

# **TENDER SPECIFICATION**

Ref: BHEL/PSSR/SAS/SCT/T-03/2021-22

Date: 17.05.2021

## **RLA and LE Studies on Turbine components as per SOW TANGEDCO-Tuticorin TPS-Unit.No.1 (210 MW)**

DUE DATE FOR SUBMISSION: **11.00 Hrs. – 28.05.2021**

### **VOLUME-1 TECHNICAL BID**



### **BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

Power Sector – Southern Region

Services After Sales Division - , Ek Tara Building  
39, Sarojini Devi Road, Secunderabad-500 003.

**Contd./-**

# NOTICE INVITING TENDER (NIT)

## Submission only through E-Procurement Portal

<https://eprocurebhel.co.in>

**Note: Bidder may download Tender Documents from web sites**

To

Dear Sir / Madam

### Sub: NOTICE INVITING TENDER

Online Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned below) **through E-Procurement Portal** <https://eprocurebhel.co.in> **only**, for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

### 1.0 Salient Features of NIT

Sl. No	ISSUE	DESCRIPTION	
i	TENDER NUMBER	<b>BHEL/PSSR/SAS/SCT/T-03/2021-22 Date: 17.05.2021</b>	
ii	BROAD SCOPE OF JOB	<b>RLA and LE Studies on Turbine components as per SOW TANGEDCO-Tuticorin TPS-Unit.No.1 (210MW)</b>	
iii	DETAILS OF TENDER DOCUMENT		
A	VOLUME-1 (Technical Bid)	<div>1. NIT, Technical Conditions, Scope of works along with billing breakup and Annexures</div> <div>2. HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS (Doc. No.HSEP:14 (Rev.01) Dtd.20.01.2020)</div> <div>3. GENERAL &amp; SPECIAL CONDITIONS OF CONTRACT [FOR SERVICES JOB]</div>	Applicable
B	VOLUME-2 (Price Bid)	<div>1. Price Bid</div>	Applicable
iv	Issue of Tender Documents	<div>1. This is an E-tender floated online through our E-Procurement Portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a></div> <div>2. Sale Start: 17.05.2021</div>	Applicable
v	Due Date & Time of Offer Submission	<b>Date : 28.05.2021, Time : 11:00 Hrs</b> The bidder should submit their offer online in e-Procurement portal at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> Offers are invited in two-parts only. Bidders are requested to upload their offer well in advance in order to avoid last minute congestion at this website.	Applicable

		Hard copy bid or bids through E-mail / fax shall not be accepted.	
vi	Opening of Tender	<b>Date : 28.05.2021, Time :15:00 Hrs</b> Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may witness the opening of tender through e-Procurement portal only.	Applicable
vii	EMD Amount	<b>Rs. 28,000/-</b> (Rupees Twenty Eight Thousand only) Notes: (1) EMD Exemption for MSEs is not applicable for this tender. (2) One time EMD is applicable for this tender. Refer clause 2.0 of NIT for mode of deposit of EMD	Applicable
viii	Last Date For Seeking Clarification	Bidders may submit their queries at least 3 day before the scheduled due date of offer submission along with soft version also, addressing to undersigned & to others as per contact address of Tender issuing department given below:  For any clarification on the tender document, you may seek the same in writing or through e-procurement portal/platform as per specified format within the last date of seeking clarification as per tender. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay, and receipt of any query after due date shall not be entertained.	Applicable
ix	Reverse Auction	BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on <a href="http://www.bhel.com">www.bhel.com</a> on “supplier registration page”) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.  Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.	Applicable
x	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be	Applicable

		hosted on e-tender portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> and not in the newspapers. Bidders to keep themselves updated with all such information. This also form part of tender hence the same shall be enclosed with their offer.	
xi	Tender issuing department contact details	<p>Routine correspondences regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued shall be posted in <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a>. Any other queries may be addressed directly to the tender issuing department as mentioned below:</p> <p>1. Shri.MVN Rambabu Mobile: 9533099966 E-mail: <a href="mailto:mvnrambabu@bhel.in">mvnrambabu@bhel.in</a></p> <p>2. Shri. N Jaya Sankar Phone: 040 27702905 Mobile: 9441300814 E-mail: <a href="mailto:njs@bhel.in">njs@bhel.in</a></p>	
xii	PRE QUALIFICATION CRITERIA (TECHNICAL)	<p>A. Bidder should have OWNERSHIP (OR LEASE BASIS) of "01 set of equipment for each test of Magnetic Particle Inspection (MPI), Ultrasonic Examination (UT), Eddy Current Test (ET), Metallographic Replication (RPL), In Situ Chemical Analysis (CA), Hardness Measurement (HB), Boroscopic test, Borosonic test, Natural Frequency Test" for carrying out test. SUPPORTING DOCUMENTS for the same shall be submitted along with offer.</p> <p><b>AND</b></p> <p>B. Bidder should have EXECUTED at least one job of "RLA and LE studies of KWU/LMW design turbine components "of an unit of Rating 210MW or above in any Power Project against direct order from BHEL/PSUs/State Electricity Utilities/Multinational companies in last 3 (THREE) years, ending on latest due date of submission of offer.</p> <p>Note: 1. RLA report and Relevant Supporting Documents of WORK ORDER COPY AND WORK COMPLETION CERTIFICATES shall be submitted. Work completion</p>	Applicable

		<p>certificates are not required if works are executed under BHEL.</p> <p>2. The word EXECUTED means: The RLA work shall have been completed and report to be submitted</p> <p>After satisfactory fulfillment of all the above criteria &amp; PRE QUALIFICATION CRITERIA (Financial), offer shall be CONSIDERED for further evaluation as per NIT and all other terms of the tender.</p>	
xiii	PRE QUALIFICATION CRITERIA (Financial)	<p>1) Bidder Should have average annual turnover of minimum Rs.4.99 Lakhs during 3(THREE) Consecutive Financial Years 2017-18, 2018-19 and 2019-20. Audited Balance Sheet and Profit &amp; Loss Account for the three Financial Years (FY) as indicated above. need to be submitted in support of above. In case audited Financial statements have not been submitted for all the three years as indicated above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years. If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant</p> <p>2) Net worth (only in case of companies) of the bidder should be positive Note: Net worth shall be calculated based on the latest Audited Accounts as furnished above. Net worth = Paid up share capital + Reserves</p> <p>3) Bidders must have earned Profit in any one of the three financial years as indicated above. Note: PROFIT shall be "PBT" earned during any one of the three financial years as indicated above.</p> <p>4) Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under liquidation/BIFR</p>	Applicable
xiv	INTEGRITY PACT		Not Applicable
xv	ORDER OF PRECEDENCE	<p>In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:</p> <p>1. Amendments/Clarifications/Corrigenda /Errata/Tender change notice (TCN) etc. issued in respect of the tender documents by BHEL</p>	Applicable

		2. Notice Inviting Tender (NIT) 3. Price Schedule 4. Scope of work & technical conditions, HSE PLAN FOR SITE OPERATIONS BY BHEL'S SUBCONTRACTORS and Annexures. 5. SPECIFIC TERMS AND CONDITIONS FOR SERVICES JOBS 6. GENERAL & SPECIAL CONDITIONS OF CONTRACT FOR SERVICES JOB	
xiv	Evaluation currency	INDIAN RUPEES (INR)	Applicable

## **2.0 MODE OF DEPOSIT OF EMD (MSMED and NSIC are not acceptable towards EMD)**

EMD for this tender shall be **Rs. 28,000/-** (Rupees Twenty Eight Thousand only). Offers submitted without EMD will be liable for rejection.

- Modes of Deposit: The EMD may be accepted only in the following forms
  - i) Cash deposit as permissible under the extant Income Tax Act (before tender opening).
  - ii) Electronic Fund Transfer credited in BHEL account (before tender opening).

In case of Electronic Fund Transfer, bank details are as follows:

Account Name: BHARAT HEAVY ELECTRICALS LTD,

Account No: 00000030359171259,

IFS CODE: SBIN0008779,

BANK: STATE BANK OF INDIA,

BRANCH: ST. Marys Road branch (Secunderabad)

On transfer of amount through EFT, receipt of the same to be submitted as mentioned in clause no. 4.0.

- iii) Banker's cheque/Pay order/Demand draft, in favor of BHEL (along with offer).
- iv) Fixed Deposit Receipt (FDR) issued by Scheduled Banks/Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)

If EMD is submitted in the mode of (iii) Bankers cheque/pay order/DD or (iv) FDR, the same should be forwarded along with covering letter mentioning the tender reference, description & due date for tender submission (mention the same details on envelope also) to the following address so as to reach us on/before due date.

DGM - Sub Contracts,  
 Bharat heavy Electrical Ltd.,  
 Power Sector Services After Sales,  
 EK Tara Building,

39, Sarojini Devi Road,  
SECUNDERABAD – 500 003.  
Phone: 040 27700565.

**EMD will be forfeited as per NIT Conditions, if:**

- i) After opening the tender and within the offer validity period, the tenderer revokes his tender or makes a modification in his tender which is not acceptable to BHEL.
  - ii) The Contractor fails to deposit the required Security deposit or commence the work within the period as per LOI/Contract.
- EMD given by all unsuccessful tenderers will be refunded normally within 15 days of award of work.
  - EMD shall not carry any interest.
  - EMD of successful tenderer will be retained as part of Security Deposit.
  - EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant” Guidelines on Suspension of Business dealings with suppliers/contactors” and forfeited / released based on the action determined under these guidelines.

*(Note -: In case of E-Tenders, proof of remittance of EMD should be uploaded in the E-Procurement Portal and originals, as applicable, shall be sent to the officer inviting tender within a reasonable time, failing which the offer is liable to be rejected).*

- 3.0 **Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement portal <https://eprocurebhel.co.in>. The bidder should respond by submitting their offer online only in our e-Procurement portal at <https://eprocurebhel.co.in>. Hard copy bid or bids through email/ fax shall not be accepted.

