Q. **Other**

(Re: Amended GRA) Page 2.17 (lines 12 to 14) indicates that SO_2 and CO_2 emissions are determined based on formulas approved by the provincial Department of Environment and Conservation. For the record, please file these formulas.

A. The formulas for Holyrood Thermal Generating Station and Hydro's gas turbines and diesel generators are set out below.

Holyrood Thermal Generating Station

CO_2 Emissions

CO_2 emissions from the HTGS are based on fuel consumption data and calculated using the following formula:

CO_2 (kg) = (0.2618 * running BTU/US Gal * 42 * barrels of fuel consumed)/3415

Where

0.2618 = emission factor, kg/kWh (No.6 fuel)

42 = conversion factor, US gal/barrel

3415 = conversion factor, BTU/kWh

SO_2 Emissions

SO_2 emissions from the HTGS are based on fuel consumption data and calculated using the following formula:

SO_2 (kg) = (19.579 * S * barrels of fuel consumed * 158.9873 * specific gravity) / 1000

Where

19.579 = emission factor, kg/1000 litres

158.9873 = conversion factor, litres/barrel

Specific Gravity = 141.5/(131.5 + API)

S = percent sulphur content as a whole number

Gas Turbines & Diesel Generators

CO_2 Emissions

CO_2 emissions from gas turbines and diesel generators are based on fuel consumption data and calculated using the following formula:

CO_2 (kg) = litres of fuel consumed * 0.8742 * 3.67 * 0.87

Where

0.8742 = kg/litre of No.2 fuel oil, API min = 30

3.67 = ratio of molecular weights (CO_2/C)

0.87 = typical carbon content of No.2 fuel oil

SO_2 Emissions

SO_2 emissions from gas turbines and diesel generators are based on fuel consumption data and calculated using the following formula:

SO_2 (kg) = litres of fuel consumed * 0.98 * 0.8742 * 2 * 0.002

Where

0.98 = assumed conversion rate of S to SO_2

0.8742 = kg/litre of No. 2 fuel, API min = 30

2 = ratio of molecular weights SO_2/S

0.002 = sulphur content of No. 2 fuel