

Ref: BARC/NPD/2018/ 122

January 24, 2018

Sub: Repair of damaged nozzle of one SF6 gas storage tankas per attached specifications.

Dear Sir/Madam,

1. Quotations are invited for the **Repair of damaged nozzle of one SF6 gas storage tankas per attached specifications.**
2. Bidder shall quote for complete fabrication and no Free Issue material is involved in this job.
3. Taxes, Excise Duties etc. if any shall be quoted separately. Form AF / H or whichever is applicable shall be provided, if required.
4. The quotation must reach The Head, Nuclear Physics Division **by February 20, 2018**, 11:00 hrs and must be sent in a sealed envelope via speedpost only and super-scribed with the reference number & the due date given above. Please note: Quotations sent via courier/registered post shall not be accepted.
5. The address on the envelop should read:

**The Head,
Nuclear Physics Division,
Van-De-Graaff, North Site
BARC, Trombay,
Mumbai - 400 085.**
6. The testing shall be witnessed by our representative. The tested models and associated presentation shall not be dispatched prior to approval by our representative at bidder's premises. Necessary inspection facilities shall be provided at bidder's premises. Inspection and acceptance shall be as per criteria given in the specifications.
7. The finished reapiir work as per specifications shall be carried out by the bidder at Pelletron-Linac Accelerator Facility, TIFR, Navy Nagar, Mumbai 400005.
8. Head, Nuclear Physics Division reserves the rights to accept / reject any or all quotations without assigning any reason.
9. Delivery charges if any must be clearly mentioned in the offer. Quotation must also indicate the validity of offer. Quotation must mandatorily mention the GST, PAN nos. of the party. Quotations must mandatorily be signed by an authorized person with a company seal.
10. The job should be guaranteed against material and manufacturing defects for one year from the date of supply.
11. Indenter reserves the right to inspect any machinery or material or equipment furnished or used by vendor or to reject any, which is found defective in workmanship, quality, and design or otherwise unsuitable for use which is not in accordance with the specification.
12. **In case of clarifications please contact 25595150.**

Encl: Technical Specifications

Government of India
Bhabha Atomic Research Centre
Nuclear Physics Division

Specifications for repair of nozzle of one SF₆ gas storage tank:

Scope of Work:

1. Repair of nozzle as per procedure
2. Test of nozzle as per procedure
3. Issue of test reports & relevant documentation

Work details:

1. The repair job shall be carried out at TIFR where the SF₆ gas storage tank is presently located.
2. The nozzle shall be repaired as per the attached repair procedure in Annexure 1
3. The test procedure is also as per that given in Annexure 1.
4. Equipment and relevant transport required for testing shall be arranged by the vendor.
5. Test certificates conforming to the tests carried out shall be issued by the vendor.
6. All welding jobs shall be carried out by qualified welders.
7. The repair and test plan shall be communicated by the vendor before carrying out the works.

Deliverables:

1. Test reports of repaired nozzle

Miscellaneous

The Purchaser reserves the right to make changes, revisions to schematics/drawings/procedures even after release in order to reflect improvements/additional data/details received and more updated requirements. Revision to schematics/drawings/procedures and any new drawings made to include additional work by Contractor shall be considered as part of this specification contract and shall be carried out without any additional cost implication to the Purchaser.


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1.0 Scope

This document specifies sequence of operation & testing requirements for Repair of damaged nozzle of SF6 storage vessels.

2.0 Nature of Damages :

50 NB Nozzle of SF6 storage vessels damaged while Transit and nozzle became bending.

3.0 Steps For Repair of damaged nozzle of SF6 storage vessels:

- 1) Damaged 50 NB Nozzle (N2B) shall be cut and removed by gas cutting / Grinding.
- 2) Damaged 50 NB Nozzle shall be replaced by 50 NB Nozzle by welding.

Sequence for Repair of damaged nozzle of SF6 storage vessels:

- ✓ First, Stiffeners of Nozzle shall be cut and removed by gas cutting or Grinding.
- ✓ Damaged 50 NB Nozzle pipe shall be cut 5mm from the shell plate and removed by gas cutting or Grinding
- ✓ Pipe shall be ground to suit the OD of 50 NB Pipe Nozzle which is to be replaced.
- ✓ Flange shall be cut from the pipe by Grinding.
- ✓ Edge preparation shall be done by grinding.

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- ✓ The area prepared for weld (Edge prepared area) shall be examined by Dye Penetrant Testing. Acceptance Standard –As per ASME.
- ✓ After satisfactory DPT, clean the surface properly.
- ✓ Carry out welding of Flange to pipe by SMAW.
- ✓ Carry out PT test of flange to pipe weld. Acceptance Standard – As per ASME
- ✓ Weld the Root run Layer by SMAW of Pipe to Pipe using as mentioned parameter in applicable WPS of the vessel.
- ✓ Carry out PT test of root run Layer. Acceptance Standard – As per ASME.
- ✓ Weld Subsequent Layer by SMAW using as mentioned parameter in WPS of SMAW process.
- ✓ Weld Other Rest Layers by SMAW process as required.
- ✓ Each pass should be cleaned and wire brushed properly.
- ✓ Carry out DPT Test on Completed weld -Acceptance Standard – As per ASME.
- ✓ Carry out RT of Completed weld as per approved Drawing


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