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Date:
28 August 2025

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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 JULY 2025

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 July 2025. Verified emissions of particulates matter, SO_2 and NOx (as NO_2) are also included.

Raw Materials and Products

Table 1: Quantity of Raw Materials and Products used/produced for the month of July 2025

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption / Rate (Quantity)	Consumption / Rate in Month of July 2025
	Coal	Tons/month	1 227 600	453 165.00
	Fuel Oil	Tons/month	8 000	7011.10
Production Rates	**Product/ By-Product Name**	**Unit**	**Maximum Production Capacity Permitted (Quantity)**	**Production Rate in Month of July 2025**
	Energy	GWh	3 000/2 232	895.000
	Ash	Tons/month	320 000	110 549.645
	RE PM	kg/MWh	not specified	16.142

Abatement Technology

Table 2: Abatement Equipment Control Technology for July 2025.

Associated Unit/Stack	Technology Type	Actual Efficiency (%)	Technology Type	SO_3 Utilisation (%)
Unit 1	ESP& SO3	97.01%	SO3 Plant	100.00
Unit 2	ESP& SO3	98.09%	SO3 Plant	100.00
Unit 3	ESP& SO3	97.73%	SO3 Plant	100.00
Unit 4	ESP& SO3	61.28%	SO3 Plant	100.00
Unit 5	ESP& SO3	70.90%	SO3 Plant	100.00
Unit 6	ESP& SO3	72.50%	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 2025.

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.6-1.2 (%)	0.75
Ash Content	27-32 (%)	24.40

Monthly Monitor Reliability

Associated Unit/Stack	PM (%)	SOx (%)	NOx (%)
North	71.51	0.69	0.69
South	2.47	0.99	0.99

Emissions Reporting
Graph Legend Description

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

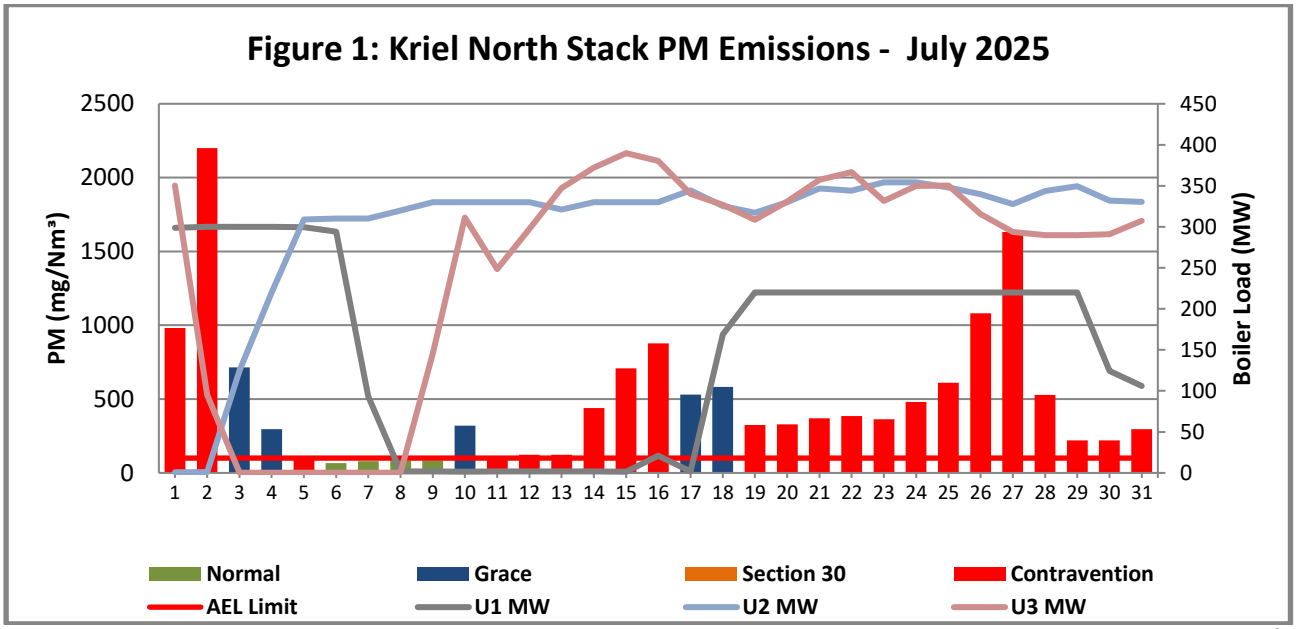

Figure 1: PM emissions for the month of July 2025 against daily emission limit (100 mg/Nm³) for the North Stack. Reasons for exceedances are indicated on Table 7 below.

