

TECHNICAL SCOPE OF WORK

In Ammonia and Urea Plant, end cover/manholes of various Heat Exchangers, Secondary Reformer, Urea Reactor, Waste Heat Boiler, Pressure Vessel etc. shall be opened during shutdown or plant exigencies for internal inspection/maintenance. The bolts of the mentioned equipments are tightened with specific torque as specified by equipment vendor. In addition, flanges of high pressure line are required to be tightened at specific Torque. These jobs of opening and tightening of bolts of end cover & flanges shall be carried out by Torquing/Tensioning machine.

1. SCOPE OF WORK

- The contractor is to perform torquing/ tensioning of end cover & flanges by means of hydraulic tools, pneumatic/ electric operated as required, to the required values as specified by the NFL.
- The contractor has to provide suitable bolt tensioning and torquing machine & tools along with all necessary accessories (Hydraulic Torque wrenches, Hydraulic/Pneumatic Power packs, Electric power pack, tensioning tool, sockets of different types and sizes etc.) for opening and boxing of various sizes of bolts.
 - The details of specific sizes required are tabulated below.

Sr. No.	Description	Size
1	Nut Size. (in mm)	24-120, 145, 155, 185
2	Torque (in NM)	1800-35000

- The hydraulic power pack unit of suitable capacity (minimum 700 bar), suitable for torque wrench/ tensioning of above mention Nut size and torque shall be arranged by the contractor.
- Special tools as per requirement for specific job, to be arranged by the contractor on priority basis within 24 hours.
- The contractor has to provide sufficient number of technicians and supervisors to work (minimum 1 crew of 2 technicians and one supervisor) on 12 hours working basis along with complete set of above-mentioned tensioning/torquing machine.

2. Mobilization/ Time Schedule

The Mobilization of Men and Material shall be done within 7 (Seven) days of our intimation by Fax/Telephone/E-mail.

However, in case of plant exigency and need so arises, the party shall have to mobilized manpower & material within 24 Hrs. of intimation by Fax/Telephone/E-mail.

The job shall be carried out during ATA-24 or as & when required, within the contract validity period from the date of issue of work-order.

3. CONTRACTOR'S SCOPE

- 3.1 All the bolt tensioning and bolt torquing tools along with all accessories (Hydraulic Torque wrenches, Hydraulic/Pneumatic Power packs, Electric power pack, tensioning tool, sockets of different types and sizes etc.) of specified sizes will be arranged by contractor.
- 3.2 Skilled manpower having thorough knowledge of operation of bolt tensioning & torquing machines and capable of troubleshooting, if case arises.
- 3.3 All necessary PPE's required for the safe execution of job shall be in party's scope. Party has to strictly adhere to the safety norms.

- 3.4 Supervision of job shall be in Contractor's scope. However, a close liaison shall be maintained with the NFL's Engineer In-Charge for day-to-day progress of the job.
- 3.5 During execution of job vendor has to ensure all safety precautions mandatorily.
- 3.6 Repair, servicing & replacement of spare parts of Torquing/tensioning machines and accessories, if required, recommended as per maintenance schedule/Operation & maintenance manual by OEM shall be in contractor's scope.
- 3.7 To arrange Police verification of their manpower for making Gate passes to enter NFL, Panipat factory premises, if required.
- 3.8 Compliance of all statutory requirements i.e. PF, ESI, Minimum Wages, Punjab Welfare etc. and GOI latest labor laws.
- 3.9 Labour license (if required) of party manpower shall be in party scope. The same has to be submitted by the party before the start of work.
- 3.10 Party shall take appropriate insurance cover (including medical cover) of its site team against accident/ mis-happening during their stay and working in NFL Panipat plant, at their cost. A copy of the insurance cover policy shall be submitted to NFL before the start of work.
- 3.11 Contractor shall make their own arrangement for lodging, boarding and to & fro local transport. If required, NFL shall provide the same on chargeable basis subject to availability.

4. NFL'S SCOPE

- 4.1 Temporary LT Power Supply 3 phase, 50 Hz, 415/ 220 Volt with TPN switch, Flood Lights, Hand Lamps, and Extension Boards etc. Compressed Air at pressure of 6 kg/cm² (g) (max) at one point.
- 4.2 Any scaffolding required shall be in NFL scope.
- 4.3 Store cum Office space in open area at site. However watch and ward shall be in contractor's scope.
- 4.4 Medical facilities, as available in NFL Hospital, shall be provided on chargeable basis subject to availability.
- 4.5 Assistance for shifting of tools at the desired location will be in NFL's scope.