

ABSTRACT

PT Krakatau Steel as one of the biggest steel company in Indonesia, specify target for net revenue in the end of 2008 is one trillion rupiah.

There are so many efforts that can be conducted by management in order to support realization of the target. One of the efforts that able to be conducted by management among others is increase sales revenue of Hot Rolled Coil which had been produced at Hot Strip Mill factory. With considered limitation of resource had by the company, management of Hot Strip Mill factory should have to optimization determination of fulfillment hot rolled coil order from market consumer by orienting at increasing sales profit of HRC.

Existing determination system of fulfillment Hot Rolled Coil Order which applied at Hot Strip Mill Factory based on FIFO system. This existing system still assumed not optimal if orienting at profit because can increase risk on loss of profit that suffered by the company. For that reason, the company needed a determination system of fulfillment Hot Rolled Coil Order in order to maximize profit that will be accepted by the company so can support realization of their net revenue target.

This determination system planning of fulfillment Hot Rolled Coil order from market consumer will based on Linear Programming Approach with consideration, every specification of Hot Rolled Coil consume same resource in its production process, in other word this problem can be formulated as linearity concept.

There are linear programming model which used in this research:

- *Objective Function : Maximize (Sales Total Value of HRC – Production Cost)*
- *Restriction Function : - Production Capacity of Hot Strip Mill*
 - *Raw Material Capacity*
 - *Hot Rolled Coil Order from Cold Rolling Mill Factory*
 - *Hot Rolled Coil Order from Market Consumer*

*According to linear programming model solutions, estimation of profit that will be accepted by the company in the end of 2008 is **1,004,608,060,000.00 rupiah**.*

From analyzed result of Linear Programming model, there are policy which can be conducted by management to increase profit that will be accepted by the company:

- *Increasing contribution margin for every specification of Hot Rolled Coil*
- *Increasing sales volume and also marketing for high contribution margin of hot rolled coil specification.*
- *Managing internal necessity of company on Hot Rolled Coil in order to minimize cost which spends by the company.*
- *Increasing production capacity of Hot Strip Mill which followed by increasing in raw material capacity*

Keywords : *Linear Programming, Simplex Method, Sensitivity Analysis, Production Cost, Forecasting, Lot Sizing Methods.*