	<b>STANDARD TECHNICAL SPECIFICATION FOR SPRING LOADED BYPASS VALVES</b>	SPECIFICATION NO. PE-SS-999-100-M009	
		VOLUME . II B	
		SECTION D	
		REV. NO. 02	DATE. 15.05.2012
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## 1.0 GENERAL

This specification covers the design, materials, construction features, manufacture and testing of Spring Loaded Bypass valves at Vendor's or/ and sub-Vendor's works inclusive of painting and packing requirements.

## 2.0 CODES AND STANDARDS:

2.1 The valves covered under this specification shall be of manufacturer's own proven design and shall be suitable for the required technical parameters mentioned in Data sheet A. However BS:759 and BS EN ISO 4126 shall be referred to wherever applicable.

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

All valves shall be suitable for the service conditions i.e. flow, temperature and pressure under which they are required to operate and those performing similar duties shall be interchangeable with each other unless otherwise specified.

## 4.0 MATERIALS

4.1 The materials of construction of main parts of valves shall be specified in Data sheet-A.

4.2 The materials of construction of the remaining parts shall be as per relevant code/ standard governing the valves and to suit the service conditions. These materials shall be subject to approval of the purchaser.

4.3 Materials used in manufacture of valves shall be of tested quality.

## 5.0 CONSTRUCTION FEATURES:

5.1 All valves shall be globe type construction.

5.2 The seat and disc shall be easily removable and shall be suitable for easy relapping.

5.3 Valves shall have pressure seal bonnet / bolted bonnet construction and the adjusting screw shall be covered under a cap.

5.4 An arrow indicating the direction of flow shall be embossed on the body of the valves.


5.5 A metallic (stainless steel plate 2mm thick) nameplate shall be fitted on each valve. Nameplate inscription required for each valve shall be indicated at the contract stage. Inscriptions shall be engraved 1 mm deep filled with enamel paint.

5.6 Suitable lifting lugs and eye bolts shall be provided for valves of weight 500 Kg and above.

## 6.0 LUBRICATION:

6.1 Lubrication, if any, required for smooth and easy operation of valves shall be mentioned.

6.2 Choice of lubrication shall be based on ambient temperature condition of 50°C.

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6.3 Type of lubricant to be used and its annual consumption (based on 100 operations per year) shall be indicated by the tenderer.

7.0 INSPECTION AND TESTS:

7.1 The items covered under this contract shall be subjected to inspection, testing and quality surveillance. The Inspection Agency shall, at all reasonable times have access to Vendor's works, Quality Control records and all facilities as reasonably required for carrying out the inspection and testing efficiently, and these shall be provided by the vendor free of cost

7.2 Valves coming under the purview of IBR shall be inspected by Independent Inspecting authority approved by Indian Boiler Board and the test Certificate in IBR Form III-C duly countersigned shall be submitted. The Independent Inspecting Authority proposed by the vendor shall be informed in the offer.

7.3 The minimum NDT/testing and inspection requirements for valve shall be as per the attached Quality Plan. However, in case of order, final inspection and testing shall be carried out as per the final approved quality plan without any price implications.

7.4 Body of all valves shall be hydraulically tested at 1.5 times the design pressure for leak tightness.

8.0 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.

9.0 CLEANING AND PROTECTION FOR DESPATCH

9.1 Suitable rust preventive shall be applied on machined exposed surfaces.

9.2 Valve ends shall be protected from external damage and sealed against the ingress of dirt by means of polythene caps/rubber end protectors.

9.3 Valve Tag Nos. shall also be incorporated in all the despatch documents.