CHAPTER 7

CONCLUSIONS

A mathematical model of the catalytic reforming is developed for the prediction of steady state behavior of the catalytic reforming processes. This present study is limited to a system of fixed-bed catalytic reactor with a catalyst system of platinum on alumina type of catalyst. Furthermore the feedstock is a mixture of C_6 and C_7 hydrocarbons. The new model assumes that the reactions between C_6 and C_7 hydrocarbons are not occurred. The rate equations are obtained from experimental data by using Hougen-Watson rate equations.

The computed results are compared with experimental and pilot plant data with platinum on alumina type of catalyst. The agreement are good for both isothermal and semiadiabatic mode of operation. The comparison of the computed results with experimental data are not in agreement when the other type of catalyst is used. The type of catalyst has direct effect on the rate equations. Thus, the rate equations for the new catalyst should be determined by experiment with Hougen-Watson rate equations.

It is concluded that the new model can predict the steady state behavior of the catalytic reforming processes. For further development, the rate equations of C_8, C_9, C_{10} and C_{11} hydrocarbons should be obtained by experiment with a set rate equation of Hougen-Watson.