

NTPC LTD
CORPORATE OPERATION SERVICES, EOC, NOIDA
VENDOR ENLISTMENT FOR OVERHAULING OF STEAM TURBINES ON PAN NTPC BASIS

1	CEG No.	TMD-12
2	Name of CEG	Capital Overhauling/overhauling of Steam Turbines of rated capacity 500 - 660 MW having stationery blades fitted into diaphragms.
3	Responsibility Centre	CPC
4	<p>Indicative scope of work Technical Specifications for Capital Overhauling/overhauling of Steam Turbines having stationery blades fitted into Diaphragms</p> <p>A. To carryout Capital Overhauling of Steam Turbine and associated equipment i.e. All Turbine/HP/IP/LP Cylinder, Turbine Stop/Control valves, LP Bypass stop/Control valves, CRH NRV's, Extraction NRV,s, Main steam/Hot Reheat Strainers with in the stipulated time (Barring to Barring). The details of scope of work and terms of conditions shall be as per tender enquiry. The scope includes, to carry out;</p> <ul style="list-style-type: none"> • Dismantling, Assembly of Cylinder, components as per required procedure. Check healthiness of steam path components and check/set/ensure required steam path clearances. • Dismantling, assembly of Main steam piping/Casing joint, all miscellaneous piping e.g. Gland steam supply, leak-off, drains etc. • Dismantling, Inspection, Assembly of Bearings. Check/correct necessary matching of bearing support/contact areas, bedding check and ensure proper clearances during fitment. • Dismantling, Inspection and Assembly of Stop/control valves. Check/correct necessary matching of stem to seating area and ensure proper oil/key clearances during fitment. Ensure proper fitment of oil catcher/oil guards with required clearances. • Necessary checks on various keys, inspect, clean/replace, set at required clearances • Necessary checks on various seal rings. Ensure healthiness and Measure values/dimensions as per requirement. • Dismantling/assembly of casing parting plane fasteners using induction heating Equipment, directly or through associates • Checking for Matching, correction of Parting plane contact area , checking/correction of flange/stud heating groove depth • Dismantling, Inspection, Assembly of Main Oil Pump/Governor as per required procedure, Replace necessary components e.g. bearings/Wear rings/shaft etc. • Dismantling, Inspection, assembly of Barring gear assembly • Inspection/replacement of Compensator/Bellows • Float check as per procedure. 	

- Radial/facial run out, swing check and necessary face corrections for removing high points, Convexity, concavity etc.
- Rotor/Diaphragm/Liner/carrier replacement as per procedure
- Axial clearance check, Diaphragm centering with Dummy shaft/Piano wire/Laser alignment kit (as per requirement). Diaphragm machining with/without diaphragm replacement.
- Diaphragm/Liner/casing thermal clearance check.
- Minimum radial clearance check by lead wire and seal cutting/as applicable.
- Babbit healthiness check, DPT,MPI check of various components and NFT of LP Turbine blading directly or through reputed associates
- Coupled Run out, Decoupling, Free Run out, MOP-HP-IP-LP, LP-Generator alignment.
- Casing loading checking/correction using dynamometer
- Catenary checking/correction through shims under deck springs, directly or through associates
- Dismantling, Inspection, Assembly of Strainers.
- Necessary weld repair work of Turbine components e.g. Diaphragms, Nozzle boxes
- Alumina cleaning of steam path components
- Slow speed balancing either directly or through reputed associates
- Necessary Rotor gland/seal segments/Peak seal refining at site
- In-situ blade replacements directly or through reputed associates
- Coupling bolt reaming/Honing directly or through associate
- Laser alignment for centering of diaphragms may be done directly or through associates

B. Tools, Tackles and Fixtures: The service provider should have required tools/tackles, fixtures for carrying out jobs as above and for meeting the requirement of complete all cylinders at a time. Service provider is required to submit the list.

C. Material Supply; Turbine spares/components are within scope of NTPC. All consumables shall be within scope of Service provider.

D. Terms and conditions

- The work should be completed in 35-45 days (Barring to Barring)-indicative.
- **Expected Workmanship quality :** The workmanship quality has to be such that either the vibrations are less than or equal to *expected* values observed in pre-overhaul survey. No rework should take place, on account of workmanship, with in the period specified in Site contract.
- Experience of BHEL, KWU/Siemens, LMZ/Power Machines, Ansaldo, MHI, GEC, GE ,ABB, Alstom, Alstom/Parson, Power Machines, Skoda Make/Design steam turbines shall only be considered.
- Service provider should have on its rolls, sufficiently experienced Graduate/ Diploma

**5.
Technical
Qualifying
Requirements**

mechanical engineers, at least 4 numbers, so that 2 each can be posted for site in charge/supervision on 24x7 basis.

- Skilled manpower; Service provider should have sufficient Millwright fitters on its rolls, so that 8 can be posted at each site for craftsmanship.

- For works executed outside NTPC, Service provider should produce work completion certificate from Turbine Manufacturer/OEM/SEB/Utility/Company for satisfactory completion of work having completed in scheduled overhauling period.

- For cases of overhauls executed in NTPC, Internal feedback shall also be considered.

