

ABSTRACT

Cooling water system (CWS) on PB Soedirman hydropower is a system of auxiliary equipment that is used for air conditioning generator, generator bearing oil coolers, oil coolers and cooling the turbine shaft bearings of the turbine shaft seals. Cooling water systems at PB Soedirman hydropower is often damaged in filters for water cooling (cooling water strainer). This happens because the cooling water strainer clogged mud resulting flow of cooling water is not running as smoothly as hoped.

Strainer maintenance must be done regularly so that the operation of the cooling water system remains optimal. Cleaning of Cooling water strainer can use the manual method and the back washing method. Manual cleaning is done by dismantling the strainer if back washing strainers are already in operation, but an indication of the pressure difference inlets and out side (for a large strainer 0.3 bar) and a (small strainer 0.4 bar), the cleaning is done manually. While Back Washing Strainer is automatic washing system strainer on the strainer motorized cooling water by using differential pressure switch.

From the results of treatment strainer on cooling water system (CWS) in PB Soedirman hydropower regularly, can prevent various kinds of damage to the strainer such as temperature turbine bearings and bearing generator rise which causes the viscosity of lubricating oil will decrease, causing friction on shaft with bearing and cause damage to the shaft bearings, generators wall temperature rise which can lead to flooding.

Keywords: Strainer, manual method, back washing method.

INTISARI

Sistem air pendingin/*Cooling Water System* (CWS) pada PLTA Panglima Besar Soedirman merupakan sistem peralatan bantu yang digunakan untuk pendingin udara generator, pendingin minyak bantalan generator, pendingin minyak bantalan poros turbin dan pendingin perapat poros turbin. Sistem air pendingin pada PLTA Panglima Besar Soedirman ini sering mengalami kerusakan pada saringan air pendingin (*cooling water strainer*). Hal tersebut terjadi karena *cooling water strainer* tersumbat lumpur sehingga mengakibatkan aliran air pendingin tidak berjalan lancar seperti yang diharapkan.

Perawatan *strainer* harus dilakukan secara berkala agar operasi dari *cooling water system* tetap optimal. Pembersihan *cooling water strainer* dapat menggunakan metode manual dan *back washing*. Pembersihan manual dilakukan dengan membongkar *strainer* jika *back washing strainer* sudah beroperasi namun indikasi perbedaan tekanan sisi masuk dan sisi keluar (untuk *strainer* besar 0,3 bar) dan (*strainer* kecil 0,4 bar) maka dilakukan pembersihan secara manual. Sedangkan *back washing strainer* adalah sistem pembersihan *strainer* secara otomatis pada *strainer* bermotor pencatu air pendingin dengan menggunakan *differential pressure switch*.

Dari hasil perawatan *strainer* pada sistem air pendingin/*Cooling Water System* (CWS) di PLTA Panglima Besar Soedirman secara berkala, dapat mencegah berbagai macam kerusakan pada *strainer* seperti temperatur bantalan turbin dan bantalan generator naik yang menyebabkan viskositas oli pelumas akan menurun, sehingga terjadi gesekan pada poros dengan bantalan dan mengakibatkan kerusakan pada poros bantalan, temperatur dinding generator naik yang dapat mengakibatkan kebanjiran.

Kata kunci: *Strainer*, metode manual, metode *back washing*.