

NTPC Limited

Vendor Development Cell, CPG-1, Nava Raipur

**Qualifying Requirement for Vendor Enlistment for
Mechanical Maintenance of Water/slurry/sewage treatment
Systems**

A	CEG Details	
	CEG No.	OFF-08 (Category 1)
	CEG DESCRIPTION	Mechanical Maintenance of Water/slurry/sewage treatment Systems
	AREA OF WORK (Refer scope of work)	<i>Water Treatment Plant comprising of PT Plant, DM Plant, RO plant, UF plant, Mixed bed area, ClO2 plant/Chlorination Plant, CW Chemical Treatment Plant, LWTP, Effluent Treatment Plant, Coal Slurry settling pit, Sewage Treatment Plant, Compressed air system, CPU regeneration plant, ZLD system, township maintenance works, and any other Offsite area related to water/slurry/sewage treatment.</i> <i>Rubber Lining /FRP coating Works in Acid & Alkali Handling Tanks & Pipelines.</i>
	RESPONSIBILITY CENTRE	CPG-1/ VDC
	ENLISTMENT PROCESS	<p>1) Subject enlistment is for enlistment of vendors for the work of Mechanical Maintenance in Water treatment plant comprising of</p> <p>(a) PT Plant, DM Plant, RO plant, UF plant, Mixed bed area, ClO2 plant/Chlorination Plant, CW Chemical Treatment Plant, LWTP, Effluent Treatment Plant, Coal Slurry settling pit, Sewage Treatment Plant, Compressed air system, CPU regeneration plant, ZLD system, township maintenance works, and any other Offsite area related to water/slurry/sewage treatment.</p> <p>(b) Rubber Lining /FRP coating Works in Acid & Alkali Handling Tanks & Pipelines</p> <p><i>(Also Refer Scope of work)</i></p> <p>2) At the time of enlistment, applicant should submit undertaking in the attached format that the work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by himself or his sub-contractor who meets the requirement mentioned under SI no. 2.2 of Scope of work.</p>

		<p>3) Applicants who meet QR criteria at Sl. No. 'B' and submit undertaking for rubber lining works in attached format shall only be enlisted.</p> <p>4) Enlisted vendors as per their execution capability (EC) will be issued tender enquiries for station specific packages. The scope of work of these tenders will generally comprise as detailed in scope of work under the station specific tender(s). (Refer Sl no. 2.1 and 2.2 of Scope of Work).</p> <p>5) After award of work of station specific package, the successful contractor will be required to submit the credentials in respect of criteria to be met by contractor or by his proposed sub- contractor as per provisions of Sl. No. 2.2 of Scope of Work (Refer Scope of work) regarding rubber lining works, as mentioned below:</p> <p>Quote</p> <p>1) The work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by agency himself or by his sub-contractor who meets the following requirement:</p> <p>The applicant / his Sub-contractor should have executed work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines'.</p> <p>2) The approval for execution of work by the agency himself or his Sub-contractor will be subjected to approval of EIC based on submission of relevant documents issued by Client (Relevant PO copy and client's completion certificate/RA bill/Final deviation statement) to establish aforesaid criterion. All submitted documents shall be TPIA/ISA certified.</p> <p>Unquote</p>
B	TECHNICAL CRITERIA OF QUALIFYING REQUIREMENT(QR):	<p>B.1 The applicant should have executed the work (as per B.1.1 / B.1.2) in 500MW or above capacity power plant as under:</p>
		<p>B.1.1 Mechanical Maintenance works of one year or more, in preceding 05(five) years from the date of application, which includes any of the following:</p> <ul style="list-style-type: none"> (i) De Mineralized (DM) Plant / Reverse Osmosis (RO) Plant (ii) Boiler and/or its auxiliaries (iii) Turbine and/or its auxiliaries <p>OR</p> <p>B.1.2 Erection & commissioning works which includes any of the following:</p> <ul style="list-style-type: none"> (i) De Mineralized (DM) Plant / Reverse Osmosis (RO) Plant (ii) Boiler and/or its auxiliaries (iii) Turbine and/or its auxiliaries

