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PEOPLE'S REPUBLIC OF CHINA**

GB 50764-2012

Design code of power piping for power plant

电厂动力管道设计规范

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1 Scope

GB 50764-2012 is the Chinese design code for power piping in power plants - the main steam, reheat, feedwater and auxiliary lines that carry the working fluid between boiler and turbine. It is among the most demanding piping design there is: the lines run at supercritical pressure and above 600 degrees, they grow by hundreds of millimetres between cold and hot, and that growth has to be absorbed by the layout and carried by spring hangers rather than resisted, because a restrained hot line will tear its own anchors out. The code sets the nomenclature and symbols, the design conditions and criteria, the materials, the selection and strength of piping components, the pipe sizing and hydraulic calculation, the layout, the stress analysis, the supports and hangers, the welding, the inspection and testing, the insulation, noise control, corrosion protection and painting, and the overpressure protection of the system, with an annex on welded structures and welding materials. It took effect on 1 October 2012.

1.0.1 In order to implement national technical and economic policies in the design, uniform design standards, improve design quality, promote technological progress Step, so that full use of resources, to ensure safe production, environmental protection, energy conservation and economically rational development of this specification.

1.0.2 This specification transporting steam, water, gas, and explosive, toxic and corrosive fluid suitable for power plant within the scope Or gas pipeline and other media design. It does not apply to pipeline design. 1 pipe manufacturer of complete sets of equipment design or machine belongs; 2 boiler coal smoke wind pipeline system; 3 non-circular pipes and heating pipes ventilation and air conditioning;

4 Underground or indoor plumbing and fire water supply pipeline; 5 foam, carbon dioxide pipelines and other fire-extinguishing systems; 6 various tower, building architecture, tank, equipment and pipeline infrastructure used; 7 nuclear power plant pipes.

1.0.3 This specification design pressure are gauge.

1.0.4 power plant piping design shall comply with this specification, there should be consistent with existing national standards. 82 terms and symbols

2.1 Terminology

2.1.1 pipeline piping The piping components and pipe support devices and other components for transmission, distribution, mixing, separation, discharge, metering Or control fluid flow.

2.1.2 pipeline system piping system Press and fluid design conditions divided into a plurality of pipes connected to a set of pipes, referred to as piping.

2.1.3 piping components piping components Or for the connecting element assembled pipes, including pipes, fittings, flanges, gaskets, fasteners, valves, filters Network and as compensation.

2.1.4 tube pipe or tube Cross-section for conveying fluid circular piping components.

2.1.5 pipe fittings pipe fittings A category of piping components, including the elbow or elbow, tee, took over the seat diameter pipe and seal top.

2.1.6 reducers reducers For changing the diameter of the pipe without changing the pipe fittings Trend.

2.1.7 elbow elbows It has a smaller bending radius for pipe fittings to change the direction of.

2.1.8 elbow bends Having a large bending radius for pipe fittings to change the direction of.

2.1.9 Welding elbow miter elbows Made using pipe or welded steel plate type of bend, the tube having a longitudinal axis is not perpendicular to the miter weld pipe fight Pick from.

2.1.10 branch pipe connecting branch connections Even leads from the main branch manifold structure, including the overall strengthening of the tees and without reinforced welded structure Connection.

2.1.11 hydrophobic collector liquid collecting pocket (drip leg) 9 at the low point of the pipeline gas or steam condensate collection device settings.

2.1.12 pipe hangers pipe supports and hangers Various pipes to withstand the load, displacement and pipeline constraints pipe vibration control, load transfer and load-bearing structure General components or devices, but not including civil structures.

2.1.13 Fixation anchors The piping in the branch at fully constrained hanging points without any linear displacement and angular displacement of the rigid means.

2.1.14 slide bracket sliding supports The piping is supported on the slide plate to withstand the weight of the load and pipeline constraints piping vertical displacement of the branch hanging point Bracket.

6.6 Flange and Fitting