



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

Section 35 Annual Report –2025

Nanticoke Refinery, Imperial Oil

March 23, 2026

This annual report, which covers the January to December 2025 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 2025 are provided in Table 1-1.

Table 1-1: Average, maximum and minimum hourly mass emission rate of SO₂ from January 1 to December 31, 2025

Source	Average SO ₂ (kg/hr)	Maximum SO ₂ (kg/hr)	Minimum SO ₂ (kg/hr)
South Flare	21.4	1,639.4	0.4
North Flare	10.9	629.4	0.0
Fluidized Catalytic Cracker Regenerator via CO Boiler	152.2	442.7	0.1
CO Boiler Bypass	33.7	226.0	0.0
Sulphur Recovery Unit	122.7	1,242.1	0.5
Fuel Gas	53.1	1,171.2	0.0
Distillate Hydrofiner 2	0.4	61.7	0.0

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 2025 are provided in Table 2-1.

Table 2-1: Total amount of SO₂ from January 1 to December 31, 2025

Source	Total SO ₂ (kg)
South Flare	149,189
North Flare	10,508
Fluidized Catalytic Cracker Regenerator via CO Boiler	1,044,258
CO Boiler Bypass	62,706
Sulphur Recovery Unit	742,006
Fuel Gas	224,756
Distillate Hydrofiner 2	1,247

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.*

Total amount of sulphur dioxide discharged from the facility during 2025 was 2,235 tonnes.

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

There were no such reports submitted in 2025.

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

There were no such measures identified or implemented in the year of 2025.

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*.
- installed and operated "3+1" EuroClaus to enhance sulfur recovery and increase the conversion efficiency of hydrogen sulfide to elemental sulfur.
- tied vacuum off-gas (VOG) stream into the refinery fuel gas system to reduce continuous flaring and reduce the discharge of sulphur dioxide.
- installed a new distillate hydrofiner (DHIN2) tail gas cooler to improve overall sulfur recovery efficiency.