CHAPTER VI
CONCLUSION

This chapter covers the conclusion of this final project and suggestion for future research.

5.1   Conclusion

The conclusion of this research are:

1.   This research has developed a simulation model for supporting raw material transportation system in PT Semen Padang to evaluate the system performance. The experiments were performed by change the coal arrival input based on current requirement, prioritize the gypsum trucks to be served first, add the number of scales, and add the number of gypsum truck to transport gypsum from Teluk Bayur Seaport to Indarung. Based on the experiments conducted, it can be concluded that the best recommendations are adding 2 pairs of scales, adding 10 trucks operating to transport gypsum, and prioritize gypsum trucks to be served first

2.   Based on recommendation gain from experiment 4d, which add 2 pairs of scales, it is found that the queue time is decreasing. The addition of the number of scales allows the system to service trucks in greater quantities so that it meets the current requirement for coal. The output of this recommendation reduces the queue time in the initial scale down 19.1781 minutes to 0.2867 minutes and queue time in the final scale down 10.9373 minutes to 0.5941 minutes. The reduced of queue time will cause the reduced of cycle time by 45%. The cost required to add two pairs of scales is Rp. 5,050,000,000 and it is equivalent to 5 previous demurrage payments. So, PT Semen Padang only needs to allocate funds used for demurrage payments within the next one year for the cost of building scales. And it is expected that in the second year PT Semen Padang is no

longer pay for demurrage payments. In addition, PT Semen Padang will also receive benefit from dispatch cost paid by the vessel owner for speeding up the unloading time to be less than standard time.

3. To reduce time to transport gypsum from Teluk Bayur Seaport to Indarung, it needs to add 10 unit gypsum trucks which operate regularly every day. This recommendation makes the total time required to transport gypsum from Teluk Bayur Seaport to Indarung is 8400 minutes. This time is smaller than standard time i.e 8640 minutes. The increase in the number of trucks does not cause additional costs.

5.2   Suggestion

The suggestions that can be given are as follows:

1. To implement the recommendation, PT Semen Padang should make clear coordination with the transporters to provide trucks in accordance with the proposed results to get better performance.

2. To make this model more sophisticated, the future study may consider the travel time from the initial scale to the stockpile, the time of unloading the truck and travel time back to the final scale.