ABSTRACT

RCC Unit PT Pertamina RU VI Balongan performs an advance refinery process (Secondary processing) to get added value with an installed capacity 83.000 of BPSD. The process in RCC unit is done by cracking catalyst in high temperatures and pressures. It can be risky and endanger the operator and also the surrounding environment, so that the effective and efficient maintenance policies are needed. The existing maintenance policies are not effective and efficient. It is shown by the high frequency of component damage.

Reliability Centered Maintenance method is used to design maintenance activities optimally with the purpose to get the effective and efficient maintenance. Effective maintenance activities are based on its conformity with the characteristics of damage, while efficient maintenance is based on the total cost. To support the optimal preventive maintenance activities require the calculation of necessary spare parts by ensuring the availability of the spare parts appropriate with the usage period.

The result of processing data in RCC unit, Reactor-regenerator system is selected as a critical system which has 33 equipments. Afterwards 19 critical equipments are selected and then four subsystem which have critical equipment are obtained, namely Catalyst Handling System, Steam Controlling, Catalyst Cooler and Regenerator Air System. The critical equipments carry out preventive maintenance policy with the kind of maintenance activities Scheduled: On Condition Task as many 34 maintenance activities, Scheduled Restoration Task as many seven maintenance activities, and Scheduled Discard Task as many five maintenance activities, with the maintenance interval is starting from 1.440 hours to 6.382,98 hours. From the result of policy and maintenance interval can be obtained the total of maintenance cost per year as much Rp1.746.176.131. From the 19 equipments there are 43 components which the amount of necessary spare parts are calculated such as 37 spare parts non-repairable and four spare parts repairable with the total needed one until 22 spare parts.

Key words: Reliability Centered Maintenance, Spare Part, Preventive Maintenance