	<p>NOTES:</p> <p>(i) The word "Executed" mentioned above means that the applicant should have achieved the criteria specified above, even if the total contract is started earlier and/or is not completed/closed.</p> <p>(ii) Reference work executed by the applicant as a sub-contractor may also be considered provided the certificate issued by main contractor is duly certified by owner specifying the scope of work executed by the sub-contractor in support of qualifying requirements.</p> <p>(iii) Applicant shall submit an Undertaking in the attached format that the work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by himself or his sub-contractor who meets the requirement detailed under SI no. 2.2 of Scope of Work.</p>
C	<p>Documents to be submitted as proof of meeting the stipulated Qualifying Requirements as stated at B) above: Relevant PO copy and client's completion certificate/RA bill/Final deviation statement.</p>
D	<p>Other Documents to be uploaded: In addition to the documents required in support of Qualifying Requirements as stated at C) above, following documents are also required to be uploaded by the applicants applying for enlistment: -</p>
	<ol style="list-style-type: none"> 1. Three POs of the highest executed values of similar works. Copy of completion certificate/RA bill from the concerned client in support of successful execution of works against each of the POs to be submitted. 2. Audited balance sheet including Profit & Loss statement for the previous three completed financial years reckoned from the date of application. In case the audited result for the preceding financial year is not available, certification of financial statements from a practicing-chartered accountant is to be uploaded. In case, applicant is not able to submit the certificate from practicing chartered accountant certifying its financial parameters, the audited results of the three consecutive financial years preceding the last financial years shall be considered for evaluating the financial parameters. Further, a certificate would be required from the CEO/CFO stating that the financial results are under audit as on date of application and certificate from the practicing Chartered Accountant certifying the financial parameters are not available. 3. In case the applicant is not able to furnish its audited financial statements on stand-alone entity basis, the unaudited unconsolidated financial statements of the applicant can be considered acceptable provided the applicant further furnishes

		<p>the following documents for substantiation of its qualification.</p> <p>(a) Copies of the unaudited unconsolidated financial statements of the applicant along with copies of the Audited consolidated financial statements of its Holding Company.</p> <p>(b) A Certificate from the CEO/CFO of the Holding Company, as per the format enclosed in the bidding documents, stating that the unaudited unconsolidated financial statements form part of the Consolidated Annual Report of the company.</p> <p>Note:</p> <p>(i) Maximum Three Credential Order(s) / Similar Work(s) shall be considered for calculation of the EC.</p>
		<p>(ii) "All other terms & conditions of enlistment are as per the STC available at VDC portal https://vdc.ntpc.co.in".</p> <p>NTPC may ask for more / shortfall documents, if any.</p>
E	Note-1	Similar works means: Criterion mentioned at Sl. No. B above
	Note-2	(a)Value means basic value of the PO. Where PO value is composite (i.e., including taxes etc.), the applicant has to give break up of composite PO value mentioning basic value, taxes etc.
F	QUALITY PLAN (IF APPLICABLE)	Rubber lining works
G	Category of Enlistment	CATEGORY-1
H	SCOPE OF WORK	<p>1.0 SCOPE OF WORK</p> <p>Scope of the work covers Mechanical Maintenance of Water/slurry/sewage treatment Systems (as applicable).</p> <p>2.0 Detailed Scope of Work:</p> <p>2.1 Area of work (as applicable) – Water Treatment Plant comprising of PT Plant, DM Plant, RO plant, UF plant, Mixed bed area, ClO2 plant/Chlorination Plant, CW Chemical Treatment Plant, LWTP, Effluent Treatment Plant, Coal Slurry settling pit, Sewage Treatment Plant, Compressed air system, CPU regeneration plant, ZLD system, township maintenance works and any other Offsite area related to water/slurry/sewage treatment:</p> <p>1) Mechanical Maintenance (Preventive / Breakdown / Replacement / Overhauling) of pumps (both Horizontal & Vertical pumps), valves (Butterfly / Gate / Diaphragm / Plug / ball / globe), gear boxes,</p>

pipeline/ducts, agitators, tanks, vessels, Clariflocculators/Clarifiers, filters (Gravity sand filters/pressure filters etc.), strainers (Simplex/Duplex), Hoists/EOTs etc.