Technical Qualifying requirements for capital overhauling/overhauling of 500 - 660 MW, diaphragm type Steam Turbines

Option “A” for Steam Turbine OEM/OES/OED

Applicants :-

The applicant should be an OEM (Original equipment Manufacturer) of Turbines of 200 MW or higher capacity units of Thermal Power plants

Or

The applicant should be an Original equipment Designer of Turbines of 200 MW or higher capacity units of Thermal Power plants and should have collaboration agreement with any OEM of such machines

Or

The applicant should have supplied, erected & commissioned Turbines of 200 MW or higher capacity units of Thermal Power plants

Option –“B” for Other Applicants (Other than those type given at option A)

The bidder should have carried out at least two (2) overhauls for Steam Turbines of capacity 490 MW or higher (with at least 2 cylinders at a time) of design/make as per the ‘Note’ below during any three consecutive years within the last four years period from the date of submission of application.

AND

The bidder should have carried out at least three (3) overhauls for Steam Turbines (diaphragm type) of capacity 200 MW or higher (with at least 2 cylinders at a time) of design/make as per the ‘Note’ below during any three consecutive years within the last four years period from the date of submission of application.

	<p>Note for Option “B”:-</p> <p>a. Experience of only BHEL, LMZ/Power Machines, KWU/Siemens, Ansaldo, MHI, GEC, GE, ABB, Alstom, Skoda Make/Design steam turbines either in India or abroad shall be considered.</p> <p>b. Experience of capacity up gradation through cylinder modification at site shall also be counted equivalent to experience towards overhauling for respective categories</p> <p>c. Experience of erecting the complete diaphragm type steam turbine of rating 600 MW or higher shall be considered equivalent to capital overhaul for Diaphragm type turbine.</p> <p>d. The three consecutive years shall be cluster of first three years or last three years within last four years period from date of submission of application. For example if a vendor submits application on 25th September,2018 the last four years period shall be 26th September,2014 to 25th September,2018. The clusters of three consecutive years shall be 1st cluster (26th Sept,2014 to 25th September,2017) & 2nd cluster(26th Sept,2015 to 25th September,2018)</p>
<p>Document to be submitted by Vendor in support of meeting QR</p>	<p>1. Relevant and legible PO copies with detailed scope of work, terms and conditions, BOQ, and Client’s Completion Certificates for the works executed.</p> <p>2. Filled up format (Form –A)mentioning details of credential to be attached</p>
<p>6. <i>Guidelines for finding the executed value of the POs submitted by the applicants (Three highest executed values shall be considered)</i></p>	<p>1. Executed value means “ The combined executed value from all BOQs of the similar work or the lump- sum amount (if there is no BOQ) of the similar work executed by the applicant.”</p> <p>2. Similar work definition for execution capability</p> <p><u>For Option-A applicants</u></p> <p>“Work of Overhauling or Supply or Erection and Commissioning of Steam Turbine/Turbo Generator”</p> <p><u>For Option- B applicants</u></p> <p>Similar work means “The work of (overhauling) or (Erection and commissioning) of Steam Turbine/Turbo Generator of capacity 200 MW or more executed within last five years from date of application ”.</p> <p>3. In case of single /composite POs involving overhauling/erection of Boiler, Turbine and Generator, the executed value from boiler and its auxiliaries overhauling/erection shall not be considered.</p> <p>4. Executed values of similar work involving works of TG auxiliaries and capacity up gradation, if any, executed within the PO shall be considered.</p> <p>5. Material values supplied, if any, within the similar work shall be considered as executed values if total material value supplied is equal</p>

	<p><i>to or less than 20% of overall executed value. If the material value is more, than total material value shall not be considered as executed value.</i></p> <p><i>6. Value means basic value of the PO. Where PO value is composite (i.e. including Service taxes etc.), the applicant has to give break-up of composite PO value mentioning basic value, taxes etc. Any separate re-imburement/ escalation shall not be considered.</i></p>
7	<p>Documents to be submitted :</p> <p>In addition to the documents required in support of meeting technical requirements as stated above, following documents are required to be submitted by the applicants applying for enlistment:-</p> <ol style="list-style-type: none"> a. Audited balance sheets including Profit & Loss statements for the previous three completed financial years reckoned from the date of application. In case the audited documents are not ready / available, then certified copy by a registered practicing Chartered accountant may be submitted. b. NSIC / SSI / MSME registration certificate, if any. c. PF and GST registration certificates. e. Any other documents in addition to the above which the applicant wants to submit.
8	<p>Special Terms and Conditions:</p> <ol style="list-style-type: none"> A. Evaluation Criteria: (As per QR) No. of capital overhauls specifying cylinders (HP/IP/LP), Make, design, MW Rating, Type (Having stationery blades directly fitted into casing or stationery blades fitted in Diaphragms), P.O. Copies, Annual Turn over B. Work completion certificates issued by employer mentioning that “The job has been completed successfully” OR “There is no adverse report on execution of work or post commissioning running of the machine within the stipulated period” for the specific PO for which work completion issued. Separate certificate issued by employer/utility mentioning the above shall also be accepted. If required, NTPC may seek clarification/feedback from the employer/utility related to credential of the applicant. C. The job carried out as mentioned in QR within a specific period means that the job must have been started and completed within the period for overhauling of turbines. In case of erection of complete turbine, the date of start of job may be earlier to the beginning date of period under consideration but the erection must be complete on or before last date of period. D. The bidder should have carried out the erection of turbine means that the unit has been synchronized to the grid. (First time synchronization shall also be considered.) E. PF document is mandatory for enlistment. F. No fee is required to be paid for enlistment. No off line application would be entertained by NTPC. G. In the process of vendor enlistment, NTPC may seek additional information/ clarification and vendor must be ready to furnish promptly any such information, so asked for.

