necessary statutory requirements are to be fulfilled.
12. Contractor has to provide necessary skilled, semiskilled and unskilled manpower and supervision for the total job under the technical guidance of BHEL. Contractor has to provide minimum 15 nos. of HP Welders and 10 nos. of attachment Welders and 15 nos of gas cutters to complete the job in time. Contractor has to mobilize HP welders well in advance for their site test. Contractor has to provide minimum 15 nos. of experienced supervision staff for the job, excluding Site-in -charge for close supervision of work as well as providing inputs for un-interrupted progress of work.  
**NOTE: Lack of supervision / resource mobilization will be viewed seriously.**
13. Contractor has to follow necessary safety regulations and Safety equipment/ accessories to be used and provided to the workers..
14. Illumination of working area is the responsibility of the contractor.
15. Cleaning, housekeeping and security arrangement for the equipment, T&P and materials/ spares is the responsibility of the contractor.
16. The contractor has to sign "INDEMNITY BOND" for obtaining From -V (required for labour licence) from the Principal Employer M/s. Satpura TPS / MPPGCL on non-judicial stamp paper as per format provide by BHEL.
17. Necessary workforce, tools and tackles, welding machines, cutting accessories, grinding machines, argon gas with all accessories/cutting accessories, TIG welding kits, TIG welding wires, etc required for the job shall be arranged by the contractor at their own cost. Consumable, hacksaw blades, grinding/cutting wheels, emery paper, lapping tools with lapping compound ,marking cloth, cotton waste ,petrol, kerosene ,heating lamps rustolene, holdtite, Bectol cotton waste, wire brushes, molykote ,etc. shall be arranged by Contractor.
18. Necessary tools for dismantling of PA Fan.
19. All technological wastes generated during execution of overhauling works at various places shall be removed by Contractor to a place identified by the Engineer in charge.

**MANPOWER LIST:**

<b>Sl.No.</b>	<b>Description</b>	<b>Nos.</b>
01.	Site In-charge	1
02.	Supervisors	15
03.	Foreman	30
03.	Mill Wright Fitters	25
04.	Junior Fitters	50
05.	Riggers	50
06.	Gas Cutters / LP welder	30
07.	Electrician	10
08.	Store keeper	3
09.	Sarang	15
10.	Unskilled worker	150
11.	HP Welder	15
12.	Carpenter	10
13.	Insulation lagger	25

This is an indicative list; the sub-contractor shall deploy adequate manpower to carry out the work round the clock and as per requirement of the site during execution.

Note: Site in-charge should be qualified Engineer, B.E. (Mechanical) and all the supervisors should have diploma in engineering

**Major T & P List**

Sl.No.	Description	Quantity
01.	Welding Generator / Rectifier	20 nos.
02.	Portable Grinding Machines of assorted sizes / types	10 nos.
03.	Welding cable	500 Mtr.
04.	Gas cutting set	20 sets
05.	Chain pulley blocks 3MT/5MT/10MT cap.	20 nos./10 nos./10 nos.
06.	Lifting tackles including slings of assorted sizes	As per requirement
07.	Pulling Machines / Hook chooks	06 nos.
08.	24V lamps with cable and plug tops	10 nos.
09.	Crane 8 MT/15 MT or 30T cap.	01 no. each
10.	Tractor / Trailor 10 MT cap.	01 no.
11.	Electric Winch 5T/10T cap.	04 nos./2 NOS.
12.	Torque Wrench with Torque Multifier	01 no. each (35 kg.M/65 kg.M)
13.	Slogging spanners 52 mm & 54 mm	4 nos. each.
14.	Master Level of 0.02 mm LC	02 nos.
15.	Vernier calipers 0-150 m 0-300 M 0-600 M	02 nos. 02 nos. 01 no.
16.	Inside Micrometer upto 600 mm	01 no.
17.	Outside Micrometer upto 600 mm range	01 no.
18.	Measuring Tape upto 15 M length	04 nos.
19.	Dial Gauges	03 nos.
20.	Grinding Machine AG-7 & GQ 4	8 nos. / 4 nos.
21.	Diesel grinders	2 nos.
22.	Tap set M 39 x 3	1 set.
23.	Filler gauge (loose) 200 mm long	4 nos.
24	Cup lock scaffolding materials	complete set
24	High Pressure water jet pump	1 No
25	Bearing pullers of required sizes	
26	Hydraulic jacks of 50T/ 100T capacity	As required
27	MCB for electric connections	
28	Tube bending machine	

Note: The above list is only indicative. Contractor has to arrange as per site requirement.

