

## **ABSTRACT**

*Steel industry is one of the national development supporting industries which carried out by Indonesia government. National steel demand in 2013 reached 12,7 million tons, this is a challenge for the national steel industry to grow and develop. PT Krakatau Steel is the only one state owned industry which is integrated steel plant in the country. Steel business is very fluctuating by the world economic changes, in the end 2012 steel prices fell with the excess supply of world steel by China. In 2013, the company decided to turn off the Slab Steel Plant because of production cost is higher dan purchasing imported raw material. Therefore, this research using Reliability Centered Maintenance (RCM) method to get the optimum Interval maintenance. The selection of maintenance task based on qualitative calculation using Failure Mode and Effect Analysis (FMEA) and RCM Worksheet, the results is one scheduled on-condition task, five scheduled restoration task, two scheduled discard task and one run to failure task and then doing quantitative calculation to get Interval maintenance policy. The company could save maintenance cost Rp12.476.379.035 if using proposed maintenance policy. This research also using Reliability Centered Spares (RCS) method to calculate the level of inventory spare part that must be provided by the company for critical component repairable and non-repairable.to avoid stock out.*

*Keywords: Failure Mode and Effect Analysis, RCM Worksheet, Reliability Centered Maintenance, Reliability Centered Spares.*