

Ms Nompumelelo Simelane
Nkangala District Municipality
PO BOX 437
Middelburg
1050

Date:
01 April 2025

Enquiries:
Livhuwani Tshilate
017 615 2317

Ref: 17/4/AEL/MP312/11/09

Dear Ms. Simelane

KRIEL POWER STATION'S MONTHLY STACK EMISSIONS REPORT FOR THE MONTH OF JULY 2024

This serves as the monthly report required in terms of Section 7.4 in Kriel Power Station's Atmospheric Emission License 17/4/AEL/MP312/11/09. The emissions are for the month of July 2024. Verified emissions of particulates matter, SO₂ and NO_x (as NO₂) are also included.

Raw Materials and Products

Table 1: Quantity of Raw Materials and Products used/produced for the month of July 2024

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption / Rate (Quantity)	Consumption / Rate in Month of July 2024
	Coal	Tons/month	1 227 600	486 426.00
	Fuel Oil	Tons/month	5 000	5 613.70
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of February 2025
	Energy	GWh	3 000/2 232	865.71
	Ash	Tons/month	320 000	1445.1
	RE PM	kg/MWh	not specified	1.521

1/...

Abatement Technology

Table 2: Abatement Equipment Control Technology for July 2024.

Associated Unit/Stack	Technology Type	Actual Efficiency (%)	Technology Type	SO ₃ Utilisation (%)
Unit 1	ESP& SO3	99.66%	SO3 Plant	2.40
Unit 2	ESP& SO3	99.22%	SO3 Plant	100.00
Unit 3	ESP& SO3	99.30%	SO3 Plant	100.00
Unit 4	ESP& SO3	98.07%	SO3 Plant	100.00
Unit 5	ESP& SO3	99.80%	SO3 Plant	100.00
Unit 6	ESP& SO3	98.75%	SO3 Plant	100.00

Note: ESP plant does not contain bypass mode operation; hence plant 100% Utilised.

Energy Source Characteristics

Table 3: Energy Source Material Characteristics for the month of July 2024

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.6-1.2 (%)	0.76
Ash Content	27-32 (%)	23.01

Monthly Monitor Reliability

Associated Unit/Stack	PM (%)	SO _x (%)	NO _x (%)
North	87.22	98.76	100.00
South	49.61	82.79	84.69

Emissions Reporting

Graph Legend Description

Condition	Colour	Description
Normal	Green	Emissions below Emission Limit Value (ELV)
Grace	Blue	Emissions above the ELV during grace period
Section 30	Orange	Emissions above ELV during a NEMA S30 incident
Contravention	Red	Emissions above ELV but outside grace or S30 incident conditions

