ANNEXURE TO TENDER NO DPS/MRPU/5/1/1285

TECHNICAL SPECIFICATION FOR 12" NB & 8" NB GATE VALVES

BODY AND BONNET

1. The body shall be designed for strength to withstand operating condition to minimize erosion and resistance to flow.
2. The bonnet shall be fitted with a bonnet bush to guide the stem and provide for back seating when the valve is open and under pressure.

BODY SEAT RING

3. Seal welded seat rings shall offer minimum resistance to flow. It also eliminates any chance of leaking through the path between seat ring and body.
4. The seating surface shall be ground and lapped.
5. Body seat ring and wedge area meeting with seat ring shall be stellited with stellite grade-6. Stellite thickness shall be minimum of 3 mm.

GLAND ARRENGEMENT

6. A two piece ball type gland arrangement shall be provided for minimizes stem scoring and binding. It shall also ensure uniform load on packing even when the gland bolts are not uniformly tightened.
7. The stuffing box shall have a high quality surface finish holds a minimum of 05 packing rings.

OPERATION

8. All the valve shall be fitted with had wheel on the threaded stem for the operation except for 12" NB where suitable gear box shall be provided to reduce torque required to 25Kg.m.

CODES AND STANDARDS

9. The design, material, construction, manufacture, inspection and testing of valves covered under this specification shall be governed by the following code / standards. However the valves confirm to other International Standards may be acceptable provided they are equivalent or superior to those listed below:

Sl. No.	Name of the parts	Specification
1.	Design Standard	API 600
2.	Pressure Rating	150#
3.	End Connection	Flanged ends confirming to ASME B 16.5 RF Serrated Finish 150 AARH
4.	Face to face standard	ASME B 16.10
5.	Testing standard	API 598

6.	Pressure Temperature ratio	ASME B 16.34
7.	Body/Bonnet	ASTM A 216 Gr. WCB
8.	Stem	AISI 410
9.	Wedge	ASTM A 216 Gr. WCB + STELLITED
10.	Body seat ring	ASTM A 217 Gr. CA 15 + STELLITED
11.	Yoke sleeve	ASTM A 439 Type D2
12.	Hand wheel	SG Iron
13.	Stem Packing	Graphited Aramid fibre rope packing
14.	Back seat bushing	AISI 410
15.	Gland eye bolt	AISI 410
16.	Eye bolt nuts	Carbon Steel
17.	Stud	ASTM A 193 Gr. B7
18.	Stud nuts	ASTM A 194 Gr. 2H
19.	Bonnet Gasket	Spiral Wound SS 304 + GRAPHITE FILLER
20.	Operation	Hand wheel operated (as per spec.)
21.	Shell Hydro test pressure	30 kg/cm^2
22.	Seat Hydro test pressure	22 kg/cm^2
23.	Back Seat Hydro test pressure	22 kg/cm^2

INSPECTION & TESTING

10. All the valves shall be subjected to pre-dispatch inspection at supplier's work. No third party inspection is involved; inspection will be carried out by the department inspector.

11. Supplier shall make all the necessary arrangements for the Pre- dispatch Inspection. All the tests shall be witnessed by the department inspector. Test results shall meet the acceptable values specified in the applicable codes if not material will be rejected. Supplier shall give minimum 20 days advance intimation for arranging the visit of inspector.

12. All valves shall be tested and inspected as per the approved Quality Assurance Plan. The minimum requirements are as indicated above. However, in case of order on the vendor, the QAP shall be finalized by vendor with customer without any financial implications to meet customer project technical requirements.

13. Bidder has to submit the sign copy of our QAP and Technical Specification as a token of acceptance.

GUARANTEE

14. Offered material shall be guaranteed for a period of 12 months from the date of receipt of material at HWP, Tuticorin against manufacturing defects.

PACKING & FORWARDING

15. Each valve shall be preserved to prevent any damage during transportation / handling and delivered on door delivery basis to HWP, Tuticorin.