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Date:  
29 January 2026

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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 DECEMBER 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 December 2025. Verified emissions of particulates matter, SO<sub>2</sub> and NO<sub>x</sub> (as NO<sub>2</sub>) are also included.

#### **Raw Materials and Products**

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

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption / Rate (Quantity)	Consumption / Rate in Month of December 2025
	Coal	Tons/month	1 227 600	317 633.00
	Fuel Oil	Tons/month	8 000	6 055.37
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of December 2025
	Energy	GWh	3 000/2 232	527.000
	Ash	Tons/month	320 000	74 074.034
	RE PM	kg/MWh	not specified	2.867

## Abatement Technology

**Table 2:** Abatement Equipment Control Technology for December 2025.

Associated Unit/Stack	Technology Type	Actual Efficiency (%)	Technology Type	SO <sub>3</sub> Utilisation (%)
Unit 1	ESP& SO3	99.30%	SO3 Plant	100.00
Unit 2	ESP& SO3	99.26%	SO3 Plant	100.00
Unit 3	ESP& SO3	99.54%	SO3 Plant	100.00
Unit 4	ESP& SO3	Off-line	SO3 Plant	Off-line
Unit 5	ESP& SO3	94.53%	SO3 Plant	100.00
Unit 6	ESP& SO3	90.13%	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 December 2025.





Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.6-1.2 (%)	0.75
Ash Content	27-32 (%)	23.32

## Monthly Monitor Reliability

Associated Unit/Stack	PM (%)	SO <sub>x</sub> (%)	NO <sub>x</sub> (%)
North	89.9	0.0	73.1
South	51.8	0.0	0.0

## 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

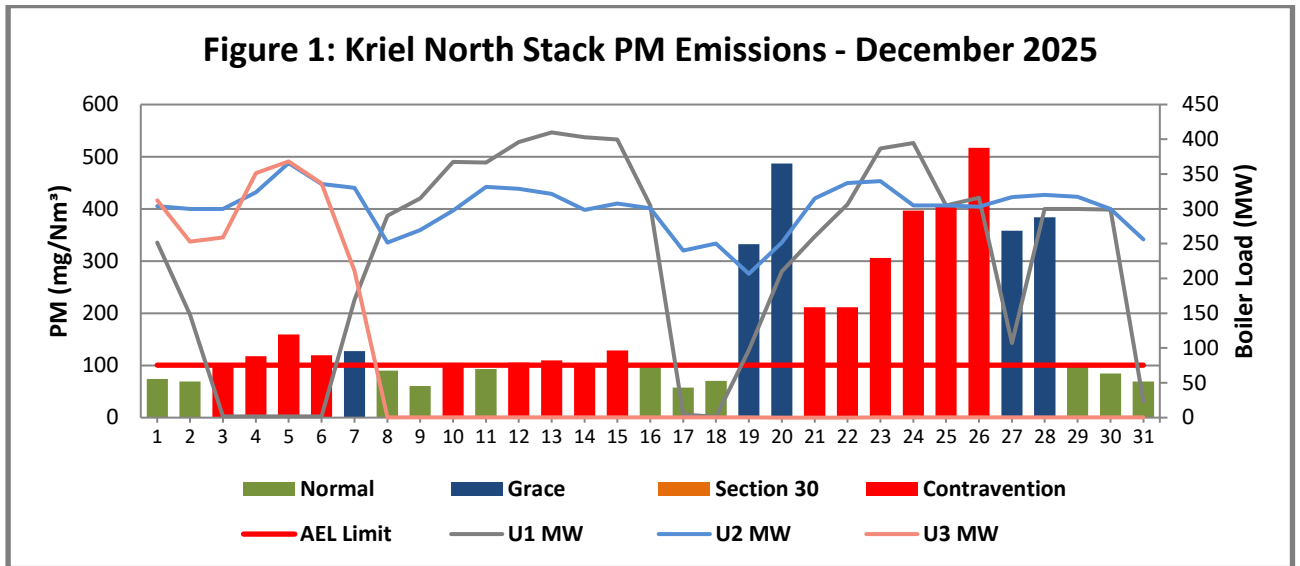


Figure 1: PM emissions for the month of December 2025 against daily emission limit (100 mg/Nm<sup>3</sup>) for the North Stack. Reasons for exceedances are indicated on Table 7 below.