2) Other details of works shall be given in tender documents.

2.2 Area of work - Rubber Lining /FRP coating Works in Acid & Alkali Handling Tanks & Pipelines:

1) Checking the health of rubber lining in Acid / Alkali tanks and vessels using spark-testing machine and Shore hardness by agency in presence of NTPC representative.

2) Erection of scaffolding as required for inspection of tanks, vessels of Bulk Acid Storage Tanks (BATs) & DM streams and pipelines as per site requirement.

3) Removal of existing rubber lining, surface preparation by sand blasting / buffering / wire brushing, re-rubber lining to be done in specified layers / thickness. External FRP coating (Min 3mm) may also to be done near tank manholes, if required.

4) After steam curing, spark testing and the shore hardness test of the new rubber lining to be done. Shore Hardness should be 60 +/- 5. The spark test and shore hardness test machine are to be brought by the contractor.

5) Necessary steam line shall be erected by the agency for which the required pipe will be in NTPC scope on free of charge basis.

6) All fittings, ladder, platforms etc. removed before work shall be fitted back after completion of the rubber lining.

7) The agency shall submit test certificates of natural rubber & rubber solution used in rubber lining.

Separate test certificates will be required for each lot of materials.

8) Removal and disposal of scrap, old rubber scraps after completion of the work, at a location identified by engineer-in-charge, will be responsibility of the agency.

9) 24 V transformers and suitable lights shall be used while working inside the tanks.

10) Arrangement of exhaust fans for sufficient ventilation of the tanks is to be arranged by the agency.

11) Skilled manpower who are conversant with such job should only be deputed.

12) Other details of works shall be given in tender documents.

		<p>Notes for Sl. no. 2.2:</p> <p>1) The work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by agency himself or by his sub-contractor who meets the following requirement:</p> <p>The applicant / his Sub-contractor should have executed work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines.</p> <p>2) The approval for execution of work by the agency himself or his Sub-contractor will be subjected to approval of EIC based on submission of relevant documents issued by Client (Relevant PO copy and client's completion certificate/RA bill/Final deviation statement) to establish aforesaid criterion. All submitted documents shall be TPIA/ISA certified.</p>
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PROFORMA OF "UNDERTAKING FOR REPAIR/COMPLETE REPLACEMENT OF RUBBER LINING OF TANKS/VESSELS/PIPELINES "

(TO BE SUBMITTED BY APPLICANT ALONG WITH ENLISTMENT APPLICATION)

NAME OF ENLISTMENT APPLICATION.....

NAME OF APPLICANT.....

(a) We, the undersigned, submit our application for the works under the above-named application, in full conformity with the scope of work of said application.

(b) Regarding work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines', we have read the criterion mentioned in Scope of work as detailed under:

"1) The work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by agency himself or by his sub-contractor who meets the following requirement:

The applicant / his Sub-contractor should have executed work of '**repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines**'.

2) The approval for execution of work by the agency himself or his Sub-contractor will be subjected to approval of EIC based on submission of relevant documents issued by Client (Relevant PO copy and client's completion certificate/RA bill/Final deviation statement) to establish aforesaid criterion. All submitted documents shall be TPIA/ISA certified."

(c) We hereby undertake that the work of 'repair/complete replacement of minimum 3.5 mm thick rubber lining of tanks/vessels/pipelines' shall be executed by us or our sub-contractor who meets the requirement mentioned under scope of work (Annexure-I). In this regard, required documents shall be timely submitted for approval of Engineer-In-Charge (EIC) before execution of work.

Signature

Date

Name.....

Place.....

