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Date:
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Enquiries:
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Ref: 17/AEL/MP312/11/09

Dear Ms. Simelane

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

This serves as the monthly report required in terms of Section 7.4 in Kriel Power Station's Atmospheric Emission License 17/AEL/MP312/11/09. The emissions are for the month of June 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 June 2024

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption / Rate (Quantity)	Consumption / Rate in Month of June 2024
	Coal	Tons/month	1 227 600	608 708.00
	Fuel Oil	Tons/month	5 000	5 972.79
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of June 2024
	Energy	GWh	3 000/2 232	1 046.54
	Ash	Tons/month	320 000	4121.2
	RE PM	kg/MWh	not specified	3.575

1/...

Abatement Technology

Table 2: Abatement Equipment Control Technology for June 2024.

Associated Unit/Stack	Technology Type	Actual Efficiency (%)	Technology Type	SO ₃ Utilisation (%)
Unit 1	ESP& SO3	99.46%	SO3 Plant	83.64
Unit 2	ESP& SO3	99.72%	SO3 Plant	99.77
Unit 3	ESP& SO3	99.72%	SO3 Plant	100.00
Unit 4	ESP& SO3	97.41%	SO3 Plant	100.00
Unit 5	ESP& SO3	93.61%	SO3 Plant	100.00
Unit 6	ESP& SO3	94.32%	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 June 2024

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.6-1.2 (%)	0.79
Ash Content	27-32 (%)	25.52

Monthly Monitor Reliability

Associated Unit/Stack	PM (%)	SO _x (%)	NO _x (%)
North	92.20	92.13	96.40
South	19.32	91.31	92.15

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

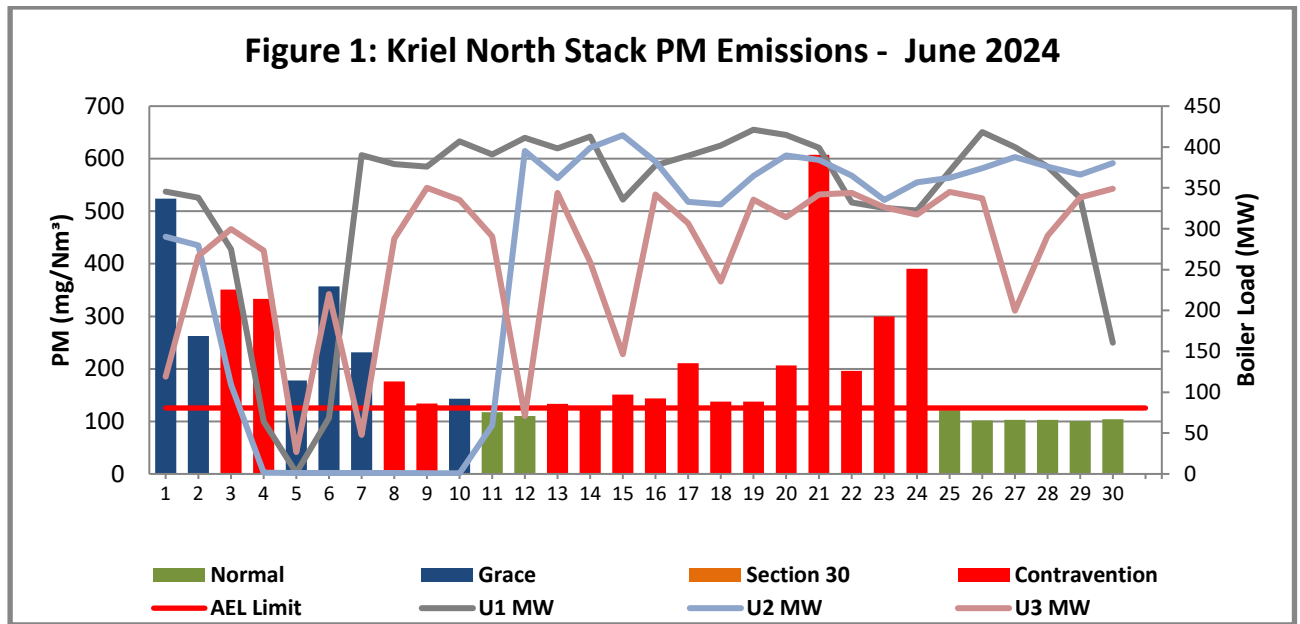


Figure 1: PM emissions for the month of June 2024 against monthly emission limit (125 mg/Nm³) for the North Stack.

