1.0 GENERAL

1.1 This specification covers the design, materials, construction features, manufacture and testing of cast iron and gun metal float valves at Vendor’s or/and sub-Vendor’s works inclusive of painting and packing requirements.

This Float valve shall be fitted inside the overhead water tank and on to the inlet water pipe line coming from the water filling pump.

2.0 CODES AND STANDARDS:

2.1 The design, manufacture, inspection and testing of the float valves shall comply with the requirements of the latest revisions of the standards mentioned below and to suit the design parameters specified in Data sheet-A.

a) Cast Iron Double Flanged Float valves

Basic valve design will be as per Manufacturer’s standard & testing shall be as per API 598. Cast Iron Body and cover wall thickness shall be as per the minimum thickness indicated in IS-1538 for Cast Iron fitting. Valve body rating will be Class 125 only.

b) Gun Metal Float valves

Valve design and testing shall be as per IS 1703:2000. Valve body rating shall be PN 16.

2.2 In case of any conflict between the above Codes/Standards and this specification, the latter shall prevail and in case any further conflict in this matter, the interpretation of the specification by the Engineer shall be final & binding.

3.0 DESIGN REQUIREMENTS AND CONSTRUCTION FEATURES:

This Float valve shall automatically control the rate of filling and will shut off when a predetermined level, in the water tank, is reached. Valve shall also open and close in direct proportion to rise or fall of water level in the tank.

a) Valve shall be right angled or globe pattern.

b) Valves shall be balance piston type with float ball of copper with suitable coats of epoxy paint.

Leather liner shall not be provided.

c) Valve shall be suitable for flow velocities of 2 to 2.5 metre / second

d) End connections for Cast iron float valves shall be flanged as per ASME 16.1 CLASS 125 flat face and for Gun metal float valves they shall be screwed as per IS 554 female parallel.

e) An arrow shall be cast on the valve body to indicate the direction of flow.

f) A Circular Nameplate of 2mm thick in stainless steel material shall be fitted on the valve body. It will have valve tag No. and service description engraved 1 mm deep and filled with black enamel paint.

4.0 MATERIALS:

4.1 The materials of construction of main parts of the Gate, Globe, and non-return valves shall be as specified in Data Sheet-A.

4.2 The materials of construction of the remaining parts shall be as per the relevant standard governing the valves. These materials shall be subjected to approval.

4.3 Material used in manufacture of valve shall be of tested quality.
5.0 INSPECTION AND TESTING:

All valves shall be tested and inspected as per the approved quality plan. The minimum requirements are as indicated in attached quality plan. However, in case of order on the vendor, the QP shall be finalized by vendor with customer without any financial implications to meet customer project tech. requirements.

6.0 PAINTING:

The surface preparation of all exterior and interior surfaces of valves shall include the following:
   a) Removal of oil, grease and dirt
   b) Removal of rust and scale etc.
   c) Sand blasting/shot blasting.

All exterior surfaces of valves shall be painted with primer and finish coated with coating of min. 150 microns thickness. Color shade etc. shall be subject to BHEL/Customer approval. No painting is required for Gun metal float valves.

7.0 CLEANING AND PROTECTION FOR DESPATCH:

7.1 Valve ends, lever and float ball shall be protected from external damage and sealed against the ingress of dirt.

7.2 A thin sheet steel circular blanking plate of a diameter 6mm less than the bolt holes inner P.C.D. shall be firmly fixed to the flange faces by the application of adhesive after first ensuring that the flanges faces have been thoroughly degreased. A thin coat of adhesive shall be applied to the flange face and the blanking plate and then allowed to dry for 15-20 minutes. The coated face of the blanking plate should then be offered up to the face of the flange taking care that the plate is concentric with the flange. Firm pressure shall be applied to ensure intimate contact between plate and flange. A wooden blank should then be bolted to the flange using a minimum of 4 bolts.

7.3 All the valves shall be packed suitably in wooden cases to avoid damage during transit and also during storage at site. The valve has to be dispatched in total assembled form.

7.4 Valve Tag nos. shall also be incorporated in all the dispatch documents.