**Documents Comprising the e-Tender**

The tender shall be submitted online ONLY EXCEPT EMD (in physical form) as mentioned below:

**a. Technical Tender (UN priced Tender)**

All Technical details (as mentioned below) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i. Earnest Money Deposit (EMD) furnished in accordance with NIT Clause 2.0.
- ii. Technical Bid (without indicating any prices).

**b. Price Bid:**

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The price should be quoted for the accounting unit indicated in the e-tender document.
- iii. Note: It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.
- iv. A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- v. A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.

**DO NOT'S**

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, the same shall not be considered. Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.

**Digital Signing of e-Tender**

Tenders shall be uploaded with all relevant PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

**The Requirement:**

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)

BHEL has finalized the e-procurement service Provider:-

NIC PORTAL (<https://eprocurebhel.co.in>)

For E-PROCUREMENT ASSISTANCE & TRAINING, NIC PORTAL HELPDESK CONTACTS AS PER FOLLOWING: -

For any technical related queries please call at 24 x 7 Help Desk Number



0120-4001 002

0120-4200 462

0120-4001 005

0120-6277 787

1. Peter Raj, NIC, Ph: 9942069052

Email Support: [support-eproc@nic.in](mailto:support-eproc@nic.in)

The process of utilizing e-procurement necessitates usage of DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION) and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the eprocurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority as given below:

Sl. No.	Name	Website Link
1	(n) Code solutions	<a href="https://www.ncodesolutions.com/">https://www.ncodesolutions.com/</a>
2	e-Mudhra	<a href="https://www.e-mudhra.com/">https://www.e-mudhra.com/</a>
3	Safescrypt	<a href="http://www.safescrypt.com">www.safescrypt.com</a>

Vendors are also requested to go through seller manual available on <https://eprocurebhel.co.in>

**4.0 DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING in EPROCUREMENT PORTAL <https://eprocurebhel.co.in> SHALL BE AS DETAILED BELOW:**

Sl.No	Description	Remarks
	Techno-Commercial Bid CONTAINING THE FOLLOWING:-	
i	Covering letter / Offer forwarding letter of Tenderer.	
ii	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under Sl No (i) above.</p> <p>Note:</p> <p>1. In case of any deviation, the same should be submitted separately for technical &amp; commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be attached along with document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>2. BHEL reserves the right to accept / reject the deviations without assigning any reasons, and BHEL decision is</p>	Refer "Bidders Manual Kit" available at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> .

	<p>final and binding.</p> <p>(i) In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>(ii) In case of unacceptable deviations, BHEL reserves the right to reject the tender.</p>	
iii	All Amendments / Correspondences / Corrigenda / Clarifications / Changes / Errata etc. pertinent to this NIT.	
iv	NIT document along with Scope of works, specific conditions, HSE PLAN FOR SITE OPERATIONS BY BHEL'S SUBCONTRACTORS and GENERAL & SPECIAL CONDITIONS OF CONTRACT [FOR SERVICES JOB] and Un-priced price bid (price bid without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item)	
v	EMD Remittance Proof	
vi	Declaration by bidder for price opening through Reverse Auction.	
vii	Declaration by bidder regarding NIL Insolvency proceedings.	
viii	Declaration regarding related firms	
ix	Declaration regarding minimum local content in line with revised public procurement (preference to Make In India), order 2017	
x	Declaration regarding compliance to restrictions under rule 144 (xi) of GFR 2017.	
xi	Work order copies & work completion certificates as mentioned in pre-qualification criteria	
xii	Supporting documents for ownership or lease of equipment mentioned in the pre-qualification criteria.	
xiii	Financial documents as mentioned in pre-qualification criteria.	
xiv	PAN NO & Photo Copy of PAN CARD.	
xv	Photo Copy of GSTN Registration Certificate.	
xvi	Photo Copy of PF Registration certificate	
xvii	Photo Copy of ESI Registration certificate	
xviii	Bank Account Details for E-Payment	
xix	Attested copies of partnership deed, power of attorney and tender specifications duly signed as	

	mentioned in the tender documents.	
xx	Any other details preferred by bidder with proper indexing.	
<b>Caution to Bidders: -</b> The duly signed & stamped copies of NIT document along with Scope of works, specific conditions, HSE PLAN FOR SITE OPERATIONS BY BHEL'S SUBCONTRACTORS and GENERAL & SPECIAL CONDITIONS OF CONTRACT [FOR SERVICES JOB] and Un-priced price bid are to be attached under the form Techno-commercial Bid. For any further queries, Refer "Bidders Manual Kit" available at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> .		

Sl.No	Description	Remarks
i	Price/ Total Amount corresponding to the total works as specified shall be quoted in the format named 'PRICE BID. Format to quote Total Amount' available in e-Procurement portal under 'Packet details -> Tender covers -> Finance '(Cover Type Description – Price Bid).  Bidders to note that total amount quoted by the bidder in this format shall be considered for evaluation of offer.	Refer "Bidders Manual Kit" available at <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> .

**SPECIAL NOTE:**

- i) All documents / annexures submitted with the offer shall be properly attached / entered / uploaded in the respective sections. BHEL shall not be responsible for any missing documents.
  - ii) Your offer & documents submitted along with offer shall be signed & stamped in each page/digitally signed on cover page by your authorized representative. No overwriting / correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.
- 5.0 No deviation with respect to tender clauses and no additional clauses/ suggestions/clarification in Techno-commercial bid/Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same. Offers with deviation are liable for rejection.
  - 6.0 Since the job shall be executed at site, the bidders are advised to visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including Law and Order situation, applicable Wage structure, Wage rules, present condition of machines etc. before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of site/machine conditions at the time of bidding.
  - 7.0 BHEL may decide holding Pre-bid Discussion [PBD] with all intending bidders. On such communication from BHEL, the bidder shall ensure

participation for the same at the appointed time, date and place as may be decided by BHEL. Outcome of PBD (if any) shall also form part of tender.

- 8.0 In the event of any conflict between requirement of any clause of this specification/ documents /drawings /data sheets etc. or requirements of different codes/ standards specified/ contradictions between any two clauses of tender document, the same to be brought to the knowledge of BHEL by bidders in writing for clarification before due date of seeking clarification, otherwise, more stringent requirement as may be interpreted by BHEL shall prevail and shall be binding on you. Any typing error/missing pages/ other clerical errors in the tender documents, noticed by bidder must be pointed out before submission of offer, or else, BHEL's interpretation shall prevail & binding on you.
- 9.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 10.0 Bidders are requested to note that the accepted / agreed tender terms (technical, commercial or on Reverse Auction) in their original offer cannot be altered / withdrawn by their own during the processing of tender.
- 11.0 Bid should be free from correction, over writings using any interlineation, cutting or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.
- 12.0 After opening of Technical Bids, if found suitable, there is a possibility of opening the price bid on the same day and to the need of urgency, **Bidder should be in a position to mobilize the work force immediately.**
- 13.0 **Total price:**
- Price to be quoted in the enclosed Price Schedule Format–Annexure-3.
  - **Total price to be quoted for all activities as per the scope enclosed as Annexure-2.**
  - GST REGISTRATION NUMBER TO BE QUOTED SEPARATELY BELOW THE TOTAL PRICE.
  - Prices quoted will be taken as the TOTAL PRICE FOR CARRYING OUT THE ENTIRE WORK AS PER THE SCOPE OF WORK SPECIFIED AND ALL THE RELEVANT DETAILS FURNISHED IN THIS TENDER.
- 13.1 The rates offered shall be firm inclusive of everything and no variation will be allowed whether in cost of labour or any other factor affecting the price of the contract.
- 13.2 BHEL does not bind itself to accept the lowest tender. BHEL reserves the right to accept or reject the lowest or any other tender without assigning any reason and the work may be allotted to one or more than one contractors.
- 13.3 Incomplete price bid is liable to be rejected.

**14.0 Validity:**

14.1 Validity of the offer shall be for six months from the latest due date of offer submission (including extension, if any) unless specified otherwise for awarding works.

14.2 The period of contract shall be for One year from the date of start of the contract.

14.3 PVC shall be applicable as per clause 2.15 of GSCC.

**15.0 Security Deposit:**

As per clause 1.8 of GSCC.

**16.0 Defect liability/Workmanship guarantee:**

Even though the work will be carried out under supervision of BHEL Engineers. The contractor shall guarantee against defects attributable to faulty workmanship or procedure adopted in the overhaul for items covered in the contract for a period of **twelve months** from the date of recommissioning of the set after the capital overhaul. The guarantee should cover all defects notified during this period and shall have to be attended to free of cost immediately or at the time our clients are able to give shut down of the set for the required period. when necessary. In case of failure of contractor to attend to such defects as and when required in time, BHEL shall arrange to attend the defects and the charges shall be levied to contractor's account and shall be recoverable from the security deposit / progressive payments.

**17.0 Commencement of work-expected:**

**Tentative date for the start of work is from 16.07.2021. Successful bidder has to mobilize the site 04 days from the receipt of communication from BHEL** for fulfilling all statutory requirements like Police verification, Medical fitness, Gate/Entry pass formalities etc. However, in case of urgency, bidder may be asked to mobilise the site immediately on getting intimation from BHEL. We shall inform to the successful bidder through any available mode of communication. The successful bidder has to specifically confirm that all required resources and manpower will be mobilized immediately after intimation.

**In view of the Post COVID scenario, successful bidder must abide by the statutory requirement and guidelines issued by central government/state governments/customer (from time to time) during mobilisation and execution of the work. BHEL shall not compensate against any claim of the successful bidder on above account.**

**For making gate pass for overhauling works, mobilization is to be done immediately for fulfilling all statutory requirements and undergoing COVID test as per customer requirement for all workers/supervisors/engineers due to the ongoing COVID-19 pandemic.**

18.0 The entire work shall be carried out by the successful bidder as decided by Resident Manager / BHEL / SAS with the best skills and know how available. The scope of work is only an indicated and not exhaustive.