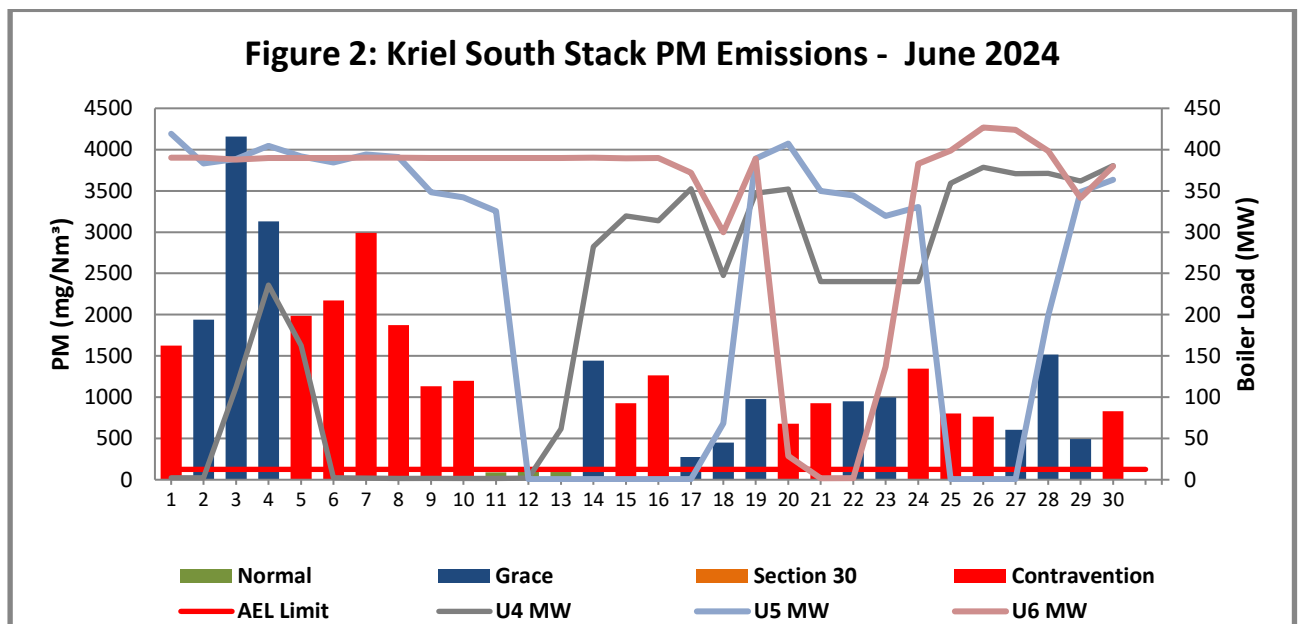


Figure 2: PM emissions for the month of June 2024 against monthly emission limit (125 mg/Nm³) for the South Stack.