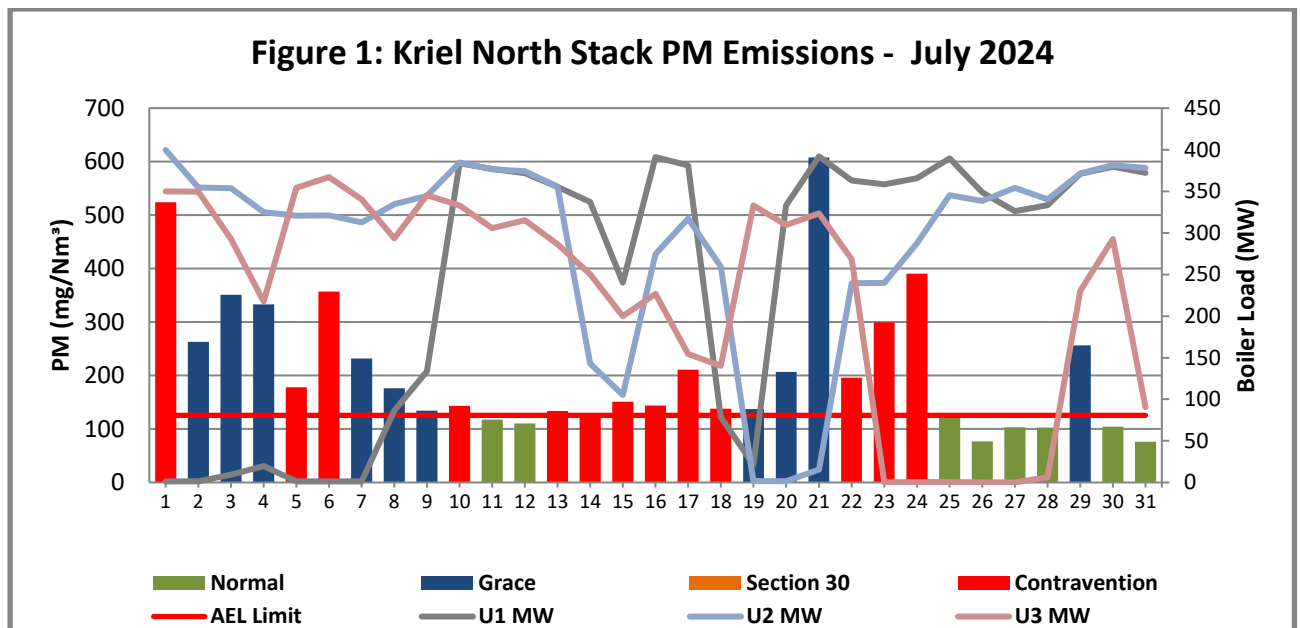


Figure 1: PM emissions for the month of July 2024 against monthly emission limit (125 mg/Nm³) for the North Stack.

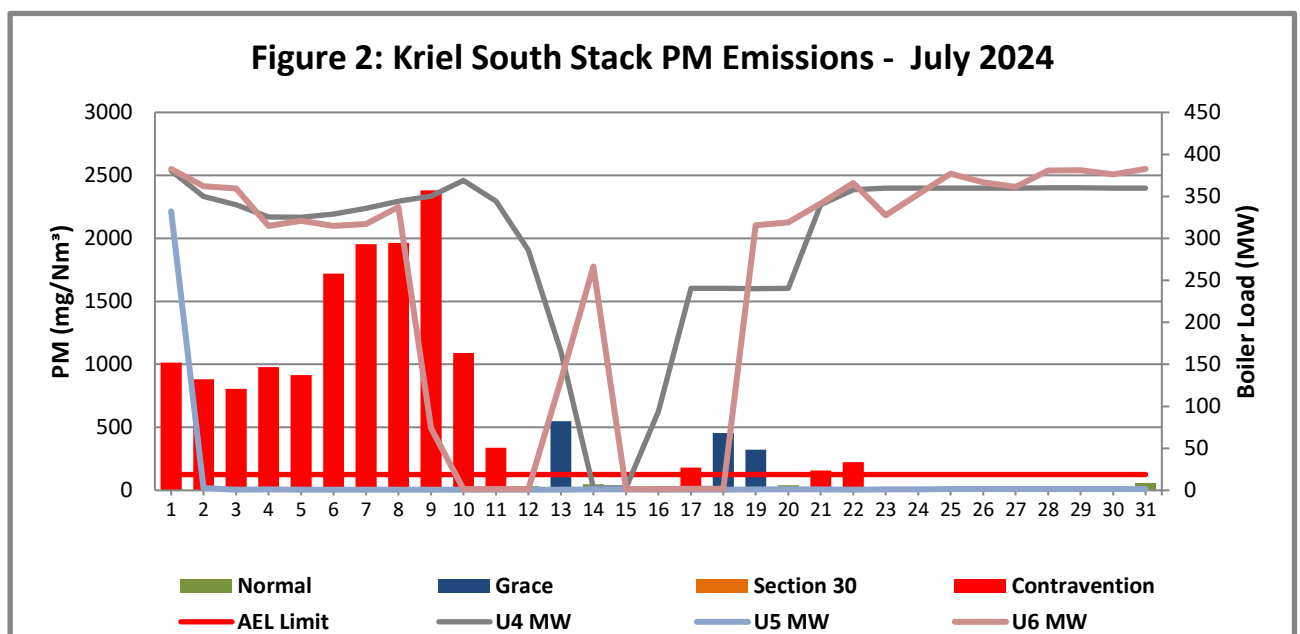


Figure 2: PM emissions for the month of July 2024 against monthly emission limit (125 mg/Nm³) for the South Stack. South stack Gaseous monitors commissioning (Installation of SICK Automation) and as a result, No gaseous readings for the South stack emissions from the 25 of July 2024.

