REDESIGN OF STEAM PIPING DISTRIBUTION
FROM STEAM GENERATING TO SUPERHEATER AT PT PLN PJB UP GRESIK

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ABSTRACT

The main purpose of piping system is made for flowing fluid from one place to another place. Failure on the pipeline system can be caused by over pressure or thinning of the material. Case at PT. PJB UP Gresik for example, there is a failure of boiler tube that drains the primary superheater is engaged in power plant steam and gas occur.

Redesign of distribution system piping from the steam generating towards the superheater done because failure occurs at the primary superheater drain pipe that serves to drain the condensed steam. For granting the technical and safety factors, it is used the standard ASME B31.1 Power Piping in the redesign.

The results of the redesign is showing a decrease of 0.7 kg/cm² pressure drop and velocity 20.97 m / s, which according to the calculation of the value of speed is still permitted the applicable standards (ASME B31.1 Power Piping). Those standards say the maximum steam flow rate of 30-90 m / s. Materials used pipe ASTM A106 Gr B Schedule 80, to the flange using ASTM A216, WCB. With a design pressure of the pipe is higher than the flange so that in case of excess pressure (over pressure) leaks would occur on the flanges first.

Keyword : Redesign, Primary superheater, ASME B31.1 Power Piping