**LIST OF CONSUMABLES**

Kerosene/Diesel  
Rustolene  
CTC  
Waste cloth/Cotton  
Marking cloth  
Cutoff wheels / Grinding wheels  
Mounted wheels/ rotary cutters  
Insulation tape / Johnson tape  
Sander discs and wheels  
Polyethylene sheets  
Electric fuse wire and cables  
Cutting Electrodes  
Welding Electrodes (E7018, 8018 & 9018)  
Argon,DA and Oxygen gases  
Paints for painting  
Prussian Blue

**NOTE:**

The above list is only indicative & not exhaustive. Arrangement for any other consumables required for completion of the job shall be the responsibility of the contractor & shall be arranged by him.

**QUALITY REQUIREMENT**

- 1.0.** Various inspection/ quality control / quality assurance procedure/ methods at various stages will be as per BHEL/ customer quality control procedure/ codes/ IBR and other statutory provisions and as per BHEL Engineer's instructions.
- 2.0.** Preparation of quality assurance log sheets and protocols with customer's engineers, welding logs, other quality control and quality assurance documentation as per BHEL Engineer's instructions, is within the scope of work/ specification.
- 3.0.** A daily log book should be maintained by Area In-charge of contractor on the job incorporating alignment/ clearance/ centering/ leveling readings and inspection details of various other ESP and auxiliaries and to be submitted to BHEL.
- 4.0.** All the important measurements like preassembly checking of alignment leveling/ centering work etc. shall be recorded in the daily log book with sketches based on BHEL drawings indicating readings/ measurements actually taken and signed by BHEL/ Customer/ Contractor representatives.
- 5.0.** The inspection/measuring and testing equipments should be of brand, quality and accuracy, as specified by BHEL engineer and should have valid calibration certificates traceable to national/international standards.
- 6.0.** Total quality is the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He will follow the instructions as per BHEL drawings and quality standards.
- 7.0.** The welder's performance will be reviewed from time to time as per the BHEL/ IBR standards and any welder not performing to the standards set by BHEL/ IBR standards will be removed from working, Contractor shall arrange for the alternate welders immediately.
- 8.0.** All the welders including HP welders shall carry identity cards. Only welders duly authorised by BHEL/ Boiler inspector/ customer/ consultant shall be engaged on the work.
- 9.0.** STAGE INSPECTION BY BHEL / CUSTOMERS ENGINEERS
- 10.0.** Apart from day-to-day inspection/ stage inspection of equipments by BHEL engineers, the set may be checked at various stages by customer's engineers and quality assurance teams. Contractor shall arrange all labour, tools/tackles etc. for such inspections free of cost.

## **SUBMISSION OF DOCUMENTS**

The contractor shall submit following documents at appropriate time either before or during the execution of the work and as directed by Site in-Charge.

- 1.0.** Test certificates of Pulling and Lifting machines and appliances.
- 2.0.** Details of workers to be deployed with name, address, category.
- 3.0.** Details of supervisory staff to be deployed.
- 4.0.** Authorization for receipt of materials and for signing of Measurement Books etc,
- 5.0.** Labour license specific to the contract.
- 6.0.** List of T&P brought into plant premises along with their serial numbers and dates/years of purchase.
- 7.0.** All the Staff/Workers deputed for the Job should have Insurance Cover and document in this regard should be submitted along with 1<sup>st</sup> RA Bill.
- 8.0.** List of consumables brought into plant premises along with their serial numbers and dates/years of purchase, along with test certificates wherever applicable.
- 9.0.** Insurance policy for the workers to be deployed in this contract.
- 10.0.** Safety undertaking.
- 11.0.** ESI code to be furnished.