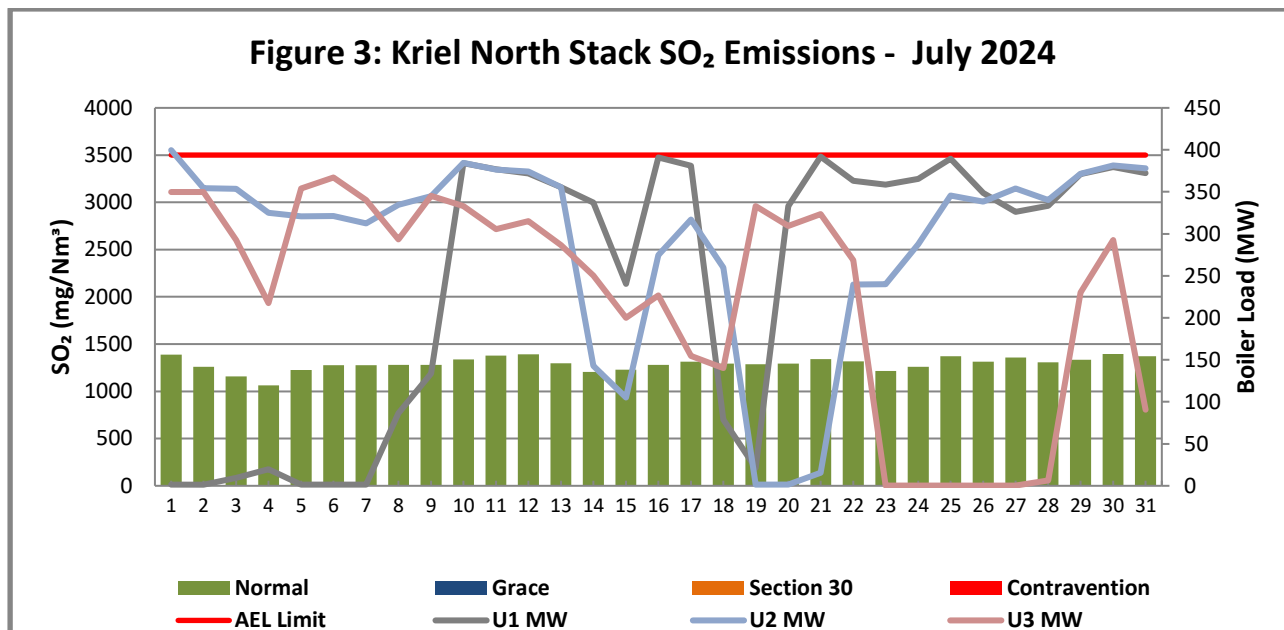


Figure 3. SO₂ emissions for the month of July 2024 against monthly emission limit (3500 mg/Nm³) for the North Stack.

