Maharashtra State Electricity Transmission Company Limited
(CIN No. U40109MH2005SGC153646)

Office of The Superintending Engineer,

HVDC R S (O & M) Circle, Mumbai – Nasik Highway,

PADGHA - 421101 Tal: Bhiwandi Dist. – Thane (Maharashtra) India

Phone No. : 9769006191 (O) **E - mail:** se7300@mahatransco.in**Website** : www.mahatransco.in

To,

All Registered Vendors

RFx No. 7000028690

Sub: - RFx for Providing and applying of Insulation Coating on Tertiary side equipment of 400/220/33 kV ICTs 33kV PT, BPI, IPS Tube, LA & Tertiary Bushing for prevention of unwanted tripping of ICTs on NDR at 400 kV RS (O&M) Dn, Padghe for the FY 2023-24.

Dear Sir,

With reference to above subject, you are requested to quote lowest possible rates for Providing and applying of Insulation Coating on Tertiary side equipment of 400/220/33 kV ICTs 33kV PT, BPI, IPS Tube, LA & Tertiary Bushing for prevention of unwanted tripping of ICTs on NDR at 400 kV RS (O&M) Dn, Padghe for the FY 2023-24 as per specification in **Schedule – A** with following terms and conditions.

TERMS AND CONDITIONS:

1. The EMD and Tender fees is to be paid online on the account of MSETCL through website **https://srmetender.mahatransco.in**. **Due Date- 09.10.2023 upto 10:00 Hrs.**
2. Document should upload the following digitally signed scan copies of documents /certificates online under

Technical Bid.

'The bidder' should have completed work order(s)& its experience certificate of successfully completed similar works at any government/private sector in India.

The performance / experience certificate shall be issued from the officer of the rank of The Exec. Engr. (or above) or equivalent.

The bidder should have attached the Test Certificate for insulator cleaning by using high voltage insulator cleaner & protector issued by CPRI/ERDA/NABL or other accredited laboratory in accordance with IEC 60507: 1991 pollution test by artificial salt fog method *(Please note: Test Certificate for execution of work and not the product test certificate.)*

Commercial Bid.

- The bidder shall submit the copy of PAN card along with of Income Tax returns for the last three Financial years, from the last day of month previous to the one in which Tenders are invited.

- The bidder should be registered under GST Act and submit the The Bidder shall submit the copy of GST returns for the last Financial year from the publishing date of first call of the tender.
- The bidder should have the Minimum Annual Average Turnover (MAAT) of at least 60% of tender estimated cost in the last three years i.e. 36 months.
- The bidder should have a Net worth (which is defined as "Equity share capital+Reserves-Revaluation Reserves-Intangible assets- Miscellaneous expenditure to the extent not written off and carry forward losses") of last financial year, from the last day of month previous to the one in which tenders are invited, not less than 25% (Twenty Five Percent) value of tender estimated cost. The bidder should submit the state of Net-Worth duly certified by Chartered Accountant with seal and UDIN.
- The bidder should have to submit the audited financial statements i.e. profit & Loss account and Balance sheets for last three financial years duly certified by Chartered Accountant with seal and UDIN.
- Shop Act License.
- Proof of registration under P.F. act if applicable.
- The bidder should have a valid Electrical Contractor's License issued by the Government of Maharashtra for work of erection/commissioning of EHV equipment.
- List of T&P available with the agency for execution of the work.

3. The Contractor rates should be in percentage (%) based on estimate cost.
4. Rates should be valid for 120 days from the date of commercial opening of RFx.
5. Rfx fee is Rs.118/- including taxes (Is non refundable).
6. If the above documents are not applicable, then submit Eligible/ Non eligible documents list.
7. Income Tax & GST will be deducted from contractor's bill, as per Govt. rules.
8. **Warranty:** 'The Contractor' will have to give a warranty / guarantee for works/material supplied for the period as specified by the manufacturer/OEM of the material from the date of receipt of material at site / work place as the case may be. The warranty certificate should be given along with the material. If the OEM warranty is less than One year, the bidder shall give warranty of at least one year from the supply of material.
9. **Agreement:** The contractor will have to enter into an agreement at his cost with 'The Company' in the prescribed pro forma – on Non Judicial bond paper / franking paper / Paper where payment is made to concerned authority of Govt. by e-transfer for registration – within 10 (Ten) working days from the receipt of the Letter intimating from the office of The Superintending Engineer, HVDC R S O & M Circle, MSETCL, Padgha.
10. Rates should be exclusive of all taxes or all applicable taxes and their charges should be mentioned separately and clearly in percentage.

11. Site Visit:

Information about the work given in specification is purely tentative and may change during actual execution as per site requirement. The Bidder is advised to visit and examine the sites of work and their surroundings and obtain for himself, at his own risk and cost, all information that may be necessary for preparing the bid and entering into the contract for the works. The cost of visiting the site shall be at the Bidder's own expense.

Scope of work: - Providing and applying of Insulation Coating on Tertiary side equipment of 400/220/33 kV ICTs 33kV PT, BPI, IPS Tube, LA & Tertiary Bushing for prevention of unwanted tripping of ICTs on NDR at 400 kV RS (O&M) Dn, Padghe. ***(for Technical Specification sheet enclosed)***

12. You will have to pay SD @ 10% (Ten) of the order value on any scheduled, private or nationalized bank **either by**

F.D.R. or D.D. drawn in favor of MSETCL, Padgha ***or by***

Bank transfer through RTGS or by

B.G. drawn in favor of Superintending Engineer, HVDC RS (O&M) Circle, MSETCL, Padgha. Same will be refunded after expiry of contract period. No interest will be paid on this deposit.

Security Deposit will be refunded after due completion of contractual obligation.