The contractor shall submit following documents in report form within 15 days from commissioning of unit after the overhaul/shut down work is completed (except Sl.No.11 to 14 which are required before final bill is processed):

- Details of work executed.
- Measurements against different schedules in compiled form.
- Material issue details.
- Material consumption details.
- Material return details.
- Details of retrenchment benefits given to workmen.
- Details of issue of PF slip to workmen.
- Details of settlement of accident benefits if any to workmen
- Copies of pay sheets to workmen.
- Details and proof of remittance of PF to workmen (before final bill).
- No dues clearance from different stores of customer.
- Valid labour licence(to be submitted in bidders letterhead, and furnished in a separate sealed envelope)

## **ESSENTIAL CONDITIONS TO BE FULFILLED BY SUCCESSFUL BIDDER**

1. Successful bidder has to arrange 6 copies of overhauling reports which will include various protocols with necessary data / MOMs / important correspondences / log sheets etc. and the books shall be spiral bound with thick acetate papers in front and back along with BHEL logo printed suitably on thick art paper at the front.
2. Bidder has to arrange to provide PC with internet connection, with colour printer and Xerox paper as required for taking print out compatible with WINDOW vista version or, latest version loaded with necessary software, during entire period of execution of job at site, for preparing /maintaining / up keeping of various correspondences/ protocols/log sheets. etc. PC shall be operated by PC operator conversant with AUTOCAD and other software to be arranged by the successful bidder within the scope. All data thus stored during the execution of job shall be transferred to hard disc, (360 GB capacity) and handed over to Resident Manager at site after the Overhauling for submission to Customer.
3. Successful bidder is to render services for proper up-keepment of BHEL site office as required. Full time office boy is required to be provided by the successful bidder at site for up-keepment of site office.
4. After dismantling and during execution of the job, successful bidder has to suitably tag the components and sub-assemblies for trace ability and store properly before final assembly.
5. Process control of Special Processes like Welding and Heat Treatment shall be carried by successful bidder as per BHEL procedures.
6. Proper segregation, identification, tagging and up-keep of all dismantled items at work site during job execution have to be done by successful bidder.
7. Successful bidder is to obtain necessary "No Dues" certificates before de-mobilisation from site.
8. Successful bidder is to comply with all the statutory and regulatory norms, rules and practices as applicable for the job/site.
9. Successful bidder shall provide valid calibration certificates for IMTEs, fitness certificates for T&Ps and Construction Equipment ( e.g. wire ropes, hand operated chain pulley blocks, pulling and lifting machines, electric welding generators, arc welding transformers etc.). Calibration of IMTEs is to be arranged from the accredited agencies. Calibration certificates should have the traceability as per national/international standards. At work site the IMTEs, T&Ps and Construction Equipment shall be checked/tested/inspected by BHEL engineers.
10. Successful bidder should follow all safety norms at work site.
11. Provision of hygienic filtered drinking water facility at BHEL site office.
12. The successful bidder is to arrange a full set of First Aid kit for attending to manpower deployed by him at site as per requirement.
13. The successful bidder is to arrange extra illumination at work site to augment the existing site illumination if required to enable round-the-clock safe working.
14. Within the quoted price, the bidder has to arrange new set of utensils (cooking & serving) , stoves, gas cylinders / gas oven, electric heaters, chairs, tables, 21 inches colour Television etc. Cooks / helpers for preparation of food for 10 BHEL persons also to be arranged. The successful bidder will also be responsible for taking over and vacate the BHEL mess quarter.
15. Still colour photography (max. 36 nos on Matt paper, postcard size) of different machine parts and subassemblies as decided by BHEL site engineer is to be arranged by successful bidder at their cost.

SPECIAL INPUTS TO BE DEPLOYED TO SITE ALONWITH SITE MOBILISATION BY  
SUCCESSFUL BIDDER AS ESSENTIAL PART OF THE CONTRACT CONDITION FULFILMENT.