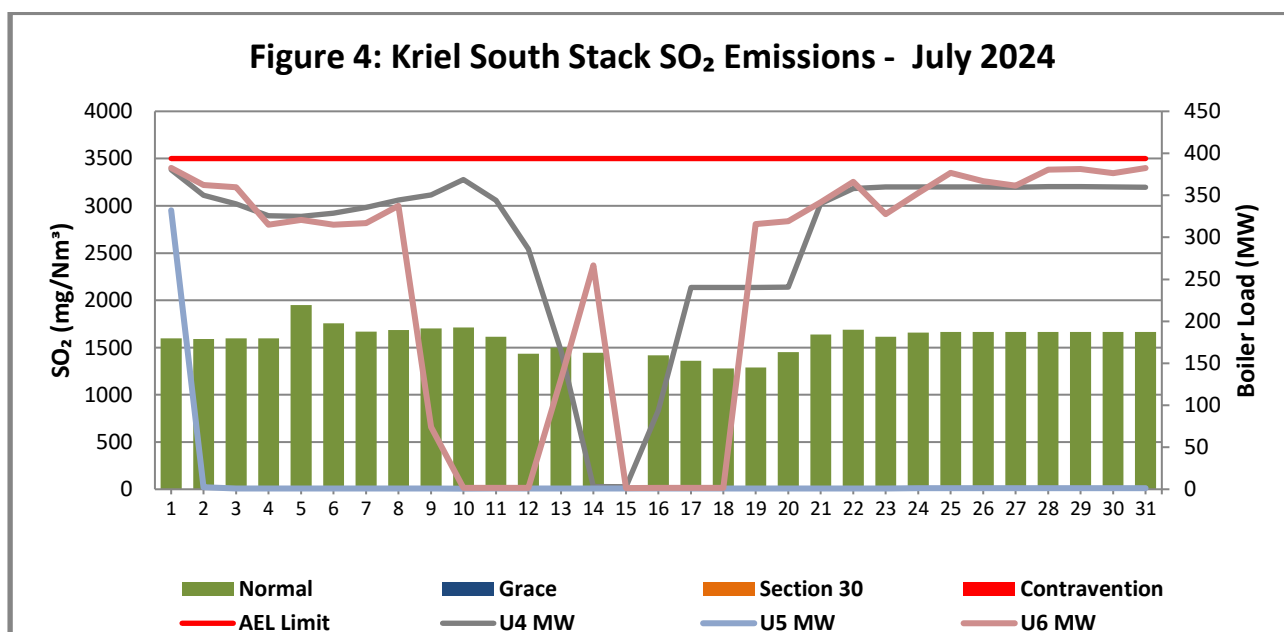


Figure 4. SO₂ emissions for the month of July 2024 against monthly emission limit (3500mg/Nm³) for the South Stack.