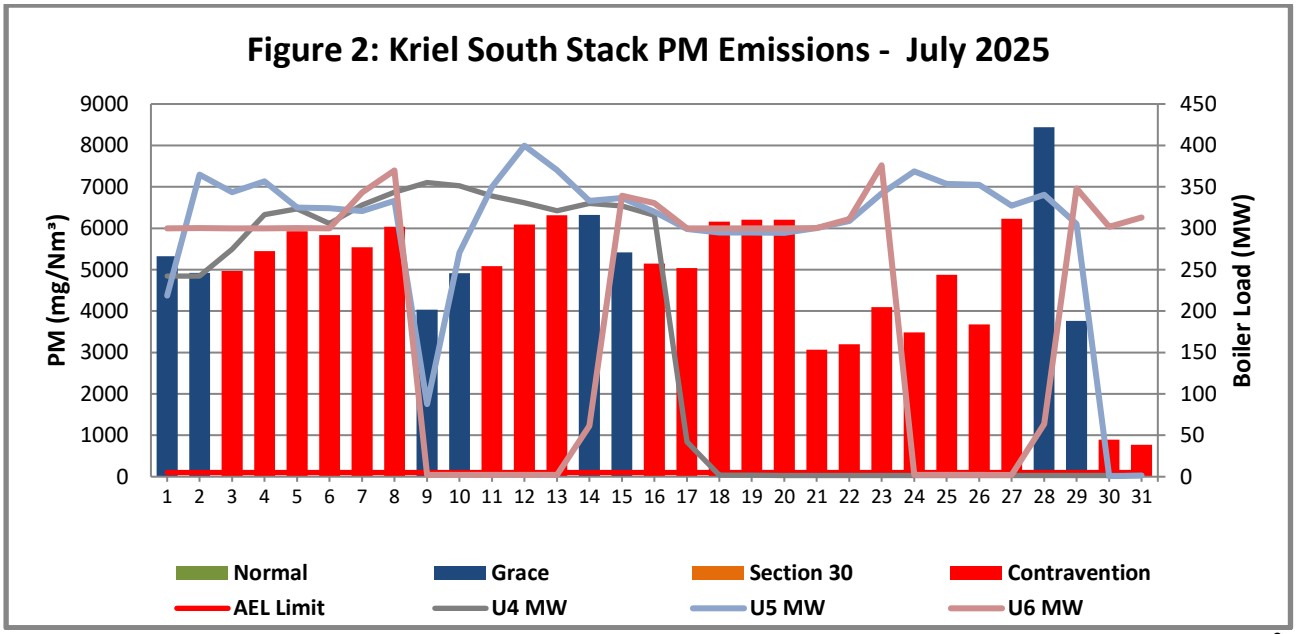

Figure 2: PM emissions for the month of July 2025 against daily emission limit (100 mg/Nm³) for the South Stack. Reasons for exceedances are indicated on Table 7 below.

