Technical Review on Steam Drum Affected by Blowdown At The Power Plant, Unit 3 And 4 (Case Study at PT PJB UP Gresik)

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Abstract
The mixture of water with chemicals such as silica (SiO2) and particles in water can cause the crust / sludge attached to the boiler wall. Proper operation to maintain the boiler and remove all the impurities in the water boiler is to carablowdown. Blowdown is a common operation performed on the boiler, but if excessive can cause thermal damage. Therefore, the amount of blowdown operation should be anticipated in order to reduce thermal losses, especially on the performance of the boiler steam drum. Based on the analysis and calculations, continuous blowdown system currently available on Steam Power Plant Units 3 and 4 PT PJB Gresik Power Unit, from a technical standpoint has been a reduction of boiler efficiency of about 2.2%, with an average boiler efficiency of 60.43%. Other losses due to blow down in a day that is losing some water from the feedwater with an average of 1731.38 per hour, fuel by an average of 22.61 kg / hour production cost of Rp 60,000 per MMBTU, when accumulated in one month or more, from an economic point blowdown system is today, it can be assumed to cause economic loss of 50 million / month. If at this present moment applied continuous blowdown system before 1995, it is known that the fuel cost savings could reach 36.5 million / months with hot pemanfaatan blowdown waterreaches72.97%