CHAPTER 5

CONCLUSION

The aims of this investigation are to model the temperature change of the liquid steel in BOF's process and to study the effect of tapping time, steel weight, fluxes and additives on the temperature change. The neural network is applied for modeling. The behavior of each parameter that effects the convergence of neural network is also studied. The conclusions from the results of this study are as follows:

1. Neural network can be used to model temperature change of the liquid steel in BOF's process during tapping into ladle and adding additives well with uncertainly of approximately 7°C

2. The best architecture of neural network for this modeling was found to be [11,4,1].

3. Selection of the neural in hidden layer is an important step. Too many and too few neurons cause perturbations of convergence.

4. Learning rate and momentum affect on the convergence of the network. The best learning rate and momentum of this model were 0.01 and 0.5 respectively.

5. This neural network was used successfully to determine extent of influences of time factor and additives factor on the of temperature change. It was found the dependencies were linear.

6. The main factor which causes the temperature drop of liquid steel is tapping time whereas steel weight least affects temperature drop.