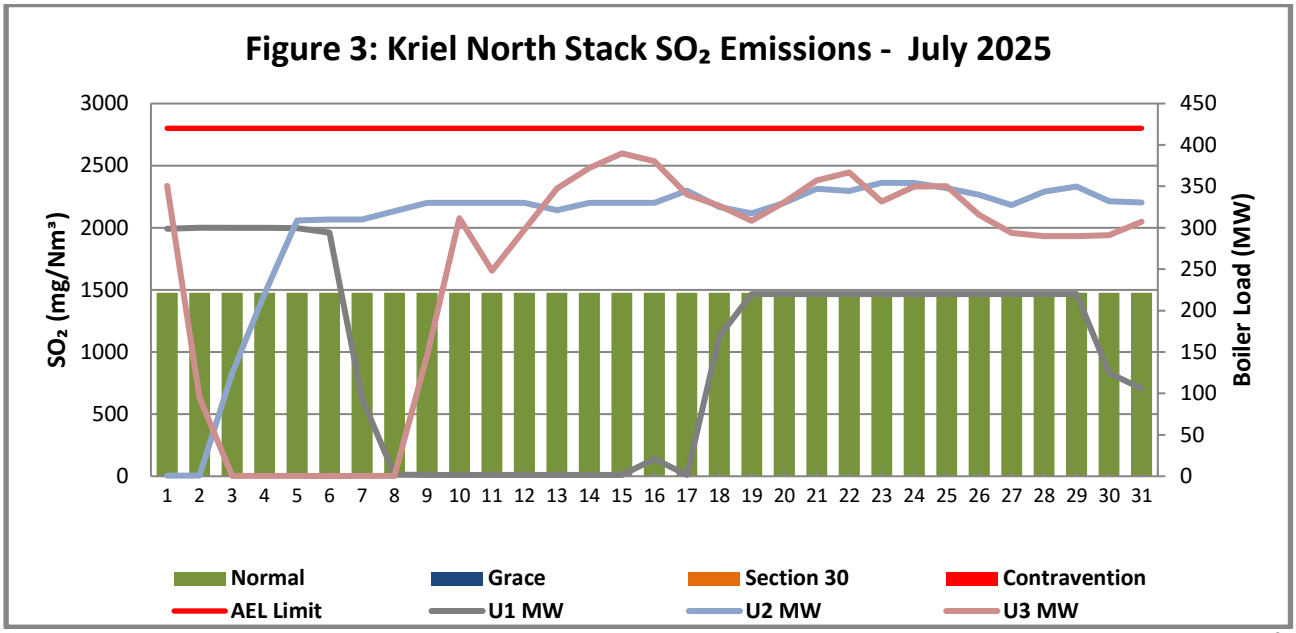

Figure 3. SO_2 emissions for the month of July 2025 against daily emission limit (2800 mg/Nm^3) for the North Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

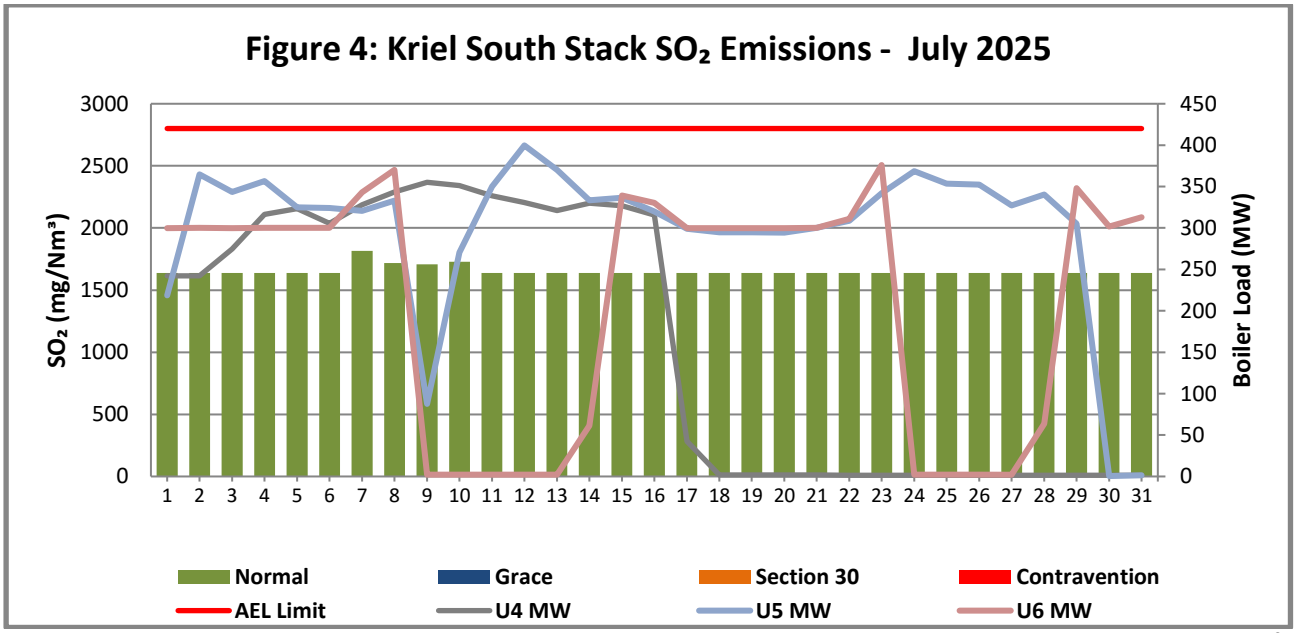

Figure 4. SO_2 emissions for the month of July 2025 against daily emission limit (2800mg/Nm^3) for the South Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