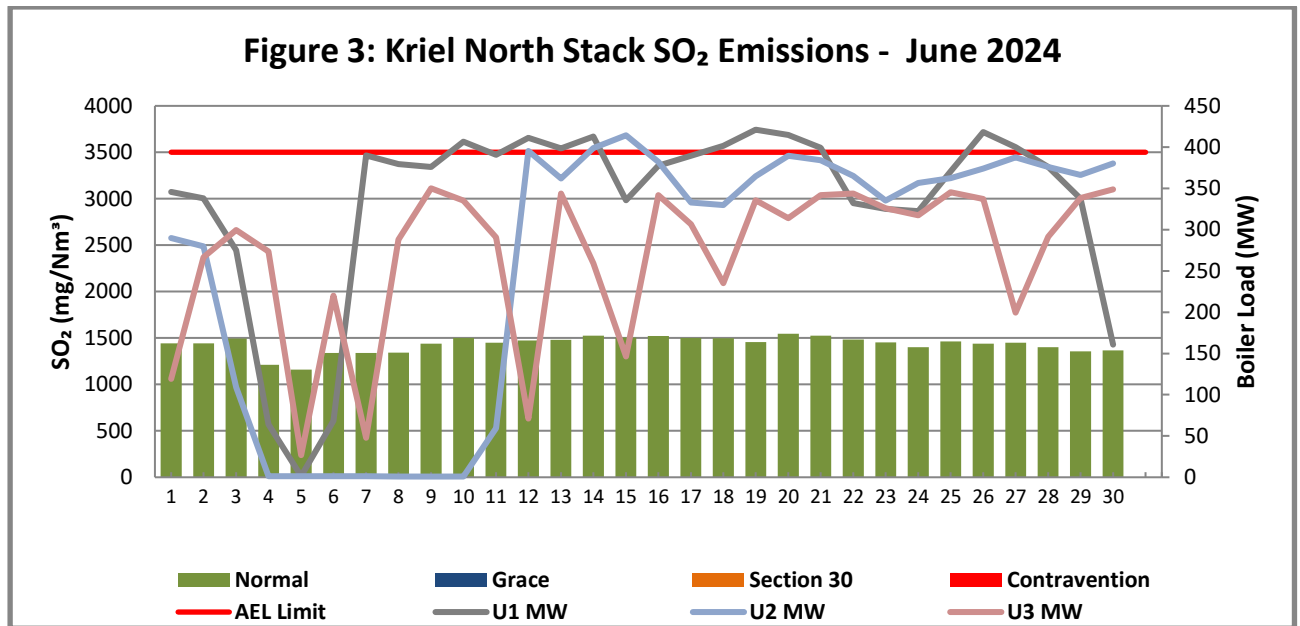


Figure 3. SO₂ emissions for the month of June 2024 against monthly emission limit (3500 mg/Nm³) for the North Stack.