However, successful bidder should abide by the decision of the Resident Manager for any variations of the work.

**19.0 Completion Period for this Contract:**

19.1 The entire work covered under the scope of this contract is to be completed **within 10 days from start to completion of SOW** However, for any additional work the completion period shall be proportionately increased.

19.2 For any other additional works as mutually agreed between BHEL & Successful bidder, completion period will be suitably increased.

**20.0 LIQUIDATED DAMAGES/PENALTY:**

As per clause 3.3 of GSCC.

21.0 **Compulsory Three shift operation** to be taken up as decided by BHEL/Site In-charge: All the works are to be taken up round the clock (i.e. 24 hours) in three shift operation. Hence all the works are to be planned round the clock without any break. No extra claim will be entertained for three shift operation, idling of manpower due to delay in arrangement of inputs etc. The entire work is to be taken up on war footing with maximum effort. Successful bidder has to engage sufficient manpower to ensure work with equal pace in all the three shifts.

**22.0 Terms of payment:**

22.1 **Activity- wise percentage breakup has been indicated against each activity in the scope of work in Annexure-2. In case of reduction in quantum of work at site, payment shall be released only for the activities actually carried out as per the percentage allotted. Contract value shall be revised accordingly.**

22.2 GST compliant tax invoice **as per Cl. No. 23.2 (Taxes and Duties)** is mandatory for releasing of payment and **GST remittance proof as per Cl. No. 23.2 (Taxes and Duties)** has to be enclosed for reimbursement of GST.

22.3 Payment terms are as follows

22.3.1 **70% of Contract** value on completion of work duly certified by BHEL/SAS Resident Manager along with site readings and on submission of preliminary report.

22.3.2 **30% of contract** value on submission of complete RLA report along with twelve number of copies and duly certified and accepted by customer / resident manager.

➤ No further claim certificate also to be submitted along with the final bill.

➤ Submission of a "NO DUES" certificate from our principal customer regarding returning of materials, T&P, tackles, fixtures etc. if any supplied to the successful bidder by the principal customer through BHEL during the execution of work to the effect that all the items have been received intact or as part or after fabrication.

*Note: The above mentioned are only the major compliances required, however EIC shall inform submission of any other documents from time to time.*

## 23.0 **TAXES AND DUTIES**

### 23.1 **All taxes and duty other than GST & Cess and BOCW Cess**

The successful bidder shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tolls, royalty, commissions, Stamp Duties, or other charges / levies, which may be levied on the input goods & services consumed and output goods & services delivered in course 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.

### 23.2 **Goods and service Tax (GST) & Cess**

Bidder's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Successful bidder shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return.

Agency shall furnish proof of GST registration with GSTN Portal covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.

Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details as per Clause 25.0.

GST charged in the tax invoice/debit note/revised tax invoice by the successful bidder shall be released separately to the successful bidder only after successful bidder files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the successful bidder and has paid the GST at the time of filing the monthly return.

In case BHEL has to incur any liability (like interest etc.) due to denial/reversal of input tax credit in respect of the invoice submitted by the successful bidder, for the reasons attributable to the successful bidder, the same shall be recovered from the successful bidder.

In case BHEL is deprived of the Input tax credit due to any reason attributable to successful bidder, the same shall not be paid to the successful bidder. Tax invoice/debit Note/revised tax invoice shall contain the particulars as prescribed in GST law.

TDS under GST is applicable and shall be deducted at prevailing rates on gross invoice value from the running bills. E-way bills / Transit passes / Road Permits, if required for materials / T&P etc., bought into the project site is to be arranged by the successful bidder only.

### 23.3 **Statutory Variations**

Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract.

**23.4 Modalities of Tax Incidence on BHEL:**

Where GST law permits more than one option or methodology for discharging liability of tax/ levy/ duty; the contractor shall approach BHEL before choosing any option to discharge his tax liability. BHEL shall have the right to direct the contractor to adopt the appropriate option considering the amount of tax liability on BHEL as well as procedural simplicity with regard to assessment of the liability.

The option chosen by BHEL shall be binding on the contractor for discharging the obligation of BHEL in respect of the tax liability to the contractor.

**23.5 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998**

In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-

It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a licence to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.

It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on gross payment made for value of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.

It shall be the responsibility of the sub-contractor to furnish the receipts /challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.

It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.

The contractor shall, however ensure before deposit of any BOCW Cess, that customer is not depositing the same in order to avoid excess deposit of cess.

The contractor shall bear cost of BOCW cess either by way of deposit or through recovery by BHEL in case the same is deposited by the customer.

In case of failure in above mentioned compliances, BOCW Cess @ 1% as well as applicable penalty as specified in BOCW Act/Rules shall be deducted from the contractor.

**23.6 Direct Tax**

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing



rates shall be effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.

**24.0 Demobilization and remobilization**

As per clause 2.7.7 of GSCC

**25.0 Invoice submission:**

25.1 The bills are to be submitted through BHEL/Resident Manager addressed to

**BHEL SITE OFFICE  
2X500 MW NTPL PROJECT,  
HARBOUE ESTATE,  
TUTICORIN - 628004  
TAMILNADU**

**BHEL GST Registration No is: 36AAACB4146P1ZG.**

**SHIPPING TO**

**Tuticorin Thermal Power Station,  
Uunit#5, 210MW,  
TANGEDCO,  
Tuticorin - 628 004  
TAMILNADU**

**26.0 Safety / Penalty:**

26.1 The bidder will be fully responsible for the safety of his workmen and shall provide necessary safety appliances like safety Helmets, Safety Shoes, Safety belts, Safety goggles and Safety apron, etc., to all workmen as per Safety Rules as enforced by BHEL / **Customer** at site without any additional cost.

26.2 Penalty will be imposed for not wearing the safety appliances as per HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS (Doc. No.HSEP:14 (Rev.01) Dtd.20.01.2020) attached with this tender.

*In case of penalty imposed by customer is higher compared to penalty specified in above mentioned HSE Plan, customer penalty will be imposed.*

26.3 Luminous safety jackets should be provided to all the Engineers, Supervisors and Workers deployed by contractor at site. All the contractor manpower should use the luminous safety jackets inside the plant premises.

26.4 In view of COVID-19, sufficient number of PPEs like face masks, disposable gloves, facility for frequent sanitization etc., for the contractor manpower shall be arranged by the contractor at work location.

26.5 Contractor shall strictly follow the guidelines/standard operating procedures regarding COVID-19 issued by State Government, Central Government, Local authorities and Customer.

26.6 Separate experienced supervisors are needed to be provided round the clock for supervising the safety practices.

27.0 For office and stores open site will be given. Any other facilities required have to be arranged at the bidder's cost.

28.0 The bidder should obtain statutory permission if any required for carrying out the contract at his own cost.

- 29.0 The bidder's personnel should follow all the rules in vogue at site.
- 30.0 In case of doubt, clarification or ambiguity, decision of BHEL will be final.
- 31.0 The bidder should execute the work to the satisfaction of concerned BHEL officials as per the job requirement as decided by BHEL. In case the work carried out is not satisfactory, BHEL reserves the right to terminate the contract with 3 days advance notice and get the balance works carried out by any other agency and recover the entire extra cost if any from any of the amounts of the bidder available with BHEL.
- 32.0 No part of the contract shall be sublet without written permission of BHEL/SAS nor shall transfer be made by power of attorney authorizing others to receive the payment on behalf of the bidder.
- 33.0 **Calibration of IMTE:**  
All measuring instruments including temperature and pressure measuring devices used at site are to be duly calibrated and certified by recognized agency with traceability to NPL or equivalent standards which should be valid during the entire period of execution of work at site. The calibration certificate having validity shall be produced at the time of establishment of site, and as and when required by BHEL.
- 34.0 **Hire charges for T&P, instruments etc., provided from BHEL or through BHEL:**
- 34.1 If the bidder fails to supply the required fit for use T&Ps, measuring instruments etc., during the execution of work, and if the same are provided by BHEL or through BHEL, the hire charges as decided by BHEL, will be levied on the basis of certification from BHEL/Resident Manager at site. Further on return of the items after usage, if BHEL is to incur any expenditure due to any damage/loss/repair/rectification on the above items, charges incurred and as decided by BHEL on this account will be levied in addition to the hire charges.
- 35.0 **Additional Information to be noted by the Bidder:**
- 35.1 **Completion on emergency:**  
In case if the work has to be completed by compressing the completion schedule if so decided by BHEL on emergency, the bidder has to arrange immediately on intimation all required necessary inputs and additional efforts at no extra cost. In the event of any failure on the part of the bidder to meet such requirements on emergency, BHEL reserves the right to arrange all the inputs at its discretion and deduct the entire cost from the bidder as per BHEL procedures.
- 35.2 **Safe custody of Components:**  
All the dismantled components should be stored safely in polythene covering with proper identification tags for easy traceability required polythene covers and identification tags to be arranged by the bidder. Bidder has to take care of all the components including the dismantled items under his custody and ensure the immediate safe availability of all those items as and when required by BHEL, till commissioning of the equipment or for handing over to the concerned before vacation of the site as decided by BHEL. In case of any loss, damage or theft of these materials/components, BHEL will have the right to impose total recovery along with all charges including penalty in arranging the materials.

