

ABSTRACT

Perum Jasa Tirta II (PJT II) is one of state-owned enterprises. PJT II engaged in the management of water resources. PJT II has several business units, one of which is the generation units. In the generation units contained Hydroelectric Power Plant units, where the unit there are six hydroelectric turbines used to produce electricity. To support productivity to meet demand, the performance of the turbine needs to be improved. Spare parts have vital role in turbine maintenance activities. Spare parts used to meet turbine maintenance activities.

Based on the results the field observations obtained companies still do not have the spare parts management, that is shown by the company have not been able to identify which components are included critical components and the company does not have a inventory policy on all turbine components, therefore we need a spare parts management activities that well planned so it can support the operations and maintenance companies.

Results from criticality analysis using the RCS on governor system components obtained 10 critical components, that are motor servo, heat exchanger, motor pump, coupling, plunger, rubber coupling, safety valve, impeller, gate valve, and ball valve. Next critical component is calculated the component needs using poisson process for 1 year with a confidence level of 95%. The next step is define the optimal order quantity, reorder point and safety stock of components that should be provided. Next step is calculated the cost of inventory, the total inventory cost during the first year is Rp 129.840.867,18.

Keyword: *Maintenance Management, Spare Part Management, Reliability Centered Spares (RCS), Inventory Analysis, Poisson Process*