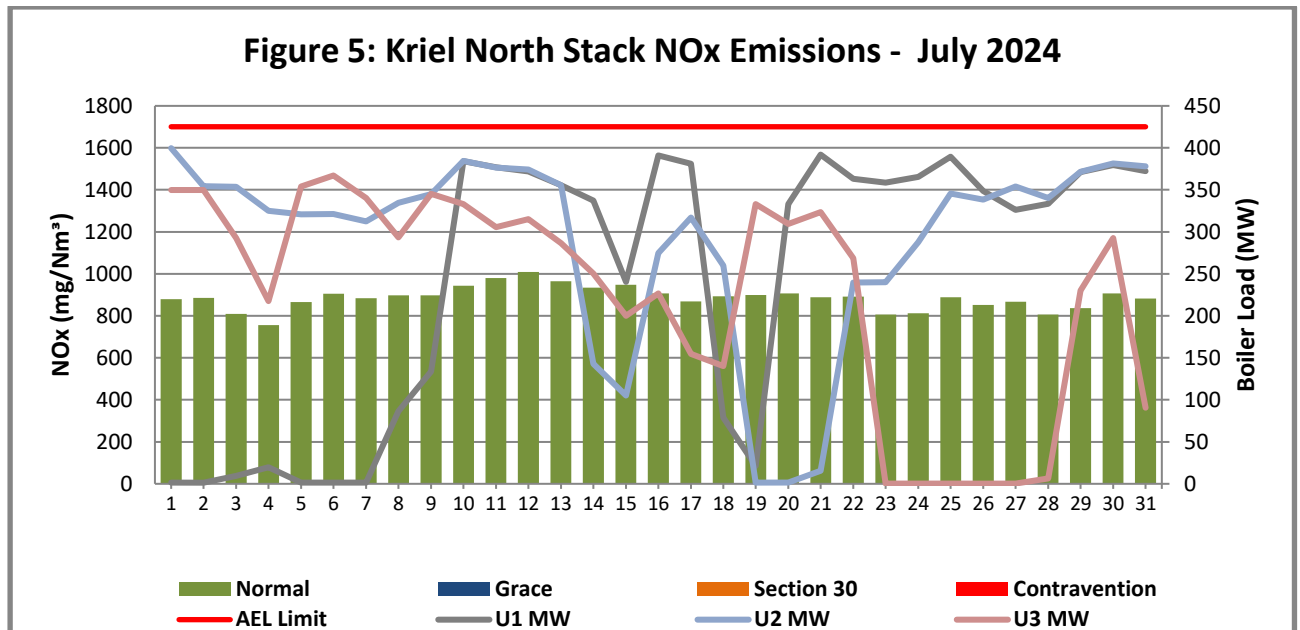


Figure 5. NO₂ emissions for the month of July 2024 against monthly emission limit (1700) for the North Stack.

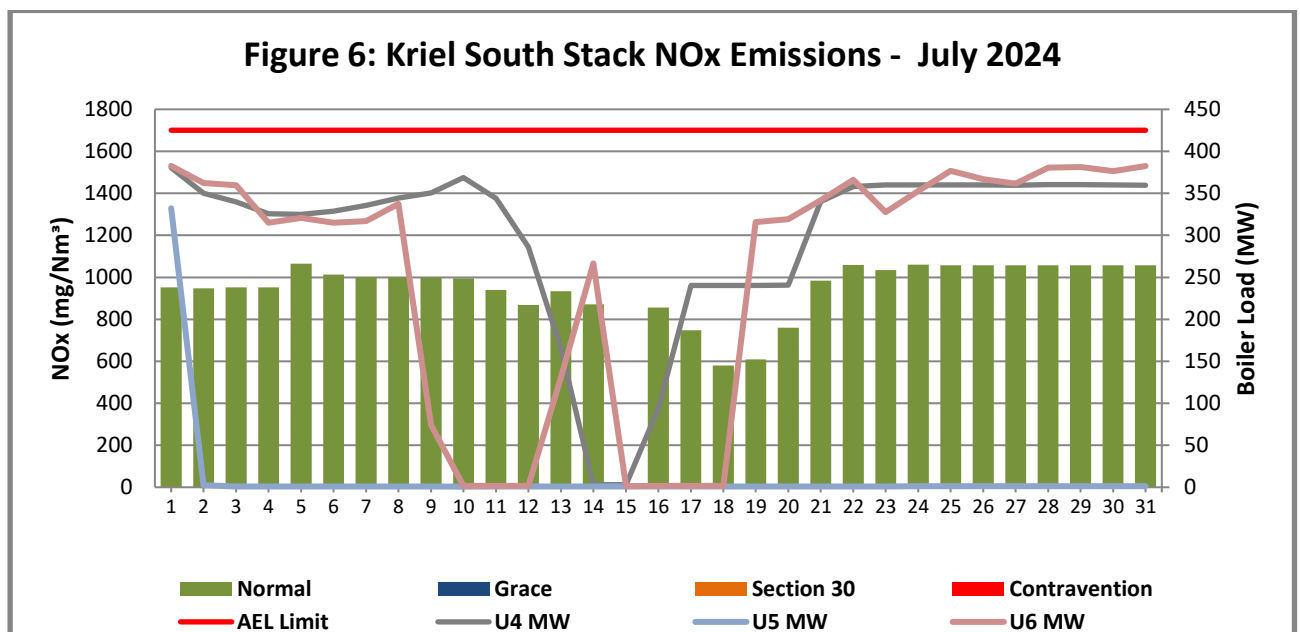


Figure 6. NO₂ emissions for the month of July 2024 against monthly emission limit (1700mg/Nm³) for the South Stack.

Table 4: Monthly tonnages for the month July 2024

Unit	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
SUM	1 445.1	7 010.4	4 492.2

Table 5: Each unit and respective days operating under normal operation and section 30 days respectively.