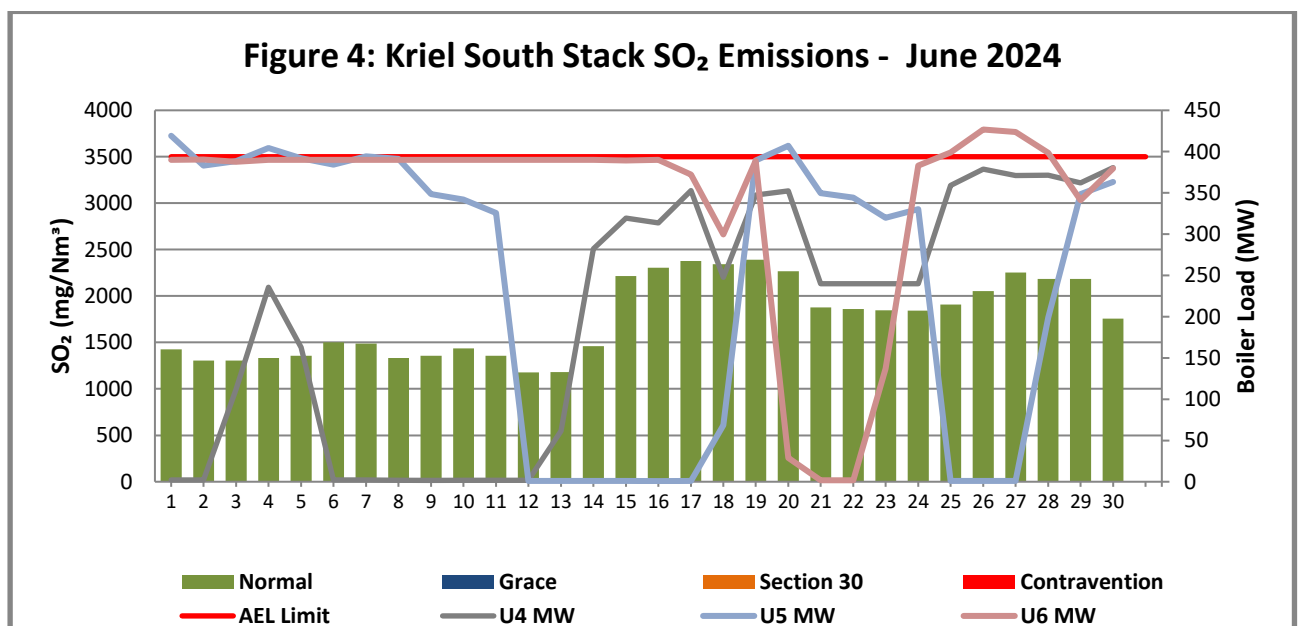


Figure 4. SO₂ emissions for the month of June 2024 against monthly emission limit (3500mg/Nm³) for the South Stack.

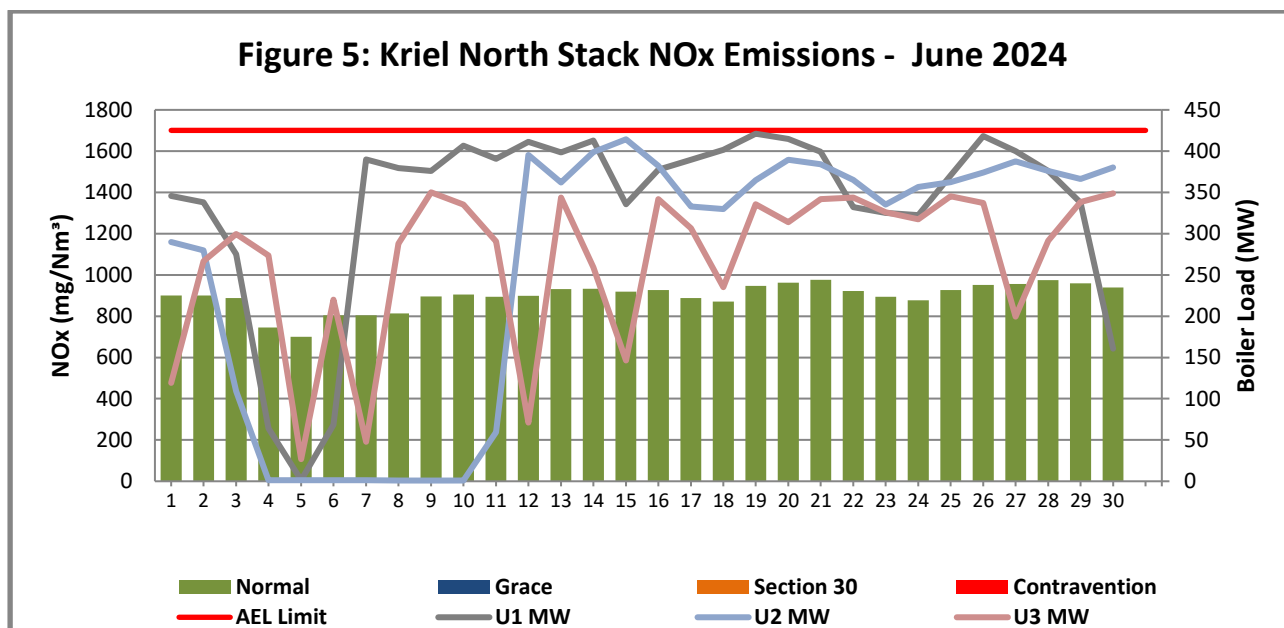


Figure 5. NO₂ emissions for the month of June 2024 against monthly emission limit (1700) for the North Stack.