- 35.3 The entire work is time bound, and most of the activities are precision jobs. Hence, bidder has to deploy highly qualified skilled Engineers/ Supervisors/Fitters/ technicians as per site requirement as advised by BHEL. Any delay or failure by the bidder to meet such manpower requirements at site will be viewed seriously. Any suitable remedial action from BHEL side including manpower deployment will be at the cost of the bidder to the extent of charging entire cost including BHEL Daily Service Rates for manpower deployed.
- 35.4 List of tools, jigs & fixtures, testing kits available with the bidder in fit for use condition and which can be provided by the bidder during the execution of work. If some special fixtures are required, bidder has to fabricate the same and hand over to customer. Material for the same will be provided but welding rods and machining is in bidder's scope.
- 35.5 Bidder has to make payment to his workmen/employees as per the provisions of state/central laws.
- 35.6 Any testing such as UT/DPT/Radiography required at site for completion of the work as stipulated in the scope of work will be under the purview of the bidder. In this regard the bidder has to arrange the testing agency having required experience as acceptable to BHEL along with kit, and testing consumables and keep them ready as and when required from the starting date itself.
- 35.7 Transport and accommodation at site for the bidder's personnel to be arranged by the bidder at his own cost.
- 35.8 Transportation of materials from **Customer** stores to location at site and returning of the unused materials back to **Customer** stores will be under bidder's scope including all required arrangements (manpower & handling equipment).
- 35.9 **HSE requirements to be fulfilled by the sub-contractor (Integration of ISO 15001 environmental management system and OHSAS 18001 for Occupational Health and Safety Management System).**
- 36.0 **Statutory Requirement:**
- 36.1 Bidder should obtain the labour license from labour inspector of respective state. Labour insurance coverage for all the workmen before start of the work. Insurance coverage should be obtained for all the workmen and not for a few workmen. It is the responsibility of contractor to provide medical insurance for all the workmen engaged for COVID-19 ailments.
- 36.2 Statutory requirements like PF, ESI etc., as applicable should be fully complied with.
- 36.3 Any deductions made by customer from BHEL towards non-compliance of statutory requirement, safety requirement, etc. by the contractor engaged by BHEL, will be recovered from any of the dues payable to contractor.
- 37.0 **Extra work:**
- 37.1 The works which are of minor in nature and beyond the scope of work shall be considered as extra work on manday rate basis and this will be considered at the discretion of Resident Manager / BHEL-SAS.
- 37.2 Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework / repairs /

rectification / modification / fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at Rs.108/- per man hour.

Above manday rates are inclusive of charges towards consumables (except Special Alloy Steel Welding Electrodes) and T&P. Contractor has to submit log sheets consisting of details of manpower engaged (showing start hour and end hour) for execution of extra works duly certified by Resident engineer.

37.3 The works which are of major in nature and beyond the scope of work shall be considered as extra work on lumpsum negotiable basis and this will be considered at the discretion of Resident Manager / BHEL-SAS.

38.0 The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site "www.bhel.com → tender notification".

39.0 **Integrity commitment, performance of the contract and punitive action thereof:**

a) Commitment by BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

b) Commitment by Bidder/ Supplier/ Contractor:

i) The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

ii) The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

iii) The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage includes in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on www.bhel.com and/ or under applicable legal provisions.

- 40.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped/ digitally signed (as applicable) by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 41.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 42.0 "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."
- 43.0 **Suspension of business dealings**  
"BHEL reserves the right to take action against contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time".
- 44.0 The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.
- Bidder shall submit duly filled & signed DECLARATION REGARDING RELATED FIRMS along with their techno-commercial offer.
- 45.0 ***The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened, who will qualify for the subject job on the basis of pre-qualification evaluation & Techno- Commercial bids etc. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.***
- 46.0 "For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-Local supplier and purchase preference to Class-I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04-06-2020 issued by DPIIT. In case of subsequent orders issued by the Nodal Ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT".

Duly filled & signed Form (Declaration regarding minimum local content in line with revised public procurement (preference to Make In India), order 2017), as applicable, to be submitted by bidders along with their techno-commercial offer.

#### 47.0 **Compliance to Restrictions under Rule 144 (xi) of GFR 2017**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- II. “Bidder” (including the term ‘tenderer’, ‘consultant’ or ‘service provider’ in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. “Bidder from a country which shares a land border with India” for the purpose of this order means: -
  - a. An entity incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose beneficial owner is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (III) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation

    - a. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
    - b. “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
  2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
  3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether

- acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. However, in this regard, relevant provisions of GSCC shall also be applicable.

Note:

The bidder shall provide undertaking for their compliance to this Clause, in the Format (DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017).

Registration of the bidder with Competent Authority should be valid at the time of submission as well as acceptance of the bids.

- 48.0 ***BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).***

Thanking you.

**Yours faithfully,  
For and on behalf of BHEL,**

**Sd/-**

**(N Jaya Sankar)  
DGM /SCT**

**ANNEXURE – 1****TECHNICAL CONDITIONS** for RLA and LE Studies on Turbine components as per SOW TANGEDCO-Tuticorin TPS-Unit.No.1 (210MW)

1. Statutory requirements like workmen compensation insurance, third party liability insurance, PF registration and ESI registration certificates from statutory authority are to be submitted.
2. Contractor has to get safety clearance and work permit from customer before start of work.
3. For NDT purpose, Level-II supervisor, with valid credentials, shall be arranged by the contractor for the evaluation of DPT, UT of bearings, retaining rings etc., radiography of weld joints if required.
4. If any person found not fit or not having suitable experience for the job, our Resident Manager has the discretion to remove or contractor has to replace the person immediately with suitable experienced person.
5. Supply of material which do not go into the equipment being overhauled permanently is in contractor's scope.
6. All consumables like petrol, kerosene, grease etc., cleaning agents such as CRC electraclean, etc, adhesive like anabond loctite etc., and consumables for DP test such as cleaner, penetrant and developer etc are to be supplied by contractor.
7. Calibrated instruments are to be arranged by contractor for carrying out the tests in your scope.
8. Sub-contractor has to arrange for medical check-up as per the procedures of Customer prior to applying for gate passes.
9. PF, ESI, Insurance, medical check-up documents, labour identity cards, Adhaar cards etc., should be submitted for availing gate pass.
10. Only 24V hand lamps should be used. Transformers (230V to 24V single phase) to be arranged by contractor.
11. The contractor is responsible for taking all precautionary measures, for ensuring safety, health and welfare of the workmen engaged on the specified work
12. The contractor shall owe complete responsibility for all the accidents to their workers taken place within and outside the premises and the consequences there from. BHEL and Customer will not pay any compensation.
13. Successful bidder has to mobilize the site immediately and make necessary arrangements for getting gate passes and completion of Police Verification of workers.
14. The contractor and all persons engaged by him on the work shall conform in all respects with the preventions of all acts, orders, regulations etc., made by the competent authority with regard to safety, health and welfare of the persons engaged.
15. In case, BHEL/Customer becomes liable to pay any wages / dues/ penalties to any statutory authority/ Govt. Agency under any of the provisions of the factories act, Minimum wages act, workmen compensation act, employment of children act or any other loss, due to omission of the contractor, BHEL/Customer may make such payment and shall recover the same from the contractor's bills.
16. The contractor shall provide necessary first aid facilities for all his employees, representatives, workers, etc engaged at site. Enough number of his personnel shall be trained in administering first aid.



17. The contractor shall ensure that all persons deployed are thoroughly conversant with the Statutory requirements and safety rules governing the work and they have to undertake which may include, erection of barriers with identified danger marks around holes or openings, display of warning notices during day time and red lamps in the darkness, etc.
18. Any testing equipment required during overhauling shall be arranged by the contractor.
19. Sufficient service personnel may be engaged day & night by the contractor for exercising proper supervision of the above works in time.
20. Bidders are advised to visit site for studying scope works and familiarize themselves thoroughly with the site conditions.
21. Qualified NDT agency to be arranged by contractor for conducting DP & UT as per scope of work.
22. Consumables like welding rods, DP-Test kits, Rustolene spray, Kerosene, Gada cloth, emery sheets, 24V bulbs, oil stones, blue tube, Emery grinding wheels & stones, burr cutters, wire brush etc; required for the overhaul work shall be brought by the contractors in sufficient quantities.
23. Compressed air, water and power for the jobs as per requirement at specified locations shall be provided. Arrangements for further distribution shall be in the scope of the contractor.
24. If any T&P not mobilised then deduction shall be made as per terms and conditions of the contract or as per the recommendation of BHEL resident manager.
25. All NDT inspection including all accessories, consumables and manpower. (eg. DPT / MPI / NFT & ultrasonic testing) is in the scope of the contractor. Water washable type chlorine free fluorescent type DP kit for DP testing (Magnaflux/Orion make). Suitable color paint to repaint the weld joint after DPT along with required accessories and consumables.
26. The contractor has to engage competent / skilled manpower as per the requirement of the respective jobs. BHEL/customer reserve the right to disallow any worker to continue the work, if found unsuitable for the specific job. The party shall submit list of proposed foreman / skilled / semi-skilled man power (Equal strength of work group in 2 shifts) for each schedule of jobs to be deployed indicating field experience and grade in the organization within two days of intimation of the date of commencement of overhauling. This list shall be approved by EIC before commencement of overhaul.
27. Equal strength of work group, as indicated by BHEL/SAS Resident Manager, shall be deployed in 12 hrs shifts.
28. The contractor shall be fully responsible for the safety of his personnel during the work at site, and shall ensure the use of safety appliances by his workmen.
29. Party has to engage his manpower for 24 hour work in all working days/ holidays during execution of RLA study. The teams are to be headed by responsible and experienced Engineers/Supervisors. The party has to submit detailed manpower deployment program for round the clock work before commencing overhauling works.
30. The contractor shall have to take utmost care of spares parts/materials during dismantling, assembly, storage and handling of equipments etc as applicable.
31. After completion of work, the area shall be cleared up to the satisfaction of EIC without any extra charge on daily basis. Scrap materials have to be

