D. PRESENT EMISSION RATES

This chapter provides estimates of current emissions of SO_2 and NO_x in both the United States and Canada. The data for U.S. emissions are current as of 1978, while the data for Canadian emissions are for various years. Canadian SO_2 emissions are current for 1979 with one major point source current for 1980. Canadian NO_x emissions are current for 1977. It is hoped that all emission estimates can be updated to 1979 values for the final version of this report.

D.1 In the United States

The current emission rates reported here for the United States are based on estimates of actual rates for numerous sectors of the economy. The values used in this summary are taken from National Air Pollution Emission Estimates (U.S. Environmental Protection Agency). Basically, the methodology for deriving these estimates uses an inventory of sources, determination of fuel consumption, and air pollution emission factors.

The inventory of sources, and associated fuel consumption rates, were taken from the National Emissions Data System (NEDS). The data in NEDS were provided by state agencies as an inventory of sources for each state. NEDS is constantly being updated and the version used here reflects values in the system for February, 1980. However, NEDS is not complete and some source categories are more accurate than others. Estimates of the accuracy of this information are unavailable at this time.

The emission factors used in developing these emission estimates are from the U.S. EPA data (1). The emission factor is an average estimate of the rate at which a pollutant is released to the atmosphere as a result of some activity, such as combustion or industrial production, divided by the level of that activity. The emission factors are estimates based on source testing, process material balances, and engineering appraisals. As a result, some emission factors are more accurate than others. In general, the emission factors are more often applied to regional or national emission estimates, as in this report, than to single source estimates where the inaccuracies would be considerable.

Total emissions of SO_2 and NO_x for 1978 are shown in Table D.1.1, segmented for various categories of sources. Clearly, the largest source category of SO_2 emission in the United States is the utility category. Utilities account for approximately two-thirds of the SO_2 emissions. Other stationary sources contribute nearly one-third, with the remainder from transportation sources. In terms of total NO_x emissions, the