

## ABSTRAK

### **Analisa *Reliability Centered Maintenance* (RCM) Pada Mesin Genset 250 Kva Dengan Pendekatan *Plan Do Check Action* (PDCA) (Studi Kasus Hotel Amaris)**

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Genset 250 kva di hotel amaris adalah salah satu peralatan yang mempunyai *urgensi* tinggi pada suatu pembangkit *energy* listrik meliputi gedung beserta peralatan *electrical* yang memfasilitasi di dalamnya, penyebab kegagalan beroperasinya mesin genset 250kva seperti *overheat* pada mesin, pendistribusian bahan bakar tidak *optimal*, *level oil* pada mesin berkurang dan mesin tidak bisa di starter atau tidak bisa *running* secara *automatis*. *Downtime* sistem pendingin dengan persentase 49 % sistem kelistrikan 22% pelumasan 17 % dan sistem bahan bakar 13% periode juli 2018 hingga juni 2019, dengan target dari perusahaan yaitu *Zero downtime*. Usaha untuk mengevaluasi masalah tersebut penulis mengunakan analisa *reliability centered maintenace*, *plan do check action* dan mencari nilai *realibility* dengan menghitung *time between failure* di peroleh  $R(t) = 0,96$  dan  $F(t) = 0,04$ , Rata rata jam kerja ialah  $\mu = 450$  jam,  $\Delta = 6,6\% \leq 20\%$ , *Realibility Function* dengan nilai  $-t R(t) \Delta = 1,12$ , dan  $\sigma(s) = 265,1941$  pada mesin genset 250 kva. Hasil penelitian menunjukkan bahwa implementasi perbaikan yang di peroleh dari evaluasi yaitu waktu *optimal* perawatan komponen mesin adalah ketika mesin beroperasi selama 214 jam atau sama dengan 8 hari 22 jam dengan asumsi kurang lebih 9 hari.

**Kata kunci :** *Reliability Centered maintenace (RCM), Plan Do Check Action (PDCA), Time Between Failure (TBF), Microsoft Exel Dan Minitab 16.*

## **ABSTRACT**

### ***Reliability Centered Maintenance (RCM) Analysis on a 250 Kva Generator with a Plan Do Check Action (PDCA) Approach (Case Study of the Amaris Hotel)***

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*250 kva generator in the hotel amaris is one of the equipment that has a high urgency in an electric energy generator including the building and electrical equipment that facilitates it, the cause of the failure of the operation of the 250kva generator engine such as overheat in the engine, distribution of fuel is not optimal, the level of oil in the engine reduced and the engine cannot be started or cannot run automatically. Cooling system downtime with a percentage of 49% electricity system 22% lubrication 17% and fuel system 13% period July 2018 until June 2019, with the target of the company that is Zero downtime. Efforts to evaluate this problem the author uses reliability centered maintenance analysis, plan do check action and look for the value of reliability by calculating the time between failures obtained  $R(t) = 0.96$  and  $F(t) = 0.04$ , the average working hours are  $\mu$  450 hours,  $\Delta = 6.6\% \leq 20\%$ , Reliability Function with the value of  $-t R(t) \Delta = 1.12$ , and  $\sigma(s) = 265.1941$  on a 250 kva generator set. The results showed that the implementation of the improvements obtained from the evaluation that is the optimal time for maintenance of engine components is when the engine operates for 214 hours or equal to 8 days 22 hours with an assumption of approximately 9 days.*

MERCU BUANA

*Keywords: Reliability Centered maintenance (RCM), Plan Do Check Action (PDCA), Time Between Failure (TBF), Microsoft Exel and Minitab 16.*