- disposed to the scrap yard before completion of work as per instruction of EIC.
32. The contractor has to carry out the work as per the details given in "Scope of work" in general. However, the Manufacturer's maintenance catalogue and standard Engineering practices also need to be adhered to.
33. The contractor shall be fully responsible for maintenance of records of his employees including statutory requirements.
34. The contractor shall start the work only after instruction by EIC.
35. Contractor shall follow all the relevant practices implemented by Customer in respect of Safety, 5-S, ISO-14000, OHSAS etc. to the extent possible from proper cleanliness of site and records point of view.
36. Party shall comply all statutory requirements such as PF, ESI etc., as applicable.
37. DO'S AND DON'TS:
- Do's:
- # Do wear an overall while on job. Use proper gloves during work.
  - # Do wear canvas shoes during winding assembly.
  - # Do ensure that tools & instruments used are in good working condition & properly calibrated.
  - # Do ensure that all tools used are back in tools box and no tools is forgotten inside the stator.
  - # Do use protective creams before working with putties and wash hands with soap.
  - # Do use vacuum cleaner for cleaning stator.
  - # Do ensure covering of openings in stator body when not working to avoid accidental falling of foreign objects into the stator.
- Don'ts:
- # Don'ts use any knives without handles for cutting braiding.
  - # Don't enter the stator with loose objects like, coins, key bunch, metallic ball pen, pencils etc. in pockets.
  - # Don't use items, the shelf life of which has already expired.
38. WASTE MATERIAL:  
All waste material and refuse should be put in bins with correctly fitting lids or covers and labelled clearly 'WASTE'. They should not be located in the vicinity of the components.
39. NEW COMPONENTS:  
All new replacement components should be cleaned before they enter the clean conditions area and shall be inspected before fitting.
40. RECORDS:  
All materials, tools and special equipment's taken inside or outside of the personnel barrier of Generator shall be recorded in a Register, ensure that all tools/materials taken inside are brought back by checking the entries made in the Register.
41. Agency is required to take following insurance schemes for the technicians or Engineers and submit the policy copies to BHEL before start of the work:
- a. Pradhan Mantri Suraksha Bima Yojana(PMSBY)
  - b. Pradhan Mantri Jeevan Jyoti Bima Yojana(PMJJB)
  - c. Any accident policy
- Note: Agency has to take any state government issued policies if any prevailing at the time of start of the work at Customer.
42. Clauses of Deduction
- a. Any job if carried out leads to safety regulation violation then the contractor will be penalized appropriately by the management.

- b. Failure to comply with EHS guidelines.
- c. Any activity that leads to the disruption in the production activities that are being carried out without any written approval will be penalized.
- d. Damage to property will be recovered from the contractor.
- e. Non-compliance of statutory requirements.

43. **LABOUR LAWS:**

The Governing Acts as applicable and as amended shall be strictly followed. Some of such acts are given below. List of Labour legislation under which compliance, maintenance of registers and sending of returns shall be ensured by contractor. While complying with the Act complying with relevant rules issued under the said Acts and administrative circulars there on shall also be ensured by the contractor.

- f. The Factories Act, 1948
- g. The Contract Labour (R&A) Act, 1970
- h. The Employees Provident Fund and Misc. Provision Act, 1952
- i. The Employees' Compensation Act, 1923
- j. The Minimum Wages Act, 1948
- k. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- l. The Building and Other Construction Workers Welfare Cess Act, 1996
- m. The Inter State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
- n. The Payment of Wages Act, 1936
- o. The Payment of Bonus Act, 1965
- p. Maternity Benefit Act, 1971
- q. The Child Labour (Prohibition And Regulation) Act, 1986
- r. The Employees' State Insurance Act, 1948
- s. Equal Remuneration Act, 1976
- t. The Industrial Disputes Act, 1947
- u. The Payment of Gratuity Act, 1972
- v. The Trade Union Act, 1926
- w. The Apprentices Act, 1961
- x. Industrial Employment (Standing Orders) Act, 1946
- y. The Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959.
- z. Any other acts/rules as may be applicable from time to time.

44. **MAN POWER REQUIREMENT**

- a) Customer has insisted to provide experienced diploma holders and engineers. This should be strictly adhered. It may strictly be noted that if experienced engineers and diploma holders are not deployed, accordingly recovery shall be made from your bill based on recommendation by Resident Manager.
- b) Resident Engineer – 1 – 10 to 15 years' experience, must be an Engineering Graduate. Supervisors must be diploma holders with sufficient experience in Generator area.
- c) The sub-contractor man power deployed shall have hand over the gate passes to the security through the Resident Manager / BHEL.
- d) Safety of the equipment to be given utmost attention.
- e) You should make sufficient man power available for taking up this work with accent on quality.

45. Successful bidder shall follow HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS (Doc. No.HSEP:14 (Rev.01) Dtd.20.01.2020) attached with tender.
46. **LIST OF CONSUMABLES TO BE ARRANGED BY THE CONTRACTOR IN ADDITION TO THE NORMAL CONSUMABLES.**
- |  |                     |
|--|---------------------|
| 1) Dye penetration test kit  | As may be required. |
| 2) Emery paper ( fine and coarse )   | As may be required. |
| 3) Emery clothes sheets.   | As may be required. |
| 4) Eutectic electrode L & T – 670/680  | As may be required. |
| 5) All consumables as may be required for welding , brazing , gas cutting etc. |                     |
| 6)Petrol ,Diesel   | As may be required. |
| 7)Rustolene.   | As may be required. |
| 8 )Asbestos cloth and asbestos powder .  | As may be required. |
| 9)ACETONE.   | As may be required  |
- Any other consumables, supplementary requirement has to be provided by the vendor for successful completion of the job.

#### **TANGEDCO-TTPS CUSTOMER SPECIFIC CONDITIONS**

47. Accident:  
The work should be done carefully by observing all safety precautions. The Contractor is advised to take utmost care for the protection of their men and materials. No compensation (or) extra amount over and above the contract value would not be payable on account of accidents to men (or) loss of materials. Any accident must be reported to the officer incharge immediately.
48. Liability for accident to persons:  
The contractor shall indemnify and save harm to the purchase against all actions, suits, Claims, demands cost of expenses arising in connection with injuries suffered prior to the date when the works or plant shall have been taken over, the person employed by the contractor or his sub-contractor on the works whether under the General laws or under the workmen's compensation act 1923 or any other status in force at the date of the contract dealing with question of liability of employee for injuries suffered by employees and to have taken steps properly to insure against any claims here under
- On the occurrence of an accident which result in the death of the workmen employed by the contractor or which is due to the contract work and so serious as to be likely to result in the death of any such workmen the contractor shall within 24 Hrs. of happening of such accident intimate in writing to the concerned Engineer and such officer required by the provisions of Workmen's Compensation Act the fact of such accident. The contractor shall indemnify the BHEL & customer resulting directly or indirectly from his failure to give intimation the manner aforesaid including the penalties or fines, if any payable by the corporation as a consequence, of the corporation failure to give notice under the provision of the said act in regard to such accident.
- In the event of accident in respect of which compensation may become payable under Workmen's Compensation Act III of 1923 and any subsequent amendment thereof whether by the contractor or by the BHEL/Customer, it shall be lawful for the Engineer to retain out of money due and payable to the contractor such sum or sums of money as may, in the opinion of the said Engineer be sufficient to meet such liability. The

opinion of the Engineer shall be final in regard to all matters arising under clause and will not subject to any arbitration.

Liability for damage or loss to third party including inspection of officers due to act of the contractor or his plant or sub-contractor connected with the execution of this contract shall be fully borne by the contractor. The contractor shall maintain such detailed records to furnish information regarding entertaining and discharge of all workmen employed under this contract as to be adequate for the timely and full settlement of claims under the workmen compensation act. All cases of accidents or injuries shall be reported to the Engineer with all workmen's compensation act.

The contractor should report above all accidents within 24 hrs to the Engineer of the BHEL & Customer in the preliminary accident form. He should furnish other particulars such as medical certificates, wages particulars, fines certificates, proof of having paid the compensation fixed by the corporation etc. in due course without delay

49. Liability for damage to Works (or) Plants

The contractor shall, during the progress of the work, properly cover up and protect the work and plant from injury by exposure to the weather and shall take every reasonable proper timely and useful precaution against accident or injury to the same, from any cause and shall be and remain answerable and liable for all accidents of injuries there to which until the same of occasioned by the acts or commissions or the workmen or his sub-contractor and all the losses and damages to the works or plant arising from such accident or injuries as aforesaid shall be made good in the most complete and sub-spatial manner by the and at the sole cost of the contractor and to the reasonable satisfaction of the Engineer should such loss or damage happen to units or works or plant or materials falling outside the scope of this contract and due to the contract, these shall be replaced or compensated for by the contractor to the satisfaction of the Engineer.

50. Labour Licence

The contractor should obtain labour licence if he is engaging more than 20 labourer for one (or) more number of works. The labour licence should be produced to the labour welfare officer after obtaining the same.

51. Subletting

The Contract is not transferable. No part of contract shall be sublet.

52. Powers to Terminate The Contract:

In the event of non-performance and lack of diligence, the contract will be terminated and the SD will be forfeited. In that circumstances, the BHEL/Customer deserves the right, to arrange for some other agency for the execution of this contract.

53. Royalties For Patents:

All royalties for patents or charges for the use of infringements thereof that may be involved in the construction or use of any equipments or appliance to be supplied against this specification are included in the above prices. The contractor shall protect the purchase against all claims, actions, suits and proceedings for the infringement or alleged infringement of any patent, design or copy right protected either in the country of origin or in India by the use of any equipment supplied by the contractor other than for the purpose indicated by or reasonably to be inferred from the specification.

54. Documents contain False Particular Clause.

"In the event of documents furnished with the offer being found to be bogus or the documents contain false particulars; the EMD paid by the tenderers

will be forfeited in addition to blacklisting them for future tenders / contracts”

55. Recoveries of Dues:

The BHEL is empowered;

a) To recover any dues against this contract in the Bills/Security Deposit/Earnest Money Deposit due to the contractors either in this contract or any other contracts with corporation.

b) To recover any dues against any other contract of the contractors with BHEL, with the available amount due to the contractors against this contract.