1. Furnishing of quarters issued by Satpura TPS/MSPGCL at their township for temporary stay of BHEL personnel as per following details:
  - a. Wooden cots with mosquito curtain frame having normal size of 4.5' x 6.5' (costing not less than 2500/- each) and mattresses for cots of 2.5' coir topped with 1" soft foam.-----  
----- 16 nos
  - b. Bed linen (New Bombay Dyeing)----- 32 nos  
(16 nos in use and 16 nos stand by)
  - c. Pillow (M foam or equivalent ) standard size----- 16 nos
  - d. Woollen blanket of Raymond make or equivalent 16 nos
  - e. Pillow covers for above (Bombay  
(16 os in use and 16 nos standby)
  - f. steel folding chairs (costing not less than Rs 250/-)----- 16 nos
  - g. wooden table (4' x 3' min size) with plastic cover----- 16 nos
  - h. glass tumblers for drinking water----- 03 dozens
  - i. plastic jugs for drinking water (2 liter capacity)----- 16 nos  
(Bharat / brite make or equivalent)
  - j. Aqua guard /water filter for drinking water 02 no  
(to be installed in Mess)
  - k. Plastic buckets 2 nos per bathroom with suitable plastic mugs--- 32 nos
  - l. New mosquito nets to suit sl no (a) above of nylon fabric----- 16 nos
  - m. Door mats at entrance of the main door and bathroom door----- 32 nos
  - n. Messing arrangement with (tablets & chairs) cook & helper, utensils  
Including gas burner & cooking gas for 16 nos personnel throughout overhauling period
  - o. Cleaning of rooms regularly including bathrooms etc. Must be arranged one person to be  
Deployed for the above.
  - p. Bed sheets, pillow covers must be changed with washed ones at least once in 4 days.
  - q. Cleaning, washing of bed sheets and pillow covers regularly.
  - r. All aforesaid furnishing items are to be removed after the work is completed at site by the  
contractor at his own cost.
  - s. Contractor to hand over the quarters to Satpura TPS/MPPGCL authorities with the help of  
BHEL representative.
  - t. Initial quantity bulbs (60W/100W) as required is to be arranged by the contractor and also  
subsequent replacement of fused bulbs.
  - u. Arrangement of locking the rooms if not existing and provision of suitable locks with 2 keys min.  
Per lock (Godrej) navtal 6 levers or equivalent.
  - v. Woollen Blanket (during winter)-----
  - w. Suitable security of the quarters round the clock.
  - x. Colour TV (21 Inch.) with cable TV connection to be provided as per instruction in BHEL  
residential flat/mess.

**Note : any shortage in the above amenities may be made up from time to time.**



(To be submitted in bidders letterhead, and furnished in separate sealed envelope, marked as 'Price Bid')

**PRICE SCHEDULE**

**Sub: Overhauling of Boiler & auxiliaries and Replacement of S-Panel, LTSH, Economizer, Reheater coils of Boiler Units No.7 & 9, 210 MW at Satpura TPS, Sarni- MPPGCL.**

BHEL Tender Enquiry No: PUR/SER/NGP/12/020 dated 14.08.2012 and Bidder's Technical Bid (offer) letter ref. no. .... dated-----

**PART -A**

Sl. No.	Description of work – For UNITS #7	Quantity	Lump sum Amount (Rs.)
01	Replacement of LTSH, Economizer, Reheater coils, Overhauling & Servicing of Boiler & Auxiliaries( Fans, ESP, Bowl Mills, Feeders, etc.) Including dismantling of components to be replaced/ overhauled of boiler units # 7, 210 MW, Satpura TPS as per detailed Scope of work (Without Replacement of S-Panel)	1 JOB	
	(Rupees.....)		

**NOTE:**

**For the job of "Replacement of S-Panel in Unit #7", additional 15% of Part A price will be applicable.**

Signature of the Bidder

Name, Designation & Seal

**Note:** No comments/remarks/conditions other than asked for, shall be put by the bidder on any page. Extra condition from the bidder, if any, shall be put on letterhead in the 'technical bid' only.