

B.2.4 PRELIMINARY COST OF CONTROLS FOR EASTERN CANADIAN SMELTERS

Preliminary costs have been developed for one level of SO₂ emission control for eastern Canadian non-ferrous smelters. The exact level varies from smelter to smelter depending on the present level of control, concentrate characteristics and production processes. The costs are based on preliminary estimates. Current work under-way will provide more accurate costs for control to this level and also will provide cost estimates for more stringent levels of control.

The costs include modifications and/or improvements to existing operations, replacement of some production process unit operations, modifications to flues and flue gas cleaning facilities, sulphuric acid plants, sulphuric acid storage, handling and transportation facilities and sulphuric acid disposal. No control of weak gas streams is included at this time.

The estimated capital cost to reduce SO₂ emissions (at smelter capacity) from 2.7 million tonnes per year to 1.17 million tonnes per year (a 57% reduction) is \$1.1 billion. The net increase in annualized costs is estimated at \$120 to \$150 million. (Note: includes major changes at four smelters and minor changes at two smelters).

The net increase in annualized costs is equivalent to 15¢ to 20¢ per lb of nickel and 5¢ to 8¢ per lb of copper.

A number of factors may change these costs as a result of further work under-way. The costs of acid sale/disposal may be low for the remote smelters it may be necessary to neutralize some of the acid produced, etc.

The above costs include those identified in the preliminary feasibility study which was carried out for the Inco copper-nickel smelter at Sudbury, Ont. The estimated cost at capacity operations for a reduction of SO₂ emissions from 1.14 million tonnes per year to 0.41 million tonnes per year (64%) was \$480 million. This reduction was based on the installation of sulphuric acid plants and major process changes. The estimated net increase in annualized costs was \$60 to \$65 million (includes capital and operating costs).