CHAPTER 5

CONCLUSION

1. The averages of almost all air pollutants were well below the Thai national ambient air quality standards except for PM_{10}. The mean concentrations of NO_2, CO, PM_{10}, SO_2, and O_3 were 45.4 ppb, 3.0 ppm, 119.9 mg/m^3, 15.5 ppb, and 4.7 ppb, respectively so PM_{10} is the most concern pollutant at Dindang station.

2. From correlation coefficient analysis, NO_2, CO, and PM_{10} were highly correlated to one another. A high were denoted by correlation coefficients of greater than 0.7. Variation of these three variables are similar as they may be released from similar sources. SO_2 exhibited the moderate relationship to NO_2, CO, and PM_{10}. Ozone did not correlate to the others and it may be impacted from different kinds of sources.

3. From factor analysis, we knew that transportation source was the most important source contributing to ambient air pollution levels at the Dindang sampling site. Type of vehicles influenced type of air pollutants present. Number of vehicles affected the air pollution level.

4. From the time series decomposition technique, hourly and monthly indices indicate higher influences than those of daily. High hourly indices were found in the rush hour periods and may be from an accumulation of vehicles at the site. High monthly indices occur during the cold season as wind speed and atmospheric dilution ability was low in this period of time.

5. Both transportation and seasonal are the important factors impacting to ambient air quality PM_{10} at the Dindang sampling site.

6. During the cold season, number of vehicles should be controlled, especially vehicles emitting large amount of PM_{10} such as buses, heavy duty trucks, etc. The PM_{10} concentration usually exceeded the limit of 120 mg/m^3 during October, 1997 – January, 1998.