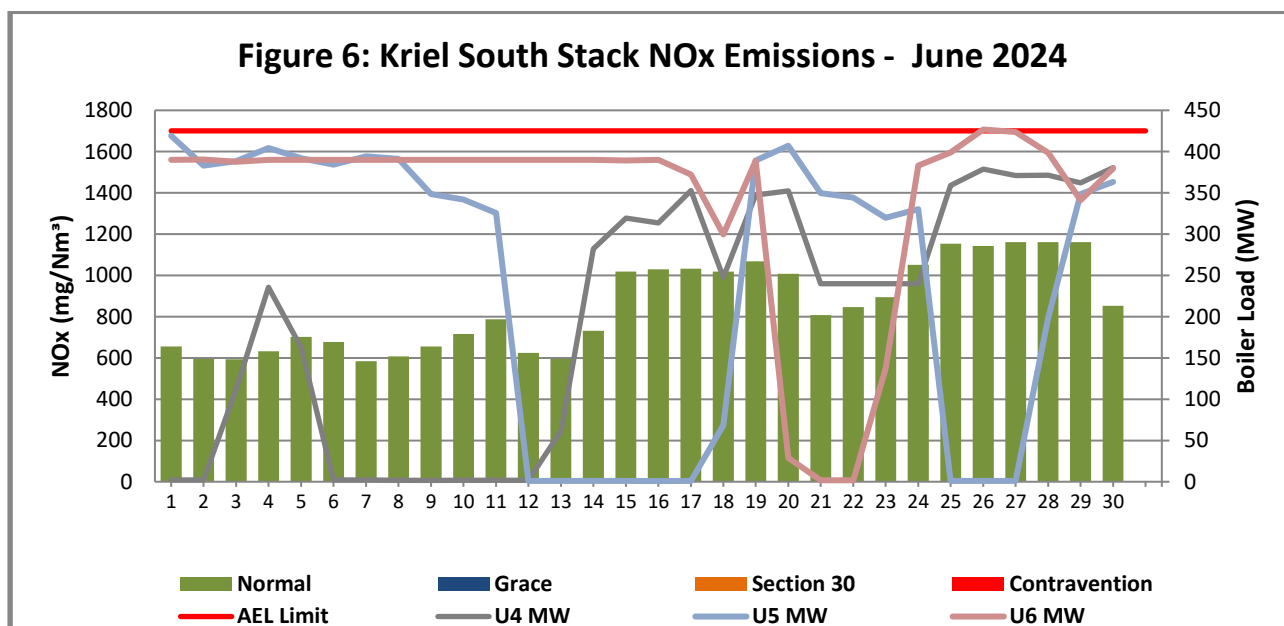


Figure 6. NO₂ emissions for the month of June 2024 against monthly emission limit (1700mg/Nm₃) for the South Stack.

Table 4: Monthly tonnages for the month June 2024

Unit	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
SUM	4 121.2	9 121.4	4 982.0

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 – June 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Monthly Limit Exceedance	Average PM (mg/Nm ³)
North	8	6	0	16	22	151.6
South	3	12	0	15	27	1 330.9

Table 5.2: Operating days in compliance to SOx AEL Limit - June 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	30	0	0	0	0	1 433.2
South	30	0	0	0	0	1 756.0

Table 5.3: Operating days in compliance to NOx AEL Limit – June 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	30	0	0	0	0	896.9
South	30	0	0	0	0	852.1

Light up information

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 2		Unit 3	
Breaker Open (BO)	6:10 pm	2024/06/03	12:35 pm	2024/06/30	9:30 am	2024/06/03	BO previously	BO previously
Draught Group (DG) Shut Down (SD)	11:45 am	2024/06/04	2:00 am	2024/07/01	11:00 pm	2024/06/03	n/a	n/a
BO to DG SD (duration)	00:17:35	DD:HH:MM	00:13:25	DD:HH:MM	00:13:30	DD:HH:MM	n/a	DD:HH:MM
Fires in time	12:00 pm	2024/06/06			3:55 am	2024/06/11		
Synch. to Grid (or BC)	5:15 pm	2024/06/06			4:00 pm	2024/06/11		