Table 5.1: Operating days in non-compliance to PM AEL Limit – July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Monthly Limit Exceedance	Average PM (mg/Nm ³)
North	8	10	0	13	23	268.4
South	12	3	0	14	17	420.3

Table 5.2: Operating days in compliance to SO_x AEL Limit – July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
North	31	0	0	0	0	1293.1
South	30	0	0	0	0	1597.1

Table 5.3: Operating days in compliance to NO_x AEL Limit – July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
North	31	0	0	0	0	886.1
South	30	0	0	0	0	952.6

Light up information

Table 6: PM Start-up information for the month of July 2024

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 1		Unit 2	
Breaker Open (BO)			11:40 pm	2024/07/14	3:25 am	2024/07/18	11:00 am	2024/07/14
Draught Group (DG) Shut Down (SD)			DG did not trip or SD	DG did not trip or SD	7:50 pm	2024/07/18	12:35 pm	2024/07/14
BO to DG SD (duration)		DD:HH:M M	n/a	DD:HH:M M	00:16:25	DD:HH:M M	00:01:35	DD:HH:M M
Fires in time	10:55 pm	2024/07/07	11:40 pm	2024/07/14	12:40 pm	2024/07/19	5:15 am	2024/07/15
Synch. to Grid (or BC)	2:35 pm	2024/07/09	7:25 am	2024/07/15	9:25 pm	2024/07/19	10:50 am	2024/07/15

Fires in to BC (duration)	01:15:40	DD:HH:MM	00:07:45	DD:HH:MM	00:08:45	DD:HH:MM	00:05:35	DD:HH:MM
Emissions below limit from BC (end date)	11:00 pm	2024/07/13	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)	04:08:25	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

North Stack ...Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 3		Unit 3		Unit 3	
Breaker Open (BO)	7:55 pm	2024/07/18	BO previously	BO previously	10:10 pm	2024/07/03	10:10 pm	2024/07/14
Draught Group (DG) Shut Down (SD)	10:55 pm	2024/07/18	n/a	n/a	10:45 pm	2024/07/03	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	00:03:00	DD:HH:MM	n/a	DD:HH:MM	00:00:35	DD:HH:MM	n/a	DD:HH:MM
Fires in time	1:25 pm	2024/07/21			6:10 am	2024/07/04	10:10 pm	2024/07/14
Synch. to Grid (or BC)	8:50 pm	2024/07/21			10:05 am	2024/07/04	1:40 am	2024/07/15
Fires in to BC (duration)	00:07:25	DD:HH:MM		DD:HH:MM	00:03:55	DD:HH:MM	00:03:30	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit			12:00 am	2024/07/06	not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM	01:13:55	DD:HH:MM	n/a	DD:HH:MM

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 4		Unit 5		Unit 5		Unit 6	
Breaker Open (BO)	11:40 am	2024/07/13	BO previously	BO previously	12:25 am	2024/07/02	5:45 am	2024/07/09
Draught Group (DG)	1:00 am	2024/07/14	n/a	n/a	6:00 pm	2024/07/02	6:15 pm	2024/07/09

Shut Down (SD)								
BO to DG SD (duration)	00:13:20	DD:HH:MM	n/a	DD:HH:MM	00:17:35	DD:HH:MM	00:12:30	DD:HH:MM
Fires in time	3:55 am	2024/07/16					5:40 am	2024/07/13
Synch. to Grid (or BC)	1:25 pm	2024/07/16					1:50 pm	2024/07/13
Fires in to BC (duration)	00:09:30	DD:HH:MM		DD:HH:MM		DD:HH:MM	00:08:10	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit					not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM

South Stack ...Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 6		no event		no event		no event	
Breaker Open (BO)	7:05 pm	2024/07/14						
Draught Group (DG) Shut Down (SD)	1:15 pm	2024/07/15						
BO to DG SD (duration)	00:18:10	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	7:40 pm	2024/07/18						
Synch. to Grid (or BC)	4:35 am	2024/07/19						
Fires in to BC (duration)	00:08:55	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit						
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

Complaints Register

Table 8: Complaint for the month of July 2024

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
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There was no complaint related to air quality received during the month of July 2024.

General

The rest of the information demonstrating compliance with the emissions license conditions is supplied in the annual emission reports sent to your office.