

B.6 INCINERATORS

Canada

Municipal incinerators emit significant amounts of particulate matter, and lesser amounts of sulphur dioxide and nitrogen oxides to the atmosphere. A large municipal incinerator (1000 tonnes per day), for example, emits 550 tonnes per year (tpy) of particulates, 300 tpy of sulphur dioxide, and 350 tpy of nitrogen oxides (1). Emissions per tonne of material incinerated tend to be equivalent or less than other types of controlled incineration such as controlled air incinerators or sewage sludge incinerators.

Control techniques for particulate emissions from incinerators are fairly advanced; however, little, if anything, has been done to reduce sulphur dioxide or nitrogen oxide emissions. Given the relatively low concentration of sulphur in municipal refuse and the low operating temperature of municipal incinerators and consequently low NO_x production compared to fossil-fuel combustion, it would be impractical to achieve significant reduction in these emissions. The EPA control techniques document for nitrogen oxides suggests alternative disposal methods (e.g., landfill) as the only practical control technique for nitrogen oxides from incineration.

Emissions of SO_2 and NO_x from incineration in Canada are 3 245 tpy and 5 094 tpy respectively. Large incinerators are located in Quebec City, Montreal, Toronto and Hamilton. The emissions of SO_2 and NO_x are a small part of overall Canadian emissions, and incineration is not considered to be of significance in the acid rain problem.

There are no hazardous waste incinerators operating in Canada.

U.S. Solid and Hazardous Waste

As a generalization, much of the municipal solid waste incineration is centered in the Great Lakes and New England areas while hazardous waste incineration is limited by comparison but is likely to be more ubiquitous.

Estimated emissions of NO_x from solid waste disposal in the U.S. indicate a decrease from about 0.6 million tpy in 1968 (AP-84), to 0.3 million tpy in 1970, to a current level of about 0.1 million tpy (draft criteria document for NO_x , 6/79) because of a reduction in the amount of waste burned. Air pollution control systems currently applied to such incinerators or those likely to be required in the future do not generally remove appreciable amounts of SO_x and NO_x .