ABSTRACT

PT Dirgantara Indonesia has 502 machine types, each machine has its own function, and among those machine, Cininnati Milacron has the maximum downtime.

PT DI implementing preventive maintenance activities carried out today in the form of scheduled maintenance activity on Cincinnati Millacron Machine. Until now, the maintenance policy that has been done is not optimal, because the frequency of damaged in the component is still frequent. The repairmen did not include the lifetime of the component in consideration. So, the result is many components are over-maintenance and under-maintenance. This type of activity is not efficient from the RCM point of view, because it is not effective from the frequency implementation and from the cost and time variable.

Cincinnati millacron machine stands for 5 system which is mechanic, pneumatic, machine, electric and CNAT control panel. *Mechanic* has the movement function of the machine (rotary and movement) in part production. In the mechanic itself has several subsystem, which is Axis, Spindle, Cooling, and Program. Mechanic system is a very crucial in the production system. And hence this system has the highest value of downtime among others.

Maintenance policy for systems with a method Mechanic Reliability Centered Maintenance (RCM) is expected to result in the determination of maintenance policy and the effective treatment time interval, that is by knowing the critical components of the system and the optimal treatment time interval so that improvements can be made to the system before it was damaged and to minimize maintenance costs.

In the determination of critical systems using the method of selection based on observations FSCA method and frequency of damage based on pareto diagram, where the system is analyzed in accordance with the causes and consequences and its economic impact. Furthermore, based on data Time To Failure (TTF) that has been direkap, performed calculations with Anderson Darling test to get the type of distribution and characteristics of damage to critical components.

Under the RCM method, the type of distribution and characteristics of damage to critical components of each component, then obtained the optimal maintenance policy to be applied to critical components of the tasks scheduled on-condition and restoration.

Calculation of the total cost of care for critical components using Care Cost Minimization Model. The treatment is performed such as checking / inspection and repair performed simultaneously. The time interval of treatment used based on a comparison of existing treatment time interval and the calculation results with the method PF interval. The final result of calculation and comparison can be seen in the table below:

The result of the proposed costs for maintenance of existing

Unit Fungsional	Kebijakan Perawatan		Frekuensi Pengecekan/Inspeksi		Total Biaya per tahun	
	Sebelum RCM	Setelah RCM	Sebelum RCM	Setelah RCM	Sebelum RCM	Setelah RCM
Gear Axis	Preventive Maintenance Instruction	Schedule On Condition	10	4	Rp 13,426,481	Rp 14,133,969
Motor Axis	Preventive Maintenance Instruction	Schedule On Condition	10	9	Rp 12,351,281	Rp 11,177,515
Hydraulic	Preventive Maintenance Instruction	Schedule On Condition	10	2	Rp 14,347,054	Rp 8,931,408
Proximity Switch	Preventive Maintenance Instruction	Scheduled Restoration	5	4	Rp 12,662,919	Rp 9,082,369
Tram	Preventive Maintenance Instruction	Scheduled Restoration	9	1	Rp 13,862,919	Rp 9,898,015
Drawbar	Preventive Maintenance Instruction	Scheduled Restoration	9	2	Rp 12,662,919	Rp 10,959,292
Filter	Preventive Maintenance Instruction	Scheduled Restoration	6	1	Rp 14,767,177	Rp 7,577,958
TOTAL			**59**	**23**	**Rp 94,080,750**	**Rp 71,760,527**

Keywords: RCM, Maintenance, Cincinnati Millacron DGAL