



O. Reg. 88/22: Air Pollution – Discharge of Sulphur Dioxide from Petroleum Facilities

Section 35 Annual Report –2024

Nanticoke Refinery, Imperial Oil

March 28, 2025

This annual report, which covers the January to December 2024 reporting period for the Imperial Oil Nanticoke Refinery, was prepared in accordance with section 35 of O. Reg 88/22. Imperial Oil is making this report available to the public in accordance with subsection 41(1) paragraph 2 of O. Reg 88/22.

The information required as per subsection 35(1) of O. Reg 88/22, with the exception of those items not applicable to the Imperial Oil Nanticoke Refinery, is provided below.

1. *The average, maximum and minimum hourly mass emission rate of,*

- i. Sulphur dioxide discharged into the air from the sources of contaminant mentioned in paragraphs 1 and 5 of subsection 22 (1) during the calendar year*

The average, maximum and minimum hourly mass emission rate of SO₂ for those sources with continuous emissions monitoring systems operating in accordance with O. Reg 88 requirements in 2024 are provided in Table 1-1.

Table 1-1: Average, maximum and minimum hourly mass emission rate of SO₂ from July 1 to December 31, 2024

Source	Average SO ₂ (kg/hr)	Maximum SO ₂ (kg/hr)	Minimum SO ₂ (kg/hr)
South Flare	18.8	1,211.5	0.1
North Flare	3.7	52.3	1.1
Fluidized Catalytic Cracker Regenerator via CO Boiler	173.0	460.4	17.6

2. *The total amount, in kilograms, of*

- i. Sulphur dioxide discharged into the air from the sources of contaminant mentioned in paragraphs 1 and 5 of subsection 22 (1) during the calendar year.*

The total amount, in kilograms, of SO₂ discharged into the air from those sources with continuous emissions monitoring system operating in accordance with O. Reg 88 requirements in 2024 are provided in Table 2-1.

Table 2-1: Total amount of SO₂ from July 1 to December 31, 2024

Source	Total SO ₂ (kg)
South Flare	49,293
North Flare	1236
Fluidized Catalytic Cracker Regenerator via CO Boiler	673,396

3. *The total amount of sulphur dioxide, in tonnes, discharged from the facility during the calendar year as required to be calculated under clause 26(2)(b) in respect of the fourth quarter of the calendar year if applicable.*

Clause 26(2)(b) is not yet applicable.

4. *A summary of the information in any reports submitted under section 32 during the calendar year.*

Section 32 is not yet applicable.

5. *An assessment of the effectiveness of any measures identified under subparagraph 6 iii of section 32 that were implemented during the calendar year.*

Section 32 is not yet applicable.

6. *Any actions taken during the calendar year to minimize, prevent or reduce the discharge of sulphur dioxide from the facility, including any actions identified in the plan required under section 36.*

To reduce the discharge of sulphur dioxide from the Nanticoke Refinery, Imperial Oil:

- continued to add a sulphur dioxide reducing additive to the fluidized catalytic cracker (FCC) in accordance with O. Reg 530/18 *Air Pollution – Discharge of Sulphur Dioxide from Petroleum Facilities Before 2029*.
- replaced a reboiler in the amine recovery unit regenerator and replaced trays in the FCC absorber tray to debottleneck and improve amine gas treating system reliability.