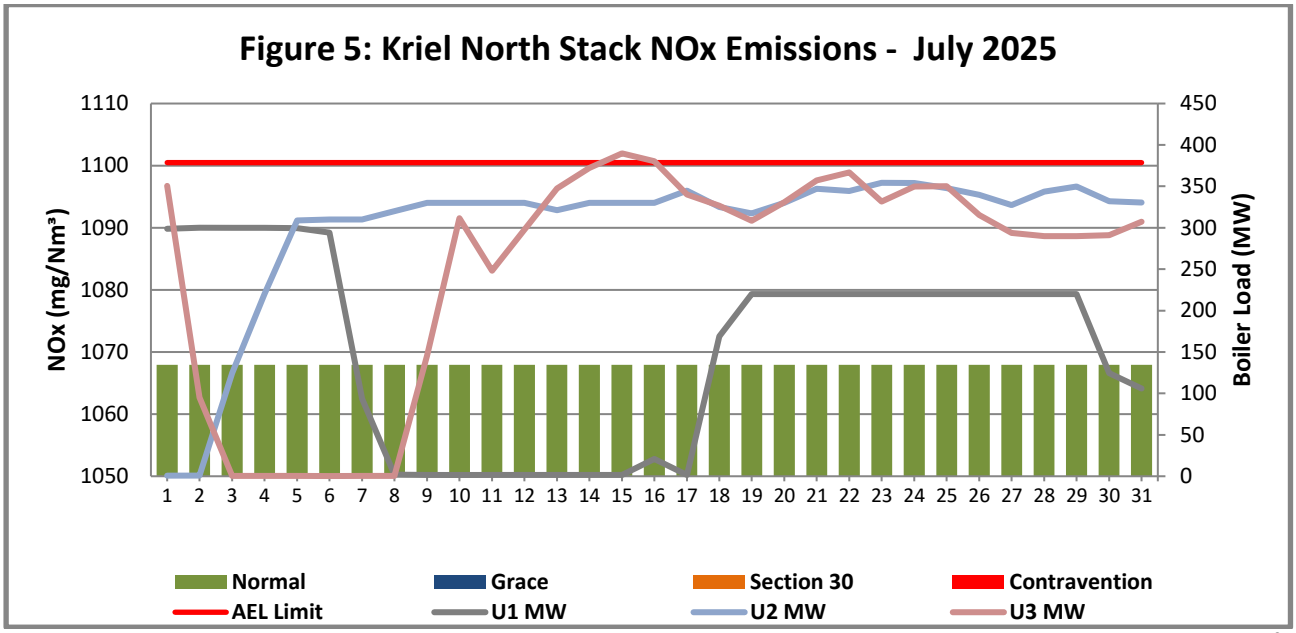

Figure 5. NO_x emissions for the month of July 2025 against daily emission limit (1100mg/Nm^3) for the North Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

