

NATIONAL FERTILIZERS LIMITED, VIJAIPUR
(INSTRUMENTATION DEPARTMENT)

TENTATIVE JOBS, QUANTITY & SCOPE OF WORK FOR ANNUAL RATE CONTRACT OF RECONDITIONING/ OVERHAULING & TESTING OF DIFFERENT TYPES OF CONTROL VALVES AT NFL VIJAIPUR SITE DURING ANNUAL SHUTDOWNS

S. No.	Description of Job	Estimated Quantity (per year)
1	Complete Reconditioning/Overhauling & Testing of Control Valves (Globe/ Ball/ Butterfly) as per detailed scope of work given in Annexure-I. Valve Size: Upto & Including 3" Pressure Rating: Upto 600#	30 Nos.
2	Complete Reconditioning/Overhauling & Testing of Control Valves (Globe/ Ball/ Butterfly) as per scope of work given in Annexure-I. Valve Size: Upto & Including 3" Pressure Rating: Above 600#	15 Nos.
3	Complete Reconditioning/Overhauling & Testing of Control Valves (Globe/ Ball/ Butterfly) as per scope of work given in Annexure-I of NIT Valve Size: Above 3" and Upto & Including 6" Pressure Rating: Upto 600#	28 Nos.
4	Complete Reconditioning/Overhauling & Testing of Control Valves (Globe/ Ball/ Butterfly) as per scope of work given in Annexure-I of NIT Valve Size: Above 3" and Upto & Including 6" Pressure Rating: Above 600#	15 Nos.
5	Complete Reconditioning/Overhauling & Testing of Control Valves (Globe/ Ball/ Butterfly) as per scope of work given in Annexure-I of NIT Valve Size: Above 6" Pressure Rating: Any Pressure Rating	12 Nos.
6	Special Treatment of Trim parts of Control Valves (Globe/ Ball/ Butterfly) as per scope of work given in Annexure-I of NIT	
6.1	Valve Size: Upto & Including 6" and Any Pressure Rating & Material	3
6.1.1	Stelliting	
6.1.2	Chrome Plating	
6.2	Valve Size: Above 6" and Any Pressure Rating & Material	3
6.2.1	Stelliting	
6.2.2	Chrome Plating	

CONTRACTOR'S SCOPE OF WORK- (Includes but not limited to the following)

1.1 For Work at Site

1.1.1 Preliminary:

- (i) Cleaning of valve body, line flanges & bonnet flange, removal of studs from side flanges, lapping/ rectifying gasket face, if required, and any other allied job shall also be part of the Contractor's scope.
- (ii) Hydraulic/ Pneumatic Pressure Testing, before dismantling, to note leakage/passing rate.
- (iii) Submission of detailed job report.

1.1.2 Dismantling:

- (i) Removal of Hand-wheel & Accessories
- (ii) Detaching of Actuator from body.
- (iii) Detaching valve from bonnet and removal of bottom flange, if any.
- (iv) Assistance in Inspection of valve internals/ individual parts after the removal, like
 - Trim for Globe & Angle Valves;
 - Disc/ Bush/ Bearing/ shaft for Butter-fly/Gate valves;
 - Ball/ Bearing/ Sealing Ring/ Seat ring for Ball valves
- (v) Inspection of Actuator internals.
- (vi) Cleaning & rust removal of all parts after dismantling.
- (vii) Preparation of dimensional drawing of Trim parts & gaskets.

1.1.3 Repair, Reconditioning & Assembly:

- (i) Lapping of Plug/Ball & Seat Ring, for removal of scoring/cut marks, wherever required for achieving desired leakage classification.
- (ii) Special Treatment of Trim parts like De-chroming/ Welding/ Stellite/ Machining/ Grinding/ Hard Chrome Plating, Buffing etc. for Specific Services Valves. [**Refer 1.2 below**]
- (iii) Replacement of Gland packing.
- (iv) Replacement of damaged/ deformed/ corroded parts of Valve and Actuator.
- (v) Replacement of corroded Studs & Bolts wherever felt necessary.
- (vi) Servicing of Hand wheel assembly.
- (vii) Assembling back Actuator and Valve.
- (viii) Painting of Actuator & Valve.
- (ix) Mounting of Hand wheel & Accessories and connection of tubing.
- (x) Stroke checking & Adjustment.

The Contractor shall ensure handling of control valves carefully to avoid any damage to the flanges of valves & actuators during maintenance.

1.1.4 Testing & Calibration:

- (i) Hydraulic / Air Pressure Testing at 1.5 times upstream pressure for ten minutes for checking Bonnet flange, bottom flange and Gland leakage. Outlet line has to be blinded before this test.
- (ii) Leakage/passing through Valve will be tested, wherever required, by Hydraulic/Air Pressure at the specified differential pressure and noting Leakage Rate.
- (iii) Adjustment of spring range and stroke length.

1.1.5 Documentation: Generation of Test reports in NFL supplied Formats, indicating specifically Test Pressure, Leakage Rate and Stroking Time (full open to Full close) for each Control valve.

1.2 For Specialized Work from Outside Party/Workshop

1.2.1 Special Treatment of Trim parts for Specific Services Valves:

- (i) Special treatments of trim parts like De-chroming, Special Welding, Stelliteing, Annealing, Machining, Grinding, Mirror Image finishing, Hard Chrome Plating, Buffing etc., required for specific services valves as per OEM specifications and decided by NFL Engineer-in-charge, those can not be possible at NFL Vijaipur Workshops, shall be in the scope of Contractor.
- (ii) For the above said special treatment(s), Contractor shall arrange to complete these treatments by Specialized Workshops/ laboratories outside NFL Vijaipur including generation of dimensional drawings, special treatment charges and all other expenses like packing & forwarding, transportation charges from & to NFL Vijaipur, transit insurance etc. All these charges shall be in the scope of the Contractor. Contractor has to indicate separate price for special treatment of Trim parts.
- (iii) The Contractor shall submit Indemnity Bond of estimated value of items on a non-judicial stamp paper of Rs.100/- in a prescribed proforma in case material has to be sent to Contractor's workshop or any other Specialized Workshops/ laboratories. Estimated Value of such items shall be decided by Engineer-in-charge.
- (iv) The Contractor shall ensure proper handling of items during transportation. Hand carrying by Contractor's representative shall be preferred to save time & proper handling.

Notes-

1. The Contractor shall arrange to bring sufficient Skilled & Unskilled manpower, Tools & Tackles, Precision Gas Regulators (for testing with N₂ Gas), one set of Gas Cutting & Heating system with Gas Cylinders, Welding machine and all Safety equipments required for job & personnel protection.
2. Working space in covered safe & secure area and Water, Electricity & Instrument air connection at one point of work site shall be provided by NFL, free of charge.