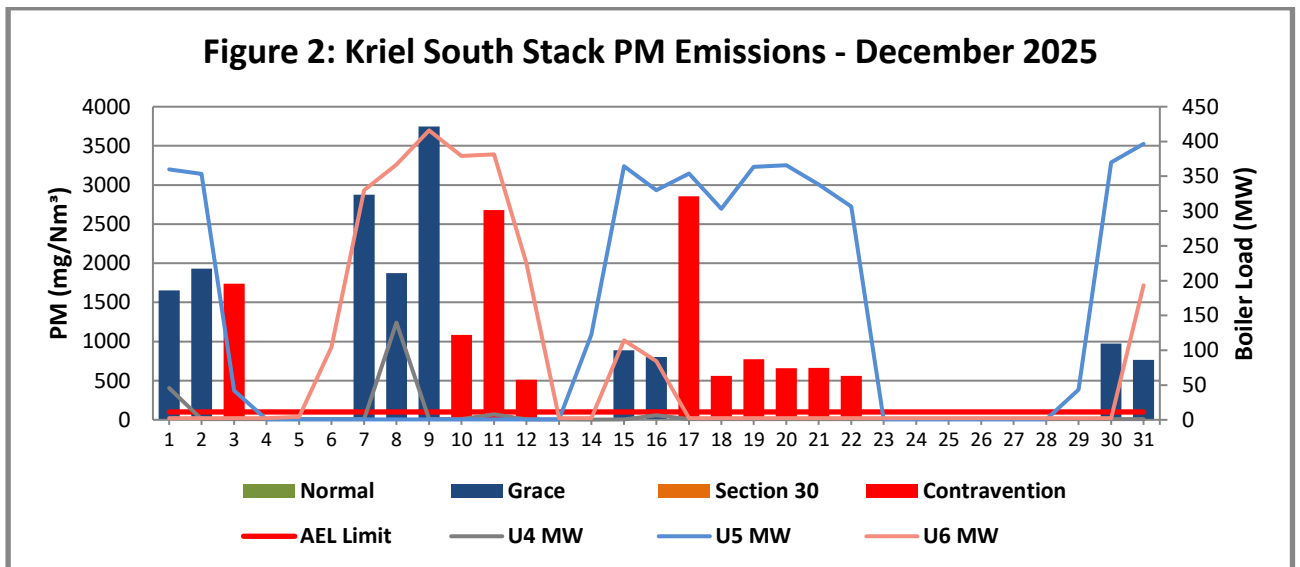


Figure 2: PM emissions for the month of December 2025 against daily emission limit (100 mg/Nm<sup>3</sup>) for the South Stack. Reasons for exceedances are indicated on Table 7 below.

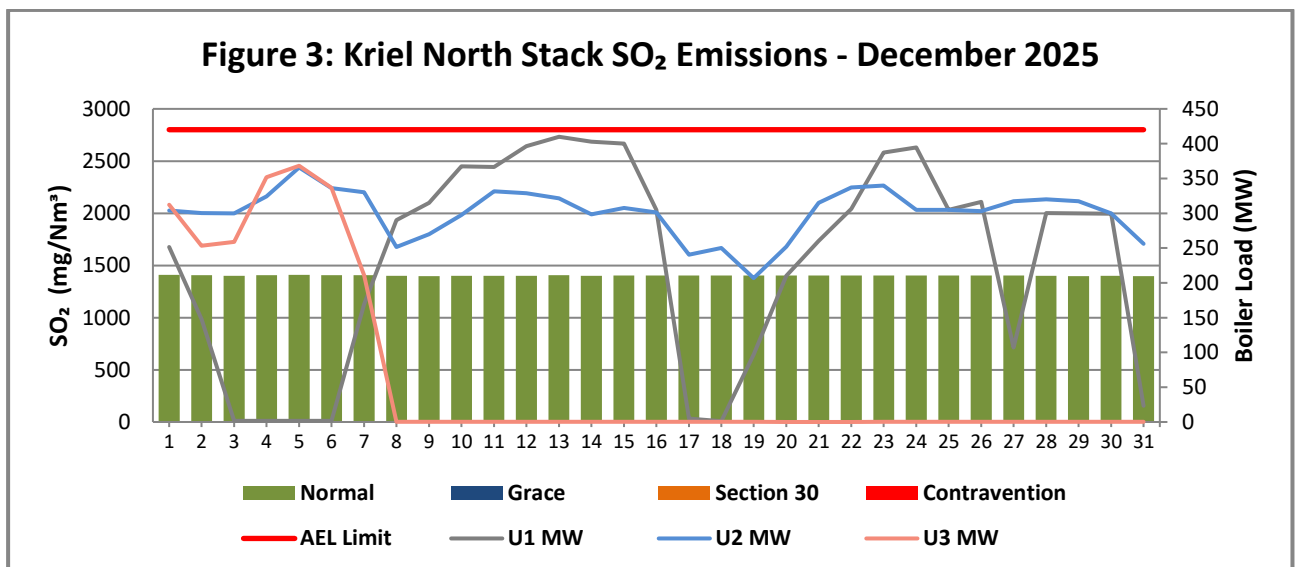


Figure 3. SO<sub>2</sub> emissions for the month of December 2025 against daily emission limit (2800 mg/Nm<sup>3</sup>) for the North Stack.