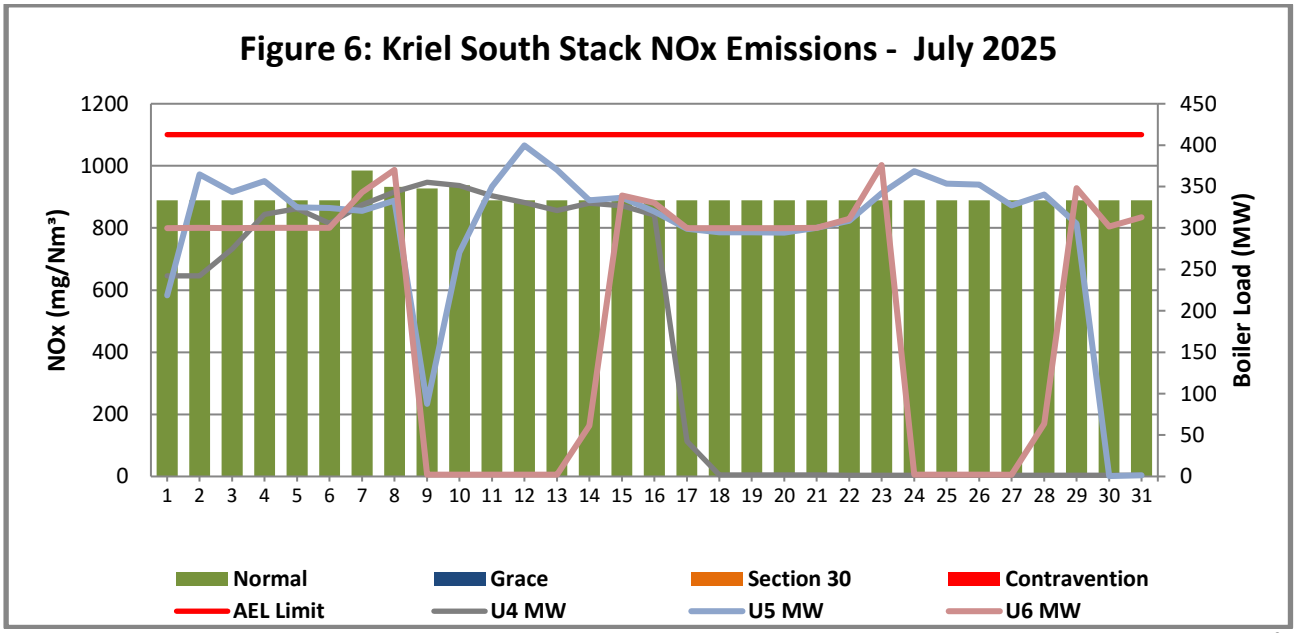

Figure 6. NO_x emissions for the month of July 2025 against daily emission limit (1100mg/Nm^3) for the South Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

Table 4: Monthly tonnages for the month July 2025

Unit	PM (tons)	SO_2 (tons)	NO_2 (tons)
SUM	16 251.7	8 645.0	5 319.3

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 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Monthly Limit Exceedance	Average PM (mg/Nm³)
North	4	5	0	22	27	505.5
South	0	8	0	23	31	4 949.4

Table 5.2: Operating days in compliance to SOx AEL Limit - July 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
North	31	0	0	0	0	1 475.4
South	31	0	0	0	0	1 651.8

Table 5.3: Operating days in compliance to NOx AEL Limit – July 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
North	31	0	0	0	0	1 067.9
South	31	0	0	0	0	896.6

Light up information

Table 6: PM Start-up information for the month of July 2025

North Stack	*Event 1*		*Event 2*		*Event 3*		*Event 4*	
Unit No.	*Unit 2*		*Unit 3*		*Unit 1*		*Unit 1*	
Breaker Open (BO)	*BO previously*	*BO previously*	*7:00 am*	*2025/07/02*	*7:30 am*	*2025/07/07*	*1:30 pm*	*2025/07/30*
Draught Group (DG) Shut Down (SD)	*n/a*	*n/a*	*8:15 pm*	*2025/07/02*	*11:50 am*	*2025/07/09*	*2:30 pm*	*2025/07/30*
BO to DG SD (duration)	*n/a*	DD:HH:MM	*00:13:15*	DD:HH:MM	*02:04:20*	DD:HH:MM	*00:01:00*	DD:HH:MM
Fires in time	*8:30 am*	*2025/07/02*	*7:35 pm*	*2025/07/08*	*11:55 pm*	*2025/07/17*	*7:40 am*	*2025/07/31*
Synch. to Grid (or BC)	*3:40 am*	*2025/07/03*	*6:20 am*	*2025/07/09*	*4:50 am*	*2025/07/18*	*11:10 am*	*2025/07/31*
Fires in to BC (duration)	*00:19:10*	DD:HH:MM	*00:10:45*	DD:HH:MM	*00:04:55*	DD:HH:MM	*00:03:30*	DD:HH:MM
Emissions below limit from BC (end date)	*12:00 am*	*2025/07/06*	*1:20 pm*	*2025/08/05*	*1:20 pm*	*2025/08/05*	*1:20 pm*	*2025/08/05*
Emissions below limit from BC (duration)	*02:20:20*	DD:HH:MM	*27:07:00*	DD:HH:MM	*18:08:30*	DD:HH:MM	*05:02:10*	DD:HH:MM

