PARALLEL CONFIGURATION OF LOW PRESSURE
BOILER CENTRIFUGAL PUMP ON FEED WATER
SYSTEM PIPING INSTALLATION IN BLOCK I PLTGU, PT
PJB UP.GRESIK

Student Name  : Erna Indah Pratiwi
N.R.P   : 2110 038 003
Department  : D3 Mechanical Engineering
        : PT PLN Cooperative Program,
        : Industrial Faculty of ITS
Guidance Lecturer  : Dr. Ir. Heru Mirmanto, MT

Abstract

PLTGU at Gresik Power Unit of PJB is combined cycle, where equipment primarily is Heat Recovery Steam Generator (HRSG). Feed Water in HRSG need served by Low Pressure Boiler Pumps configured in parallel. So in this final project, discussed regarding the selection of pumps that are configured in parallel to serve capacity of Low Pressure Drum (LP Drum).

The object of this final project, to know the head and pump capacity required by the Low Pressure Boiler pump. In addition to theoretical calculations, also performed numerical calculations using Pipe Flow Expert v6.83.1 software.

On the calculation, capacity is 216,792 m³/h with of the head effectively 119,395 m. Based on parallel pump characteristic curve, the use of two pumps have been able to serve the capacity requirements, but still with a low head grades. With the discharge valve throttling, the need for effective head will be higher at 134,047 m, so the selection of single stage centrifugal type pumps with CN-type 80-32 (Ensival manufacturer Moret) was right.

Keywords: Capacity, Head, Pump, Parallel