56. Failure to Execute The Contract:

Contractors failing to execute the work order placed on them to the satisfaction of the BHEL & Customer under the terms and conditions set forth therein, will be liable to make good the loss sustained by the BHEL & customer, consequent to the placing of fresh orders elsewhere at higher rate, i.e. the difference between the price accepted in the contract already entered into and the price at which fresh orders have been placed this is without prejudice to the imposition of Liquidated Damages and forfeiture of Security Deposit for the breach of contract.

57. Safety Conditions

1. The contractor shall provide all necessary personal protective equipments (as per ISI standard) to their workers like safety helmets, Safety goggles, welding screen, hand gloves, safety belts, safety shoes, face mask etc depending upon working condition & nature of Job /work and should be worn by the contractor and his workmen while at work.
2. All the appropriate and relevant safety measures stipulated under the factories Act 1948 and Tamil Nadu factories rules 1950 made there under should be scrupulously complied with by the contractor and his workmen.
3. In case of any accidents/Injuries to the contract workers takes place due to non supply (or) Non-ISI standard safety equipments or due to careless working or due to improper handling of the equipment / tools the same shall be at the risk and cost of the contractor only. BHEL/Customer will not be responsible in any way either legally or financially to the same and the contractor will have to pay compensation to his labourers in such cases.
4. The contractor should not allow his workmen to wear loose garments like lungies, dhotis, and smoke cigarettes, beedies etc., while at work inside the plant premises.
5. No workmen below the completed age of 18 years should be engaged by the contractor for only works inside TTPS and no women workers shall be allowed to work in night hours inside TTPS except between hours of 6 AM to 6 PM.
6. For any safety violation and non-compliance of the statutory acts and rules prescribed respectively under the factories act 1948 and Tamil Nadu factories rules 1950 made these under the contractor is liable for the imposition of penalty upto Rs.5000/- (Rupees Five Thousand only) per spell as decided by the Board depending upon the severity and gravity of the violation.
7. The contractor shall indemnify BHEL & TANGEDCO against all actions, suits, claims, compensation towards accidents/death, cost of expenses arising in connection with injuries suffered by persons employed by the contractor whether under the general law of ESI

scheme & EPF scheme or any other statutory in force during the period of contract/and to undertake steps properly to insure against any claims there under.

8. For any Safety violation and non-compliance of the statutory acts and rules prescribed respectively under Factories act 1948 and TNF Rules 1950 made there under the contractor is solely liable for the imposition of penalty. It is to be clearly understood by the contractor that as per the section 101 of the Factories Act, where the occupier and or the manager of TTPS is charged by the officials of the factories inspectorate with offence punishable under the factories act 1948 and TNF rules 1950 for any safety violation by the contractor and his workmen while working, the concerned contractor shall be charged as the actual offender and brought before the court at the time appointed for hearing the charge and shall be convicted of the offence and the occupier and the Manager of TTPS will be discharged from liability under this Act, in respect of such

#### Special Conditions

58. The RLA Study should be commenced immediately after the completion of all dismantling and alumina blasting, cleaning works, preliminary report should be submitted within 10 days after starting the RLA Study.
59. The Contractor who offers for RLA of 210 MW TG set must possess the following infrastructure:
  - a. The key personnel actually deputed for RLA of TG set should have previous experience in doing RLA of 210 MW LMW TG set.
  - b. The minimum No. of personnel required round the clock for various works should be deployed.
60. The Contractor should bring all required testing instruments and other tools required for RLA study has to be brought by the Contractor. All the testing instruments should have valid calibration certificates.
61. The Contractor has to collect the necessary details for RLA study such as History of plant, O&M manual, operational records, plant layout etc., from the BHEL & customer.
62. The Contractor should engage sufficient skilled and experienced workmen in order to avoid any delay in the works and complete the works as per the planned schedule. The Executive Engineer, at his discretion, may turn down any person who is found unfit to work.
63. The Contractor should adhere to all safety precautions & statutory provisions for the workmen he engage & necessary insurance and labour licence should be taken. BHEL/Customer cannot be responsible for any accidents due to carelessness of the Contractor/workers.
64. As per the safety regulation/ LPG should never be used in place of DA gas. If LPG usage has been found/ the awarded work will be suspended and penalty of Rs. 500/- will be recovered from the Contractor's bill and the contract is liable for cancellation
65. For any damage to the installations or equipments during working the contractor should be solely responsible and the cost of damaged part is liable for recovery.
66. Electricity, Water, air shall be made available to the contractor for works at free of COST. Arrangements for tapping at a single point near work spot should be made out of his own cost.
67. Only 24 V hand lamps should be used and 230V supply should not be used.

68. Cleaning waste, old gasket, scrap, food pockets, etc. should be collected in a separate dust bin and disposed off daily to the area indented for it.
69. The contractor should submit a micro plan with necessary pert/Bar chart to complete the work in all respects within scheduled completion period before the commencement of works. The Bar chart shall be submitted to the Engineer well in advance before stopping of the Unit for Capital Overhauling.
70. Mobilization of full strength of labour shall be done at least 2 days before start of work.
71. No accommodation shall be provided for the Engineer, Technicians & workers, since vacant quarters are not available. Contractor has to arrange on its own for their stay and Boarding etc at Tuticorin.
- 72.
73. Conveyance facilities up to the work spot for Transport the labours round the clock should be arranged and borne by the contractor.
74. One vehicle with driver will be available round the clock at TTPS to meet out any emergencies.
75. The work should be carried out in a planned manner round the clock, so as to avoid the idling of labours etc.
76. Test certificate for all T&P's required for the works should be obtained from competent authority before availing the gate in-pass.
77. All safety measures of TTPS should be followed by the contractor.
78. Sub contractors labour identity card should be issued by the contractor and the copy of the same should be submitted to the engineer in charge before availing the gate in-pass.
79. Proper care should be taken while operating the crane, so as to avoid any untoward incidents.
80. For communication purpose the contractor should make their own arrangements.
81. Contractor should posses valid ESI and EPF for the labours engaged in the work for the prescribed period.
82. The staff and labours engaged in the work should wear respective personnel protective element required for the work. The workers should be skilled, physically and mentally abled workers should only be employed and at any time BHEL/Customer engineer has the power to disapprove any worker seeing his quality.
83. The contractor should produce the list of workers along with designation and obtain labour license from the Inspectorate of Factories, Tuticorin as applicable.
84. Since the TTPS comes under ESI coverage area, the contractor should produce ESI code number, before commencing the work.
85. The contractor should produce evidence for the remittance of ESI contribution of both employees and employer and also the contractor should produce split up details of ESI contribution of workers engaged in TTPS as per the format.
86. Compliance of ESI Act
  - a) Since Tuticorin Thermal Power Station is covered under the ESI Act, the Contractor who desires to take up works contracts for and inside the premises of TIPS is required to comply with all the relevant provisions stipulated in the ESI Act:
  - b) The Contractor should have taken separate ESI main code number and applicable sub code. The code number can be obtained from the Joint Director, ESI Corporation, Municipal Shopping Complex, Salai Street, Sindupoondurai, Tirunelveli-627001.



- c) The contractor shall be responsible for the payment of necessary ESI contributions - both Employer's and Employee's contributions as per the provisions of the ESI Act in respect of the actual workers engaged for the specified works;
- d) The Contractor shall submit necessary returns to the ESI corporation within the stipulated time as required under the said ESI Act;
- e) The Contractor shall produce the proof of payment of contribution both employer's and Employee's contributions made to ESI corporation in order to claim the bills;
- f) The Contractor shall be fully liable to meet and fulfill all the relevant provisions of the ESI Act in respect of the execution of the work;
- g) In case the contractor fails to fulfill any of the statutory provisions of the ESI Act and consequently it happens that BHEL/Customer has to meet such requirements of the said Act or Statutory provisions BHEL/Customer shall make good such requirements out of money due and payable to the said Contractor and further the performance of the said Contractor in this regard will be noted for all further Contracts of BHEL.

Statement showing the contribution (both employee and employer) remitted to the ESI authority-

Period: From \_\_\_\_\_ To \_\_\_\_\_

Employer Name and Address:

Employer Code No:

S.No	Name of insured person	Designation	Insurance No	No of days for which wages paid	Total amount of wages paid	Employee contribution	Employer' s Contribution	Total Amount
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#### 87. Compliance of EPF Act

- a) Since Tuticorin Thermal Power Station is covered under the EPF Act, the contractor who desires to take up works contracts for and inside the premises of TTPS is required to comply with all the relevant provisions stipulated in the EPF Act;
- b) The Contractor should have taken separate EPF main code number. The code number can be obtained from the Assistant Provident Commissioner/EPFO/SRO/Tirunelveli.
- c) The Contractor shall be responsible for the payment of necessary EPF contributions both Employer's and Employee's contributions as per the provisions of the EPF Act in respect of the actual workers engaged for the specified works;
- d) The Contractor shall submit necessary returns to the EPF Corporation within the stipulated time as required under the said EPF Act;
- e) The contractor shall produce the proof of payment of contributions-both Employer's and Employee's contributions made to EPF Corporation in order to claim the Bills for the respective work at TIPS;
- f) The contractor shall be fully liable to meet and fulfill all the relevant provisions of the EPF Act in respect of the execution of the Tendered work;

- g) In case the contractor fails to fulfill any of the statutory provisions of the EPF Act and consequently it happens that BHEL/Customer has to meet such requirements of the said Act or Statutory provisions BHEL/Customer shall make good such requirements out of money due and payable to the said Contractor and further the performance of the said Contractor in this regard will be noted for all further Contracts of BHEL.