North Stack …Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 3		no event		no event	
Breaker Open (BO)	8:05 am	2025/08/01	8:10 am	2025/08/01				
Draught Group (DG) Shut Down (SD)	9:05 pm	2025/08/01	DG did not trip or SD	DG did not trip or SD				
BO to DG SD (duration)	00:13:00	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			8:10 am	2025/08/01				
Synch. to Grid (or BC)			1:00 pm	2025/08/01				
Fires in to BC (duration)		DD:HH:MM	00:04:50	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			1:20 pm	2025/08/05				
Emissions below limit from BC (duration)		DD:HH:MM	04:00:20	DD:HH:MM		DD:HH:MM		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)			BO previously	BO previously	12:15 am	2025/07/09		
Draught Group (DG) Shut Down (SD)			n/a	n/a	DG did not trip or SD	DG did not trip or SD		
BO to DG SD (duration)		DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time					12:15 am	2025/07/09		
Synch. to Grid (or BC)					3:25 pm	2025/07/09		
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM	00:15:10	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)					1:20 pm	2025/08/05		
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM	26:21:55	DD:HH:MM		DD:HH:MM

South Stack …Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 6		Unit 4		Unit 6		Unit 5	
Breaker Open (BO)	10:50 pm	2025/07/08	4:55 am	2025/07/17	9:55 pm	2025/07/23	10:10 pm	2025/07/29
Draught Group (DG) Shut Down (SD)	11:50 am	2025/07/09	5:35 pm	2025/07/17	10:25 pm	2025/07/23	10:45 am	2025/07/30
BO to DG SD (duration)	00:13:00	DD:HH:MM	00:12:40	DD:HH:MM	00:00:30	DD:HH:MM	00:12:35	DD:HH:MM
Fires in time	7:25 am	2025/07/14			7:40 am	2025/07/28		
Synch. to Grid (or BC)	5:40 pm	2025/07/14			5:50 pm	2025/07/28		
Fires in to BC (duration)	00:10:15	DD:HH:MM		DD:HH:MM	00:10:10	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	1:15 pm	2025/08/05			1:15 pm	2025/08/05		
Emissions below limit from BC (duration)	21:19:35	DD:HH:MM		DD:HH:MM	07:19:25	DD:HH:MM		DD:HH:MM

Reasons for emissions poor performance for both stacks in July 2025

Table 7: Reasons for emissions poor performance for July 2025

Start Date	Plant	Reason	Impact on Emissions	Actions	Feedback	Completion Date
Continous Emission Monitoring Systems						
2025/03/01	South stack	Gaseous monitor for O2 and NOx malfunction	No readings available	OEM(SICK) to come on site and repair	CIE and CID requested OEM to come on site. Station	TBC

					awaiting SICK Automation technician.	
2025/06/29	North stack	All gaseous readings are faulty. Possible monitor malfunction	No readings available	CID and CIE to inspect	No feedback	TBC
2025/06/29	South stack	All gaseous readings are faulty. Possible monitor malfunction	No readings available	CID and CIE to inspect	No feedback	TBC
Plant Failures						
01/07/2025-31/07/2025	North & South	Failure to effectively transport collected fly ash from the ESP hoppers due to unavailability and/or unreliability of the overland converyors (18A and 18B), blockage of ash conditioners and fluctuation/low conveying air pressure from time to time.	Accumulation of ash inside the fields resulting in poor performance of ESP and consequently high emissions.	DHP recovery action in place and implementation of the actions in progress		TBC
17/07/2025-24/07/2025	North Stack	Unit 1 operating at half load due to unavailability of the the feed pump (1A EFP on PTW)	Due to low load operation the SO3 plant dosing pump trips from time to time and consequently results in high emissions due to high ash resistivity.	1A EFP on permit for main pump pull out replacement	Main pump pull out replacement in progress	2025/08/01
19/07/2025-31/07/2025	North Stack	Ash backlog that resulted from Unit 3 Dust handling plant blow tanks failures	Accumulation of ash inside the fields resulting in poor performance of ESP and high PM emissions as a results. All plate rappers tripping on thermal overload due to high hopper levels.	Maintenance attending to defects & operating continously monitoring transportation of fly ash		TBC
30/07/2025-31/07/2025	South Stack	Unit 6 SO3 off due to blocked steam jumpers at sulphur pump	High PM Emission due to no SO3 injection to	Sulphur supply line removed for repairs and	Repairs completed	01/08/2025

		house sulphur line due to erroded connection	reduce the fly ash resistivity	unblocking of the line.		

Complaints Register

Table 8: Complaint for the month of July 2025

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 July 2025.					

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.