ABSTRACT

PT. International Power Mitsui Operations & Maintenance Indonesia (IPMOMI) is one private company that specializes in electricity engaged in the areas of power plants located in the sub-district Paiton Unit 7 & 8. At this power plant uses water vapor to the process works to produce electrical energy. Water vapor come from water treatment process by pumping.

The pump that delivers water supply to the boiler using steam power called BFPT (Boiler Feed Pump Turbine). Temperatures around in the BFPT engine between 50 - 63°C. On the machine there is an oil storage area that could trigger a fire. Temperature around the engine area is above room temperature so that if the oil has exceeded its flash point or fire, it will be very difficult to extinguish. In the risk assessment has been done by these companies, in areas such machines have been found at moderate levels so it is necessary to take precautions. Also in this area has only a fire hydrant system. So it is very inadequate in case of fire.

According to the Manpower Ministry of RI that media type extinguisher for the type of oil (oil, kerosene / petroleum, thinner) are not allowed to use water but the use of foam. To overcome the above matters, made a design of an automatic extinguishing system or integrated using foam media. For the protection of this design using foam as the extinguishing medium because of burnout process faster, integrated with equipment such as detectors, local control panel, alarm, bladder tank, proportioner, and gate valve. The total volume of foam that needed are 389,65194 litres foam and total volume water are 12598,746 litres water with pressure as big as 6 bars.

Keyword : Water, Foam, Integrated System