Designation



USSC-CPG1

PPG-QA



Standardised Quality Plan

Item	Rubber Lining Job
SQP No.	CPG-QA-SQP-M-187
Rev	00

Digitally signed by GANPATI JHA
DN: cn=GANPATI JHA, c=IN, st=Chhattisgarh, o=NTPC LIMITED,
ou=CONTRACT,
serialNumber=d3135b18b48ad4b52905337811f4c80f1cc904c325d4
a9bbf5bb10177c50cae7

	ITEM (MATERIAL, CLASS, GRADE, RATING, RANGE, SIZE ETC) RUBBER LINING	STANDARD QUALITY PLAN CONFORMING TO CODE: IS 4682 PART-1 / ASTM D-7602

SL NO	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N			M	C	N			
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10			11

1.0 RAW MATERIAL INSPECTION														
1.1	RUBBER MIX	TENSILE STRENGTH % ELONGATION	MAJOR	MECHANICAL	1 SAMPLE / BATCH		IS 3400 PART-1	NTPC Approved Drg./ DS / Tender Tech. Spec./PO	TC	✓	P	V	V	REFER NOTE-2
		RESISTANCE TO BLEEDING	MAJOR	CHEMICAL	1 SAMPLE / VULC. LOT		SAMPLE IS TO BE KEPT IN 33% HCL, 48% NaOH & DM WATER FOR 72 HRS.		TC	✓	P	V	V	
1.2	THICKNESS OF SHEETS	DIMENSIONS	MINOR	MEASURE	100%	-	TECHNICAL SPEC.		IR		P	-	-	
2.0 IN PROCESS INSPECTION														
2.1	SURFACE PREPARATION	CLEANLINESS & UNIFORMITY	MAJOR	VISUAL	100%	-	IS 4682 PART - I	IS 4682 PART I	TC		P	-	-	
2.2	CONTINUITY OF LINING AT UNCURED STAGE	SPARK TEST	MAJOR	VISUAL	100%	-	IS 4682 PART - I	NO SPARK AT 6 KV/MM OF LINING THICKNESS	TC		P	-	-	
2.3	CURING OF RUBBER LINING	CONTROL OF PR. / TEMP. & TIME	MAJOR	VISUAL	100%	-	IS 4682 PART - I	IS 4682 PART - I	LOG BOOK		P	-	-	
3.0 FINAL INSPECTION														
3.1	COMPLETE LINING	SHORE HARDNESS	MAJOR	HARDNESS TEST	RANDOM		IS 4682 PART - I	APPROVED DRAWING / DATA SHEET	IR	✓	P	W	W	
		SPARK TEST	CRITICAL	VISUAL	100%	100%	IS 4682 PART - I	NO SPARK AT 6 KV/MM OF LINING THICKNESS	IR	✓	P	W	W	
		THICKNESS	MAJOR	MEASURE	RANDOM		APPROVED DRAWING / DATA SHEET		IR	✓	P	W	W	
		ADHESION	MAJOR	PEEL OFF TEST	2 SAMPLES / VULC. LOT		IS 4682 PART - I	IS 4682 PART - I	IR	✓	P	W	W	REFER NOTE-3
		SURFACE DEFECTS	MAJOR	VISUAL	100%	100%	IS 4682 PART - I	IS 4682 PART - I	IR	✓	P	W	W	
		COMPLETENESS	MAJOR	VISUAL	100%	100%	APPROVED DRAWING / DATA SHEET		IR	✓	P	W	W	

NOTE: 1. REPAIRS, IF ANY, SHALL BE CARRIED OUT BY THE SAME PROCESS, AS APPLIED FOR ORIGINAL RUBBER LINING. REPAIRS INSIDE THE PIPE ARE NOT ALL.
 2. FOR EBONITE/ HARD RUBBERS, TENSILE STRENGTH, % ELONGATION & ADHESION CHECK ARE NOT APPLICABLE.
 3. FOR ADHESION TEST, TEST COUPON SHALL BE MADE AS PER GOVERNING CODE. ALTERNATE TEST METHOD CONFIRMING MINIMUM REQUIREMENT OF ADHESION, AS PER CODE, IS ALSO ACCEPTABLE.

LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

** M: MANUFACTURER / SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'.

Reference and acceptance norms shall be derived from following in the same sequence: a) NTPC Approved drawing / data sheet, b) NTPC tech specs, c) Purchase Order, d) Relevant national standard e) Relevant International standard, f) Manufacturer's standard, g) Good Engineering practices
 Main contractor column C may please be ignored.