ABSTRACT

PT Barata Indonesia (Persero) Gresik is one of Manufacture dan EPC (Engineering, Procurement, Construction) industry. Workshop 1 has cast and iron melting process conducted by 1 of arc furnace with capacity 6 tons, and there are 4 induction furnace, each induction furnace has capacity ½ tons, 2 tons, 2 tons, and 10 tons.

This research discussed how to make maintenance schedule task at induction furnace by applying RCM II (Reliability Centered Maintenance) method to determine failure function risk at induction furnace. In scheduling maintenance task precisely is required failure and risk assessment of all functional failure equipment. Quantitative assessment is considered to decide preventive maintenance intervals, by examine CM (Maintenance Cost) and CR (Repair Cost). Then the Benefit-Cost Analysis method is used to compare between the costs and benefits for the applied maintenance activity.

From the research result, have been known that there are 10 failure modes which follow functional failure of induction furnace operation. The result of risk assessment showed that critically component that need priority of induction furnace maintenance are water colled led is severed dan torn klem. From the result of Benefit-Cost Analysis know that the comparison score is 13.07 (B/C > 1) which means the benefit from planned maintenance activity is greater than the cost that company should spent.

Key words : risk, maintenance task, maintenance interval, Benefit-Cost Analysis, Induction Furnace