**IMPORTANT NB : STATUTORY REQUIREMENTS LIKE PF, ESI ETC., AS PER TAMIL NADU GOVT. AND AS PER TANGEDCO-TTPS-HRD TO BE FULLY COMPLIED WITH. ANY SPECIAL RULES OR ALLOWANCES APPLICABLE AS PER TANGEDCO-TTPS-HRD TO BE FULLY COMPLIED WITH.**

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**SCOPE OF WORK for RLA and LE Studies on Turbine components as per SOW TANGEDCO-Tuticorin TPS-Unit.No.1 (210MW)**

**RLA and LE STUDIES ON TURBINE COMPONENTS & AUXILIARIES**

**1. Scope of study :-**

The scope of study mentioned below is indicative and in case the contractor felt necessary to include test/work, may do so to complete the Life Extension study.

The scope of study shall cover the following equipment/area:

- Turbine Static components
- ESVs, IVs and control valves.
- Main steam, Reheat, HPT/IPT Transfer pipe, HP/LP by pass pipe boiler feed water lines, drip lines, extraction and auxiliary steam lines and hanger supports in turbine maintenance division area
- All governing components
- Steam path audit
- HP / IP / LP Rotors
- All the welding joints in the MSL, CRH, HRH, HP bypass, LP bypass (Left & Right) in turbine area

**2. Non-Destructive tests**

The non-destructive examinations/tests, inspections, checks to be carried out are broadly indicated as below. The scope of the tests/inspection may not be limited to these tests/inspections. The Contractor is free to add other tests/inspections also to judge the actual condition of the plant/equipment/component and to arrive at root causes of the deficiencies detected and correctly predict the residual life.

- **Visual Examination (VE)**
- **Dimensional Measurements (DIM)**
- **Dye-penetrant Examination (DPT)**
- **Magnetic Particle Inspection (MPI) including Turbine Rotor blades.**
- **Ultrasonic Examination (UT)**
- **Eddy Current Test (ET)**
- **Metallographic Replication including MS & HRH pipeline (RPL)**
- **Hardness Measurement (HB)**
- **In situ Chemical Analysis (CA)**
- **Borosopic test for turbine rotors**
- **Borosonic test for turbine rotors**
- **Natural Frequency Test on Turbine Blades**

**Additional Test**

The Contractor may suggest any additional tests which in their opinion shall be essential/necessary or advantageous in assessment of condition of the Turbine, their auxiliaries including Root cause analysis and prediction of remaining life without claiming any extra cost.

**3. Evaluation and Analysis of Test Results**

The Contractor shall carry out detailed evaluation of various tests/inspections/check performed by him to quantify the following information:

- Extent of damage/level of flaw currently in the equipment/component
- The rate of damage accumulation/flaw propagation
- The extent of damage required (additional operating hours, cycles) to cause failure of the equipment/component

**4. Root cause analysis**

The Contractor shall submit the detailed root cause analysis in respect of the deficiencies/flaws in various power plant equipment, systems covered under the scope of study, indicating the reasons for their appearance. This will include identification of the potential root causes, verification process adopted to establish the actual root cause and also problems identified in the upstream/downstream systems, equipment/components.

**5. Steam path audit**

The steam path audit for identification and quantification of degradation in heat rate/efficiency of the Turbine resulting from changes in steam seal clearances, changes in flow surface roughness, flow path deposits, solid particle erosion etc... on stage by stage basis and component by component basis.

**6. Cost Benefit Analysis**

The Contractor shall clearly indicate the methodology adopted to arrive at specific recommendations in respect of various equipment/ components covered under the scope of study. The various alternative considered and methodology adopted for evaluation of cost benefits as well as feasibility of implementation in *respect of each alternative shall be clearly specified.*

The justification that recommended alternative is least cost shall also be provided.

**7. Responsibilities of Contractor**

- Contractor shall organise to dismantle the equipment under study, clean the components to the extent required for inspection, take measurements and record, and to assemble back the equipment

- Contractor shall submit a detailed testing and inspection plan for non-destructive tests proposed along with testing procedure evaluation/analysis criteria and clearance/preparations required from the owner for the study. As far as possible, these procedures shall be based on Indian Standard/International Standards.
- Contractor shall ensure deployment of state-of-the art equipment most appropriate for testing and analysis technique being employed. The list of the various equipments proposed to be used by the Contractor shall be submitted to the owner. The list must give the name, make and sensitivity/accuracy of the equipment together with consumables to be used
- Contractor shall be responsible for arranging all the equipment's and consumable required during study/tests.
- Contractor shall ensure use of calibrated equipment/instruments only. The calibration procedure followed must ensure the accuracy and reproducibility as per the Original Manufacturers Certification and shall be done by the authorised test laboratories personal. The calibration certificates shall be submitted to the Owner
- The personal/operators employed for performing various tests, checks and examinations shall have adequate qualification, knowledge and experience in their respective fields. The non-destructive testing personnel performing visual, dye penetrant, eddy current, magnetic particle, ultrasonic, radiographic examinations shall be qualified and certified as minimum level-II in their respective fields in accordance with American Society of Non-Destructive Testing qualification and certification of NDT personnel or SNT-TC-IA. The Contractor shall provide a list of personnel to be employed for the tests along with their qualification to the owner.
- Contractor shall carry out non-destructive tests on all the components as per the approved testing and inspection plan and submit the test results along with the report
- The test results are to be analysed and evaluated using proper tools/Computer software to estimate remnant residual life. The test results along with details of calculation should be submitted along with the report to the owner on Completion of the study
- Contractor shall organise to take photograph of abnormalities/ defective components and submit the same along with the report.

#### 8. **Schedule of study**

The RLA and LE Studies are required to be carried out/completed during the planned, annual, capital overhaul of the unit. It is therefore necessary that all the inspections/testing activities are completed within the specified period so that commissioning schedule of the unit is adhered to.

**Non destructive tests**

The schedule of the tests to be performed should be decided appropriately by the Contractor in consultation with the owner to ensure that it corresponds with the opening of the equipment and is completed within the available time frame

Evaluation of the test results/Preliminary Reports Contractor shall clearly specify the time frame within which the evaluation of the test/inspection results shall be completed and preliminary reports submitted.

Test schedule with macro (system wise) and component/equipment wise schedule shall be submitted by the Contractor atleast seven (7) days before start of test at site i.e., on or before stopping of barring gear along with list of testing and their calibration certificates.

**9. Recommendation and Deliverables**

Root Cause Analysis

Test Results and analytical predictions

Run/Repair/Replace Recommendations

The Contractor shall furnish the following details in support of each run, repair and replace recommendations made in respect of the various power plant equipments and critical components covered under the study:

- Recommendations (in respect of all major power plant equipment's / components covered under the study) whether the plant can run with the component in its present condition or the component require immediate repairs or the component needs to be replaced immediately / after certain time period.

Back up information justifying the above information as stated below:

- Analytical tools used for analysing the residual life/condition assessment and the report for same
- Source/methodology for generation of data in respect of material properties allowable stresses, material constants, excursions in temperatures and pressures etc...
- Major assumptions made in the analysis
- Conclusions based on the above analysis
- Cost benefit Analysis

Improvement/change in O&M practices

The Contractor during the course of the study shall identify the deficiencies, if any, in the O&M practices that might have resulted in the initiation / propagation of flaws and deficiencies in equipment/components. Accordingly, necessary recommendations shall be given regarding improvement in operation and maintenance (preventive, predictive) practices and re-inspection intervals for various power plant components.

Upgradation in safety and environmental practices

The Contractor, during the course of the study shall identify the deficiencies in prevailing environment and safety practices and suggest remedial action in case any deficiency is noticed.

#### Final Report

Contractor shall analyse the results of various tests conducted, findings and observations and discuss the same with BHEL and submit 12 sets of final report to BHEL.

The final report shall consist of:

Recommendations (with detailed specifications) for upgradation/refurbishment/repair/replacement/retrofit along with cost benefit analysis, equipment wise and expected improvement in terms of plant availability, plant load factor, mw generation and efficiency.

Examination reports of all Non-Destructive tests carried out in field as well as in Laboratory. These reports shall be properly identified so that these could be easily correlated to the component, location and stage of test, preferably all NDT reports shall be supplemented with location sketch and a colour photograph.

Details of fundamental techniques, equations and tools/techniques used in evaluation and analysis of the test results for the purpose of residual life/condition assessment.

All material properties, stress analysis results, fracture mechanics calculations, inputs and assumption used in the analysis.

The report should contain recommendations for future inspection plan for critical components and its periodicity, suggestions for improvement on O&M practices.

Justification of all assumptions made in the analysis.

The final report should be formatted/presented in such a manner that all the data, back-up information could be easily correlated with the assessment / evaluation / predictions made.

Daily programme and progress report (3 copies) shall be submitted during testing at site to BHEL. The minor defects noticed during RLA study shall be reported to the owner so as to rectify the same at the time of capital overhaul itself.

Preliminary inspection and analysis results shall be provided to the owner within 1 week after completion of the individual inspections/ examinations. Original copies of all other data and records that are used or could be used for defect evaluation shall become the property of the customer / BHEL and shall be included in the preliminary report and in the final report.

Within 20 working days of the last test / examination on the turbine and piping components, the contractor shall submit 12 copies of Quality Assurance reviewed draft report for review by the BHEL and owner. Subsequent to the BHEL and owner's review (20 working days), the contractor shall submit 12 copies of final report within 10 working days. Failing which a penalty @0.5% per week shall attracted.

A summary of findings, recommendations, and results of analysis, description of current condition, and predicted remaining life of each component shall be submitted by the Contractor. The description shall contain the reason or justification for the recommendation for each component.

Visual Inspection (VE) results shall be described with location sketches and Photographs (original) in each report.

**IMPORTANT NOTE :**

All materials, consumables required for carrying out RLA is in the scope of contract.