Fires in to BC (duration)	00:05:15	DD:HH:MM		DD:HH:MM	00:12:05	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 am	2024/06/10			not > limit	not > limit		
Emissions below limit from BC (duration)	03:06:45	DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM

North Stack ...Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 3		Unit 3		Unit 3		Unit 3	
Breaker Open (BO)	1:50 am	2024/06/05	8:35 pm	2024/06/11	8:20 pm	2024/06/14	9:45 pm	2024/06/17
Draught Group (DG) Shut Down (SD)	1:55 am	2024/06/07	9:45 pm	2024/06/11	8:35 pm	2024/06/14	10:10 pm	2024/06/17
BO to DG SD (duration)	02:00:05	DD:HH:MM	00:01:10	DD:HH:MM	00:00:15	DD:HH:MM	00:00:25	DD:HH:MM
Fires in time	3:55 pm	2024/06/07	8:40 am	2024/06/12	8:30 am	2024/06/15	1:55 am	2024/06/18
Synch. to Grid (or BC)	8:10 pm	2024/06/07	4:50 pm	2024/06/12	12:45 pm	2024/06/15	5:50 am	2024/06/18
Fires in to BC (duration)	00:04:15	DD:HH:MM	00:08:10	DD:HH:MM	00:04:15	DD:HH:MM	00:03:55	DD:HH:MM
Emissions below limit from BC (end date)	12:00 am	2024/06/10	not > limit	not > limit	9:00 pm	2024/06/16	not > limit	not > limit
Emissions below limit from BC (duration)	02:03:50	DD:HH:MM	n/a	DD:HH:MM	01:08:15	DD:HH:MM	n/a	DD:HH:MM

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 4		Unit 4		Unit 4		Unit 5	
Breaker Open (BO)	BO previously	BO previously	4:20 pm	2024/06/05	7:50 am	2024/06/18	11:20 pm	2024/06/11
Draught Group (DG) Shut Down (SD)	n/a	n/a	5:30 am	2024/06/06	DG did not trip or SD	DG did not trip or SD	12:15 pm	2024/06/12

BO to DG SD (duration)	n/a	DD:HH:M M	00:13:1 0	DD:HH:M M	n/a	DD:HH:M M	00:12:5 5	DD:HH:M M
Fires in time	7:25 am	2024/06/0 2	5:15 am	2024/06/1 3	7:50 am	2024/06/1 8	1:25 am	2024/06/1 8
Synch. to Grid (or BC)	10:55 am	2024/06/0 3	4:15 pm	2024/06/1 3	12:50 pm	2024/06/1 8	6:00 pm	2024/06/1 8
Fires in to BC (duration)	01:03:30	DD:HH:M M	00:11:0 0	DD:HH:M M	00:05:0 0	DD:HH:M M	00:16:3 5	DD:HH:M M
Emission s below limit from BC (end date)	12:00 am	2024/06/1 1	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emission s below limit from BC (duration)	07:13:05	DD:HH:M M	n/a	DD:HH:M M	n/a	DD:HH:M M	n/a	DD:HH:M M

South Stack ...Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 5		Unit 6		no event		no event	
Breaker Open (BO)	11:40 pm	2024/06/24	2:55 am	2024/06/20				
Draught Group (DG) Shut Down (SD)	12:20 pm	2024/06/25	5:35 pm	2024/06/20				
BO to DG SD (duration)	00:12:40	DD:HH:MM	00:14:40	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	7:45 pm	2024/06/27	3:35 am	2024/06/23				
Synch. to Grid (or BC)	10:45 am	2024/06/28	1:55 pm	2024/06/23				
Fires in to BC (duration)	00:15:00	DD:HH:MM	00:10:20	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 am	2024/07/05	12:00 am	2024/07/05				
Emissions below limit from BC (duration)	06:13:15	DD:HH:MM	11:10:05	DD:HH:MM		DD:HH:MM		DD:HH:MM

Complaints Register

Table 8: Complaint for the month of June 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
There was no complaint related to air quality received during the month of June 2024.					

General

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

