

## ABSTRACT

*Steel industry is one of strategic industry in Indonesia. PT Krakatau Steel (Persero) Tbk is one of the largest steel maker in Indonesia. Hot Strip Mill has the highest production capacity compared to others, it is 1.55 million tons a year, to produces products of Hot Rolled Coil (HRC) and Hot Rolled Plate (HRP). Hydraulic Lubrication Pneumatic (HLP) has a function in scale removing during HRC and HRP being produced, therefore HLP must be optimally operated to prevent the damage of the system. After the calculate using Risk Priority Number method, it was found that the Water System was chosen as a critical system not only needs to be determined the optimal of preventive maintenance using Reliability Centered Maintenance (RCM) method, but also the consequences and risks caused by damage using Risk Based Maintenance (RBM) method. The results of RCM calculation it was obtained the optimal of preventive maintenance tasks, there are 12 of scheduled on-condition tasks, 14 of scheduled restoration tasks, and 1 of scheduled discard tasks. The interval of each subsystem depends on the task that had been determining. According to the result of RBM method, the risk value of the subsystem is Rp 70.465.063.812,86 Total cost of maintenance based on the task that had been determining, the mount of the total cost is Rp 227.703.139.578,47.*

*Key words: Maintenance, Preventive Maintenance, Reliability-Centered Maintenance, Risk Based Maintenance.*