

CHAPTER VI

Conclusions and Recommendations

6.1 Conclusions

A simulation program for predicting oil-loss in storage tanks is developed using API principles proposed recently. These categories of tanks, namely, internal floating roof tank, external floating roof tank and fixed roof tank are taken into consideration. The program is developed using Visual Basic language therefore it can be utilized on personal computers with Microsoft Windows.

Actual loss data of 12 internal floating roof tanks, 5 external floating roof tanks and 8 fixed roof tanks from 7 terminals is collected for comparing with the simulated results of the developed program and those of the previously used program; the results show a similar trend but differ in values. For internal floating roof tanks, the developed program predicts almost the same results as those of the previously used program. However, the estimated value differs from the reported data. In case of external floating roof tank, the similar trend is also obtained. On the other hand, the developed program can predict the actual data more accurate than the previously used program does. It can be concluded that the developed program could predict more reliable results because of consideration on many parameters presented in updated API equations but neglected in the previously used program.

6.2 Recommendations

- 1) This simulation program can be applied for calculating evaporation loss of other chemicals having true vapor pressure from 1.5 to 14.7 psia.
- 2) Because the aim of this work is to estimate only total loss in storage tank, which is a part of total loss taking place in a whole plant. In order to improve total loss estimation in a plant, loading loss calculation should be taken into consideration.
- 3) Because the developed program is designed to have easy interaction using, it is interesting to make highest utilization of this simulation as a guidance to estimate total loss in storage tanks for actual plant control system.