- H. Any contractor currently under BIFR or banned / blacklisted on Pan NTPC basis shall not be considered for enlistment. However, such vendors may be considered for enlistment only after expiry of the banning / blacklisting period. If any vendor is debarred / banned in participating any tender originating from any particular station/ region of NTPC shall continue to remain debarred/banned for that station/ region even after enlistment on PAN NTPC basis, till expiry of period or else banning order is revoked by concerned station/ region.
- I. The cutoff date for submission of completed application as mentioned in this notification is only for the purpose to commence first cycle of evaluation only. Vendors intending to get themselves enlisted within the first cycle need to apply online within this cutoff date. Application submitted after this date will not be considered for enlistment in the first cycle.
- J. In case, during evaluation of credentials, if any additional or relevant documents is required by NTPC, the same should be furnished by uploading in website/e-mail attaching scanned copy of documents duly signed & stamped by the authorized person.
- K. Vendors shall be enlisted for three years from the date of uploading of list on website, subject to fulfillment of the terms & conditions.
- L. Interested vendors may open the website (www.vendor.ntpc.co.in) and register themselves for enlistment by filling registration form online. System generated e-mail shall be sent to the vendor giving ID & password for authentication & activation. It is required that the photocopies of the original documents of the relevant credentials shall be self attested by the authorized signatory with company seal, scanned and uploaded in "PDF form" as per the instructions shown on the page.
- M. Vendor has to send hard copy of following documents in original, in the format given on the home page of website so as to reach at Central Procurement Cell , EOC, NTPC Ltd, Noida- U P , PIN: 201301.
- i. Letter of Undertaking (to be executed on non-judicial stamp paper of Rs. 100/-)
 - ii. Power of Attorney (to be executed on non-judicial stamp paper of Rs. 100/-)
Original Letter of Undertaking and Power of Attorney duly signed are to be sent by speed / registered post/ courier on stipulated address so as to reach within fifteen days of submitting the application. Without receipt of original Letter of Undertaking & Power of Attorney, the applicant shall not be considered for enlistment.
- N. For enlisted vendors, at any given point of time, maximum four orders of the works under the same CEG can be awarded on pan NTPC basis. This clause may be reviewed by NTPC depending on site feedback.
- O. The enlisted contractor shall only be given the award based on evaluation of the bids. Generally subcontracting of the work will not be permitted for this CEG awarded package except exceptional cases as per site specific requirements. However, 100% back to back subcontracting will not be allowed in any case. If any subcontractor is found executing the contract awarded to the enlisted contractor without approval of NTPC, action against the main contractor will be taken for withholding/ banning of business dealings as per NTPC Policy.
- P. Enlistment done on pan NTPC basis through this NIA will supersede the enlistment done at site/region.
- Q. NTPC reserves that right to cancel this enlistment at any time with prior notice to enlisted contractors.
- R. For any clarification /update the applicants may contact the following executives of CPC
- | | | |
|------|-----------------------|--|
| (i) | Sh U A Panigrahi, AGM | Ph No: 0120-2410257 Mob No: 9650995781 |
| (ii) | Sh D K Saraf, AGM | Ph No: 0120-2410867 Mob No: 9650997043 |

FORMAT-A

NAME OF APPLICANT ORGANISATION: _____ **Date:** _____

NAME OF CEG: Capital Overhauling/overhauling of Steam Turbines of rated capacity 500 - 660 MW having stationery blades fitted into diaphragms.

G No: TMD-12, Cycle Of Application For Enlistment: C- _____ , Date of submission of Application: _____

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b. Experience of capacity up gradation through cylinder modification at site shall also be counted equivalent to experience towards overhauling for respective categories

c. Experience of erecting the complete diaphragm type steam turbine of rating 600 MW or higher shall be considered equivalent to capital overhaul for diaphragm type turbine .

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Sl No	Financial agency? year	PO No.	PO Date	Station, Unit No	MW Rating	Design , OEM/Make	Duration of overhauling (Baring to Baring)		Type of stationery blading	Scope of Turbine Overhaul (i.e. specify HP, IP/MP,LP, or All cylinders)	Awarding Agency	P.O. of awarding Agency enclosed Yes/No	Completion certificate of awarding agency enclosed? (Y/N)	Executed Value (INR)	Remarks	
							Start date	End date								
1																
2																
3																
4																
5																

Signature of Authorised Representative/Power of Attorney Holder

Name:

Designation:

Stamp of Firm