

Technical Specification
for

Supply of Fabricated Stand Pipes on Finish Basis

1.0 **Description**

Standpipes shall be fabricated from the cold drawn seamless carbon steel pipes, duly Heat-treated as per the requirements indicated in the respective material specifications, which are mentioned on the standpipe drawings.

2.0 **Size**

As per the standpipe drawing(s) mentioned in the indent/order.

3.0 **Code of Construction**

As per **ASME** sec. VIII Div.1; latest & **IBR-1950**

4.0 **Welders Qualification**

Standpipe fabrication activities shall be done by IBR approved & qualified welders only with IBR certification records.

5.0 **Tolerance**

As indicated in the drawing / HE-04002.

6.0 **Raw Material Details**

Cold drawn Seamless carbon steel Pipes (SA-106 Gr. B), plate material etc. required for manufacturing of standpipes shall be procured by vendor/fabricator. These raw materials shall be procured with co-related mill test certificates & IBR certification. Pipes shall be procured in Heat Treated condition (as per cl. 5.1 of SA-106), bend / flattening tested, hydrostatically tested etc. as per the requirements indicated in the material specification. Raw material procured shall be verified with correlated material test certificates & record of same shall be furnished. All material correlations shall be witnessed by BHEL/BHEL appointed inspection agency also in addition to IBR authorities.

7.0 **Testing**

7.1 **Non-Destructive Examination**

7.1.1 **Dye penetration (DP) examination** of root weld & finish weld deposits as per Appendix-8, of ASME Sec. VIII Div.1; 2007 A09.

7.1.2 **Radiography** examination of butt welds as per UW-51 of ASME Sec. VIII Div.1; 2007 A09.

7.2 **Hydrostatic Testing**

After completing fabrication activities, each finished standpipes (before painting) shall be subjected to **hydrostatic pressure test** as per **HE-74033** for the duration of **30 minutes minimum**. Test pressure shall be as mentioned in the respective standpipe drawings.

8.0 Cleaning & Protection

8.1 **Inside Surface** : Inside surface of the standpipes shall be cleaned by acid pickling as per the procedure No. BP-0690096. Cleaned standpipes (after draining & drying) shall be left unpainted.

8.2 **Outside Surface** : External surface of the standpipes shall be cleaned by shot/ sand blasting to Sa-2½ as per SIS-055900. Cleaned standpipes shall be protected by applying two (2) coats of Heat Resistant Air drying **Aluminium paint** as per AA-56134 with Dry film thickness (DFT) of **50 microns** minimum.

9.0 Identification

Identification marks i.e. Project Name, Drawing No., Standpipe number, Hydrostatic test date & inspector's seal shall be punched on each standpipe for proper identification & co-relation with corresponding test certificates & inspection records.

10.0 Inspection

Complete fabrication of standpipes from raw material identification to stage & final Inspection, witnessing of hydro test etc. shall be done by **Inspecting Officer / Authority as per IBR & BHEL / BHEL appointed Quality Control Inspector** at vendor's work before dispatch.

11.0 Certificates

All the standpipes shall be certified in **IBR form III** & shall be duly signed by Inspecting Officer & Inspecting authority as per IBR. In addition following test certificates duly cleared by inspecting officer shall be furnished.

- a. Chemical & Mechanical Test Certificates for Plates & Pipes used.
- b. Stage inspection report.
- b. Final Dimensional Measurement Report.
- c. Non-Destructive Examination Reports (Dye Penetration & Radoigraphy Examination)
- d. Certification for cleaning of inside & outside surface, Painting of standpipes as per specified requirements.
- e. Hydrostatic test certificates.
- f. Certificate of compliance as per BHEL drawing, specification & QA Plan.

All the above test certificates alongwith **IBR certifications** duly compiled in a folder, shall be submitted in four copies (one original + three copies).

12.0 Quality Plan

Vendor to ensure compliance to the requirements indicated in QA Plan No. BPL/CDE/SQP/011. However vendor can also furnish manufacturing quality plan with reference to manufacturing cycle, indicating stages for inspection of incoming materials, stage & final inspection, Testing, painting & despatch ensuring compliance to our requirements.