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**ANNEXURE-3****PRICE SCHEDULE FORMAT****Tender Specification No: T-03/2021-22 Dt: 17.05.2021****Time & Date of submission Before 11:00 Hrs. on 28.05.2021**

<b>DESCRIPTION</b>	<b>TOTAL AMOUNT excl. GST (in Rs.[Figs. And words])</b>
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Total amount for RLA and LE Studies on Turbine components as per SOW TANGEDCO-Tuticorin TPS-Unit.No.1 (210MW)	} 100% }	Rs. _____
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**In words:** Rupees**GST Number:****COMPLETION PERIOD:** The entire work covered under the scope of this tender is to be completed within 10 days from start to completion of SOW

GST SHALL BE TREATED AS EXTRA

**Note:**

1. Work to be taken up as advised by BHEL/SAS in line with customer schedule.
2. Payment shall be on completion of works as per terms of payment envisaged in the Tender.
3. The price quoted will be FIRM for a period of 06 months from the date of tender opening
4. The rates should be quoted **both in figures and in words.**

We have quoted in line with the tender specification and we confirm our acceptance to the above mentioned conditions.

Signature of Bidder with Seal

**NO DEVIATION CERTIFICATE**

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

-----

To,

The General Manager/SAS,  
Bharat Heavy Electricals Limited,  
PSSR-SAS Secunderabad,  
EK Tara Building,  
39, SD Road,  
Secunderabad – 500 003.

Dear Sir,

Sub : No Deviation Certificate

Ref : 1) NIT/Tender Specification No: .....,  
2) 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.

This is to confirm that, we have noted the job content and we are fully aware of the site condition etc., before submission of our offer.

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)

**DECLARATION BY BIDDER FOR PRICE OPENING THROUGH REVERSE AUCTION**

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

-----  
To,  
The General Manager/SAS,  
Bharat Heavy Electricals Limited,  
PSSR-SAS Secunderabad,  
EK Tara Building,  
39, SD Road,  
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration by Bidder for Price opening through Reverse Auction

Ref: 1) NIT / Tender Specification No .....,

I have studied and understood the clauses of Reverse Auction Guidelines published at <http://www.bhel.com>. I, hereby declare that we shall be participating in the Reverse Auction in case BHEL opts for opening the price bid through Reverse auction.

**Below are the contact person details for participating in reverse auction:**

Name : \_\_\_\_\_.

Mobile/Phone No. : \_\_\_\_\_.

E-Mail ID : \_\_\_\_\_.

Yours faithfully,

Date: (Signature, Date & Seal of Authorized Signatory of the Bidder)

**DECLARATION BY BIDDER REGARDING NIL INSOLVENCY PROCEEDINGS**

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

-----

To,

The General Manager/SAS,  
Bharat Heavy Electricals Limited,  
PSSR-SAS Secunderabad,  
EK Tara Building,  
39, SD Road,  
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration by Bidder regarding NIL Insolvency proceedings

Ref: 1) NIT / Tender Specification No .....,

I, Mr \_\_\_\_\_ (Designation \_\_\_\_\_) hereby declare that, our company has not filed/does not have any Insolvency proceedings/NCLT proceedings pending under Competent Authority as on date of submission of this offer. Any Insolvency / NCLT proceedings regarding the company in future will be communicated immediately to BHEL.

Yours faithfully,

Date: (Signature, Date & Seal of Authorized Signatory of the Bidder)

**DECLARATION REGARDING RELATED FIRMS**

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

Date: \_\_\_\_\_

To,

The General Manager/SAS,  
 Bharat Heavy Electricals Limited,  
 PSSR-SAS Secunderabad,  
 EK Tara Building,  
 39, SD Road,  
 Secunderabad – 500 003.

**Sub: Details of related firms and their area of activities**

Dear Sir/ Madam,

Please find below details of firms owned by our family members that are doing business/ registered for same item with BHEL, \_\_\_\_\_ (NA, if not applicable)

01	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
02	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
...		

Note: I certify that the above information is true and I agree for penal action from BHEL in case any of the above information furnished is found to be false.

Regards,

(\_\_\_\_\_)

From: M/s \_\_\_\_\_

Supplier Code: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH  
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA),  
ORDER 2017**

DATED 04TH JUNE, 2020) AND SUBSEQUENT ORDER(S)

(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)

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To,

The General Manager/SAS,  
Bharat Heavy Electricals Limited,  
PSSR-SAS Secunderabad,  
EK Tara Building,  
39, SD Road,  
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017-Revision, dated 04th June, 2020 and subsequent Orders)

Ref : 1) NIT/Tender Specification No: .....,  
2) All other pertinent issues till date

We hereby certify that the items/works/services offered by \_\_\_\_\_ (SPECIFY ORGANIZATION NAME HERE) has a local content of \_\_\_\_\_ % and this meets the local content requirement for 'Class-I local supplier' / 'Class II local supplier' \*\* as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- |          |          |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

Thanking you,  
Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

\*\* - Strike out whichever is not applicable.

Note:

1. Bidders to note that above format Duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 Crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

**DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE  
144 (xi) OF GFR 2017**

(To be typed and submitted in the Letter Head of the Entity/Firm providing  
certificate as applicable)

-----

To,

The General Manager/SAS,  
Bharat Heavy Electricals Limited,  
PSSR-SAS Secunderabad,  
EK Tara Building,  
39, SD Road,  
Secunderabad – 500 003.

Dear Sir,

Sub: Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017

Ref : 1) NIT/Tender Specification No: .....,  
2) All other pertinent issues till date

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries. I certify that \_\_\_\_\_ (specify the name of the organization here), is not from such a country / has been registered with the Competent Authority (attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT)); and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. (attach relevant valid registration, if applicable) I hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

Thanking you,

Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

Note:

Bidders to note that in case above certification given by a bidder, whose bid is accepted, is found to be false, then this would be a ground for immediate termination and for taking further action in accordance with law and as per BHEL guidelines.

**BANK ACCOUNT DETAILS FOR E-PAYMENT**

(To be given on Letter head of the Company /Firm of Bidder, and ENDORSED (SIGNED & STAMPED) BY THE BANK to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS))

-----

1. Beneficiary Name and Address:
2. Beneficiary Account No.:
3. Type of A/C (CC/Current)
4. Bank Name & Branch:
5. City/Place:
6. 9 digit MICR Code of Bank Branch:
7. IFSC Code of Bank Branch:
8. PAN Number of Beneficiary:
9. Beneficiary E-mail ID:  
(for payment confirmation)

Note: In case Bank endorsed certificate regarding above has already been submitted earlier, kindly submit photocopy of the same.



Form WAM 10

**BHARAT HEAVY ELECTRICALS LIMITED****DIVISION .....****Claim for Refund of Security Deposit****(Para 4.7.4 of Works Accounts Manual)**

Ref No.:

Date:

- 1 Name and address of the contractor
- 2 Contract Agreement/Work Order No.
- 3 Date of contract agreement/work order
- 4 Name of the work undertaken
- 5 Date of commencement of the work
- 6 Date of completion of the work
- 7 Period of Maintenance
- 8 Date on which the final bill was paid
- 9 Last date of making good the defect, if any, during maintenance period
- 10 Expenditure incurred by BHEL during maintenance period, if any, recoverable
- 11 Date on which security deposit refund falls due as per contract
- 12 Amount deposited/recovered

Details	Mode	Amount

- 13 LESS amounts recoverable (with details)
  - (i) Amount spent by BHEL on maintenance:
  - (ii) Payments made on behalf of contractor :
  - (iii) Court dues / penalties / compensation :
  - (iv) Other recoveries for services etc. :
  - (v) Security deposit released with final bill (%):

- 14 Net amount recommended for release (12-13):

Details	Mode	Amount

Date:

Signature of Engineer in Charge

Form WAM 10 (Contd.)

**CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR**

I/We have no claim or demand outstanding against BHEL .....for the work done or for labor or material supplied or any other account arising out of or connected with the contract agreement/work order (No.....dated ..... ) and the payment of this bill shall be in full and final

**Date:****Signature of Contractor****CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER**

Certified that

- The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the contractor;
- The maintenance period as per the contract agreement is over and the contractor has carried out the works required to be carried out by him during the period of maintenance to our satisfaction, and all expenses incurred by the company on carrying out such works have been included for adjustment;
- All the objections raised so far have been settled;
- A note of refund of security deposit has been made in the measurement book and contract agreement/work order.

**Date:****Signature of Senior Engineer****FOR USE IN FINANCE DEPARTMENT**

Passed for

Rs.....(Rupees.....  
.....only)

**Accountant****Accounts Officer**

## SUB AGENCY LETTER HEAD

.....  
Ref. No: BHEL/PS/SR/SAS/No Due/SITE: .....DATE:.....

To,

The engineer Incharge,

Dept: .....

Project:.....

Unit:.....

(Through BHEL Site In-charge)

Sub : Request for issuance of "NO DUES CERTIFICATE "

Ref : 1) Customer P.O/LOI : .....  
.....

2) BHEL P.O/LOI : .....  
... ..

Dear Sir,

With reference to the above we request for issuance of "NO DUES CERTIFICATE" for  
the works ..... for the Project: .....  
....., Unit: .....

Kindly do the needful at your end please.

Thanking you

Yours faithfully,

(Name: ..... )

Site In-charge

Company: M/s.....

Project:....., Unit No: .....

.....  
Kindly issue "No Due certificate" for the above subject works after due verification of  
your stores.

With thanks and regards

Site In-charge

BHEL/PSSR/SAS

PROJECT: ..... Unit: .....

## **NO DUES CERTIFICATE**

Date: .....

Ref:1) P.O No: .....

2) Your Lr .No: BHEL/PS/SR/SAS/No Due/Site: ..... Dtd: .....

This is to certify that, with the above references, M/s .....  
....., Sub contractor of M/s BHEL/PSSR/SAS returned all the T&P and materials in  
healthy condition which were received during execution of the works : .....

..... at project : .....

..... of unit No : ..... in the period of .....

This "No dues certificate" issued after due verification of our stores.

Signature of principal customer

Dept :

Seal :