

Nox emission modelling from industrial steam boilers

ABSTRACT

Previous researches often emphasize on the sources and effects of air pollutants in the environment and human population. A part of those studies were done in order to explore the spread or distribution pattern of those pollutants, especially regarding the emission from industrial steam boilers. It is very important to evaluate the transfer trend of air pollutants at both local and global scales. In this study, Industrial Source Complex Short Term Version 3 (ISCST3) model has been used to predict the distribution of NO_x emitted from industrial steam boilers in the District of Hulu Langat, Selangor. The result of analyses indicates that the emission rates for steam boilers were ranging from 0.0083 kg NO_x/hour to as high as 0.2771 kg NO_x/hour while the total emission load was 1.9969 kg NO_x/hour. The evaluation on dispersion contour shows that the concentration of NO_x was higher in 1-hour reading than 24-hour value. The highest concentration of NO_x was predicted to be within 104.65 km² from the sources of NO_x (steam boilers).

Keyword: Air pollutant; Industrial steam boilers; NO_x emission; Industrial source complex short term version 3; Distribution pattern