

ABSTRACT

Electricity is one of the important energy and electricity consumption continues to increase with economic growth and development of technology. PT. XYZ is a company engaged in power generation and is the largest electricity provider in the Java and Bali. ABC Plant Business Unit is one of the business units owned by PT. XYZ with a total installed capacity of 1348.86 MW. ABC Plant Business Unit consists of three blocks. The object of this study is block 3. Block 3 consists of 2 units of Gas Power Plant operating with a combined cycle system that is meant to operate in combination with the Steam Power. Given the company's competency to be achieved in meeting the demand for electricity in Java and Bali and therefore all units must have the proper preventive maintenance so that the machines can be used by power plants and can produce electricity for daily needs.

From the results of the determination of critical systems, exhaust gas system was selected as the critical system that will be discussed further in this study. After critical system was selected, maintenance policy and maintenance intervals according to the characteristics of the damage by using Reliability-Centered Maintenance II and Risk Based Maintenance are determined.

Based on the results of data processing using RCM on exhaust gas system components, are obtained 42 scheduled on-condition task, 2 scheduled discard task, and 4 failure finding task. Treatment time interval of each component varies according to the task obtained. The total cost to implement the proposed maintenance is Rp 6,488. 749,832.61, which is 8% lower than the total cost of existing maintenance.

Key Words : Reliability-Centered Maintenance, Risk Based Maintenance, preventive maintenance