

CHAPTER VII

CONCLUSION AND RECOMMENDATION

7.1 Conclusion

This thesis is the research about the hot rolled coil industry by having objective to improving the yield of production. The scope of this thesis is studying improvement of yield for product MS code 00001 in the melting section and managing the material section. According to the current condition of the company, there are high orders that lead to cannot send the product to the customer in-time. In addition, the low yield of production is the major factors for delivery not in-time. So this thesis emphasis on improving yield of the production to support the quantity of order received.

This thesis is provided into 4 main sections. The first section concerns on studying the company information to preparing analyzing the problem in the next section. The main information is about the process of production. It is composed of 3 mains process: Steel making, Continuous Casting, and Rolling mill

The second section contains about problem identification and Current situation analysis. The main problems in this thesis are about the material problems because the materials are the main cost of production and they are the main compositions of the product. So this thesis should be solved the material problems before doing any work. The major material problems are 1) Substandard of managing material 2) mixing the scrap basket at low density 3) Unbalancing Chemical composition of the raw material and 4) Incorrect adjust recovery of the raw material. From these problems, the methods of solving the problems are in the next section.

The third section is planning improvement and implementation. There are defining the responsibility of improvement to the person that relates the problems. And the change areas in this thesis consist of the scrap preparation section, preparing the basket section, and the melting section. The scrap preparation section is changed by

contracting the expert company to managing instead. In the preparing basket section and melting section, there are 3 major improvements. First of all improvement are re-categorizing the scrap types base on ISRI and Japanese standard. Re-categorizing the scrap type lead to reducing the time and energy cost for sizing the scrap and convenience to mixing the scrap basket to receiving the density required (0.8-0.9 ton/m³). The second improvement is making the new mixing scrap pattern from 4-basket pattern to 2-basket pattern. This improvement leads to receiving the density required, reducing the time for charging the basket, and reducing flux utilization. After receiving the new mixing pattern, the last improvement is making the melting program for 2-basket pattern. From the melting program, it shows the procedure of melting process, the addition used; the time used for melting and so on. After receiving the new mixing pattern and melting program, there are implementing this plan and collecting the data to analyzing the results.

The last section is the analysis of the implementation results after applying the 2-basket pattern and melting program. The outcome shows that the yield of production increase from 75 percent to 85 percent, production increasing by 12.64 percent per heat from the past, flux utilization reduces from 7200 kg/heat to 5200 kg/heat, T-T-T time reduces from 83 minutes per heat to 74.2 minute per heat. From analyzing the Financial, it shows that the cost can save about 10 baht per ton_{scrap} and production per month increases from 73271.5 tons to 88232 tons so it makes profit increasing by 54.2 million baht per month.

6.2 Recommendation

- ❖ Categorizing the scrap types that are more detail has an effect on the domestic purchasing for finding some type of the scrap. It may lead to the high price of scrap within the country. It makes the company has to take the scrap from the foreign country increasing that also high price. So the company is necessary to consider the suitable managing the scrap to receiving the lowest cost as much as possible but receiving the product in the reasonable quality.

- ❖ Good managing the scrap makes the advantage of production during the product having the high price because when the market has high demand, the company can use the scrap that having good managing to produce the product to the customer in time when the customer wants.
- ❖ All departments, functions, sections especially top management have to prepare unanimously themselves for continuous improving to receiving the target required. The company has to have brain storming for finding the problems that happened and then solving those problems. So the company has to plan the working or operating to be precise as much as possible.
- ❖ According to the result received from the improving from this experiment, it makes the company receive more productivity and yield and the procedure of working operate easier than the past. So the company should study to the other grade of the product.
- ❖ The company has to consider the cost of managing or utilizing the scrap and comparing with the sale price for receiving the maximum profit.
- ❖ If there are increasing the size of the Electric Arc Furnace, it may lead to the production increasing. However, increasing the size of the electric arc furnace has to use high investment cost so the company should be careful for consideration increasing the EAF size.