The undersigned reserves the right to reject any or all the quotations without assigning any reasons thereof.

Thanking you.

Sd/-
Superintending Engineer
HVDC RS (O&M) Circle, Padghe

TECHNICAL SPECIFICATION

1. The technical specification of Silicone High Voltage Insulator Coating (HVIC), (RTV silicon rubber coating) should be as below: -

i) Product must be Silicone.

ii) Vendor should only supply the product type i.e. RTV Type I silicone rubber coating material. RTV Type I (also written as RTV-I or TRV-I) silicone refers to a silicone that is 1-component and does not require the addition of catalyst or other chemicals during the application process in order to cure the product. Use of solvent or primer is forbidden.

iii) Product must contain Alumina Tri-Hydrate (ATH) in the formulation; larger grain size ATH is preferable (vendor should indicate the grain size of ATH).

iv) Product must not peel or chalk; product not crack or craze; product must not blister or bubble.

A) Product must have strong adhesion to porcelain, glass or non-ceramic insulators.

B) Product must NOT require use of primers in order to achieve adhesion.

C) Application must be performed by adequately trained and certified applicators.

v) Product must never develop tracking marks longer than 100 millimeters.

vi) Product must never erode in areas greater than 500 sq millimeters.

vii) Product must retain hydrophobicity performance equal to or better than Class HC3 as per the STRI Guide 92/1.

viii) Product must eliminate appreciable leakage current over the long term:- This performance characteristic can be qualitatively and quantitatively measured through.

- The elimination of audible noise due to surface discharges;
- The elimination of visible discharges (under nightfall);
- The elimination of hotspots (as indicated through infrared thermal imaging)

ix)The entire insulator should be coated with minimum 0.3mm to 0.5mm.

Note: - All the required materials, tools & tackles are in the vendors scope. The scaffolding materials will be supplied by department if required.The erection of scaffolding is under vendor scope.

RTV Silicone high voltage insulation coating (HVIC)

2.0 Technical Requirements.

a) RTV Silicon compound in its liquid form

Material Properties	**Requirement**
Material Type	One part RTV
Appearance	Paint
Filler type	ATH, Quartz or both
Color	Gray
Substrate Application Temperature Range ºC	-4 ºC to 121ºC
Tack free at 25 ºC and 50% RH	30 minutes

b) Properties of RTV Silicon compound after cured

Parameters	**Requirement**
Application Area	Glass, Porcelain, station insulators, as well as bushing, instrument transformers and related devices
Full cure time	Max. 24 hours
Recommended coating thickness	300 microns + 10%, dry film
Dielectric Strength, (ASTM D 149)	≥25kv/mm
Volume Resistivity, ohm.cm (ASTM D257)	9.0*10^14
Tracking wheel withstand as per CEA LWIWG-01	1000 Hours
Multiple Stress Ageing Test as per IEC 61109	**5000 Hours**
Min. Salinity Level withstood during "Artificial Pollution Test using Salt Fog Method"	≥160 kg/m^3
Hydrophobic Recovery Test (REC specification 76/2006)	**To HC1 or HC2**
Method of Application	Airless Spray
Arc resistance	420 sec or better (As per ASTM D 495 – 99 (Reapproved 2004)
Tracking resistance	1A 4.5 or better (As per IEC 60587, i.e.5 specimen shall survive tracking
Primer Required	No primer material shall be allowed
Resistant to	Marine salt fog, Water, Industrial (cement dust. Fly ash, acid emission etc.), Rough Weather Conditions
Other Properties	Non Hazardous to environment, surface after full cure shall be smooth

Test Certificate to be submitted:

The RTV coating offered should have been tested in reputed international/ India test laboratories and test report shall be submitted following test.

1) Tracking and erosion test report in accordance with IEC-60587 on RTV coating.
2) Artificial pollution test by salt-fog method on a 132/220/400kV string consisting coating coating insulator.
3) Hydrophobicity recovered by corona test as per REC specification 76/2006(or upgrade).

Maharashtra State Electricity Transmission Company Limited

HVDC RS (O&M) Circle, Padghe

SCHEDULE

Sub: - Providing and applying of Insulation Coating on Tertiary side equipment of 400/220/33 kV ICTs 33kV PT, BPI, IPS Tube, LA & Tertiary Bushing for prevention of unwanted tripping of ICTs on NDR at 400 kV RS (O&M) Dn, Padghe.

Sr. No.	Description	Qty	Unit	Rate(Rs.)	Total Amount(Rs.)
Supply Part					
1.	Cleaning of IPS tube by using cleaner to remove dust, grease and other pollutant from the surface without damaging. Polisil 60HVAC RTV insucleantor.	25	Ltr.		
2	Providing RTV coating material of standard specification and tested by CPRI/ERDA/NABL or other standard lab (Polysil 60HVAC RTV HG).	50	kg		
Service Part					
1	Application of HIGH voltage insulation coating to IPS tube to with stand up to 33kV level. *The works includes :- application of two coats of insulation coating to maintain dielectric strength upto 33kV.*	25000	Sq Inch.		
Cleaning of porcelain portion by using HIGH voltage Insulator cleaner and Protector to remove dust, grease and other deposited pollutant without damaging the surface.					
1	Cleaning 33kV PT	12	EA		
2	Cleaning 33kV LA	15	EA		
3	Cleaning 33 kV Support Insulator.	9	EA		
4	Labour charges for the above i.e. application of RTV coating to the porceline portion as per standard method cleaning and coating of polysil 60 HVIC TRV HG.	54	EA		
				Total	
				GST @18%	
				Total Amount	

Sd/-

Superintending Engineer

HVDC RS (O&M) Circle, Padghe