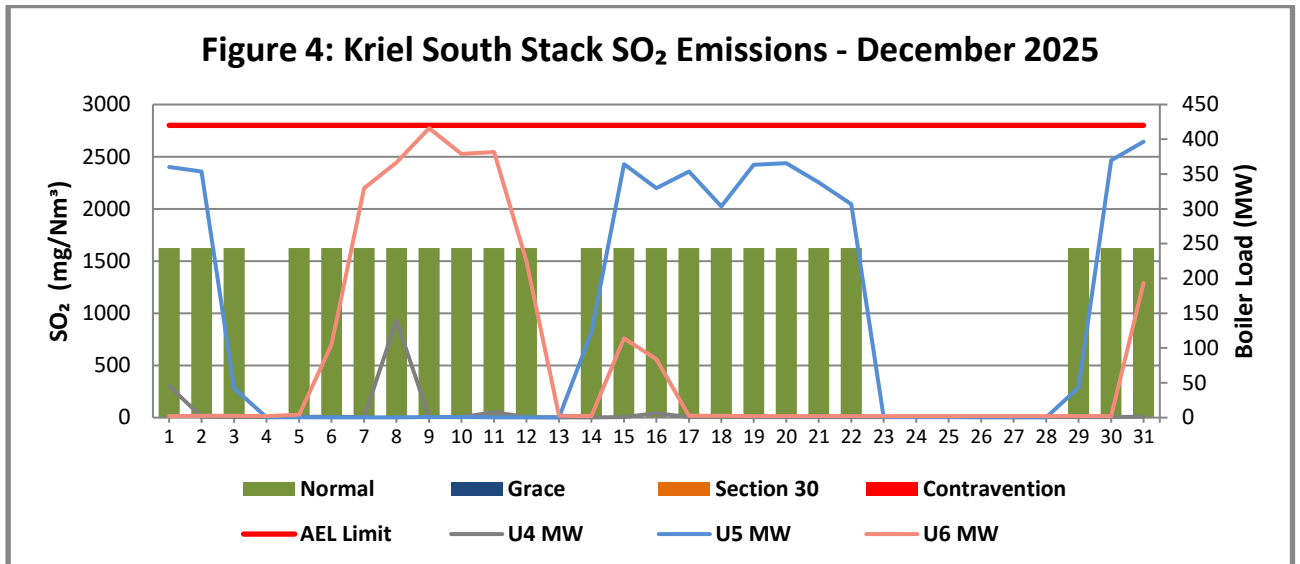


Figure 4. SO<sub>2</sub> emissions for the month of December 2025 against daily emission limit (2800mg/Nm<sup>3</sup>) for the South Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

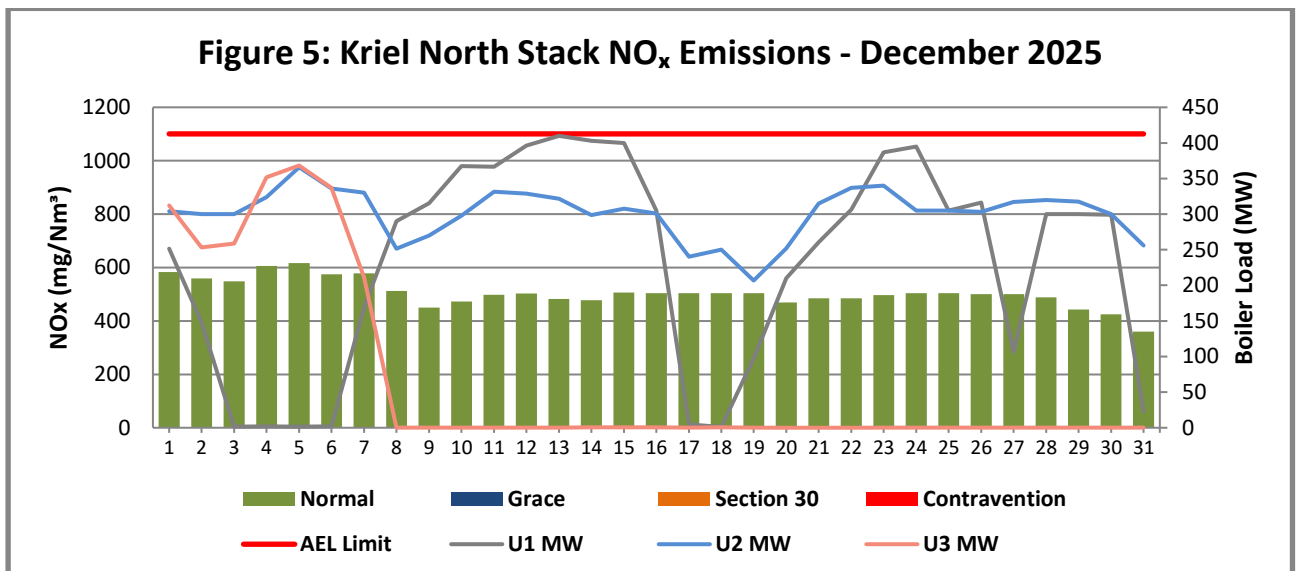


Figure 5. NO<sub>x</sub> emissions for the month of December 2025 against daily emission limit (1100mg/Nm<sup>3</sup>) for the North Stack.

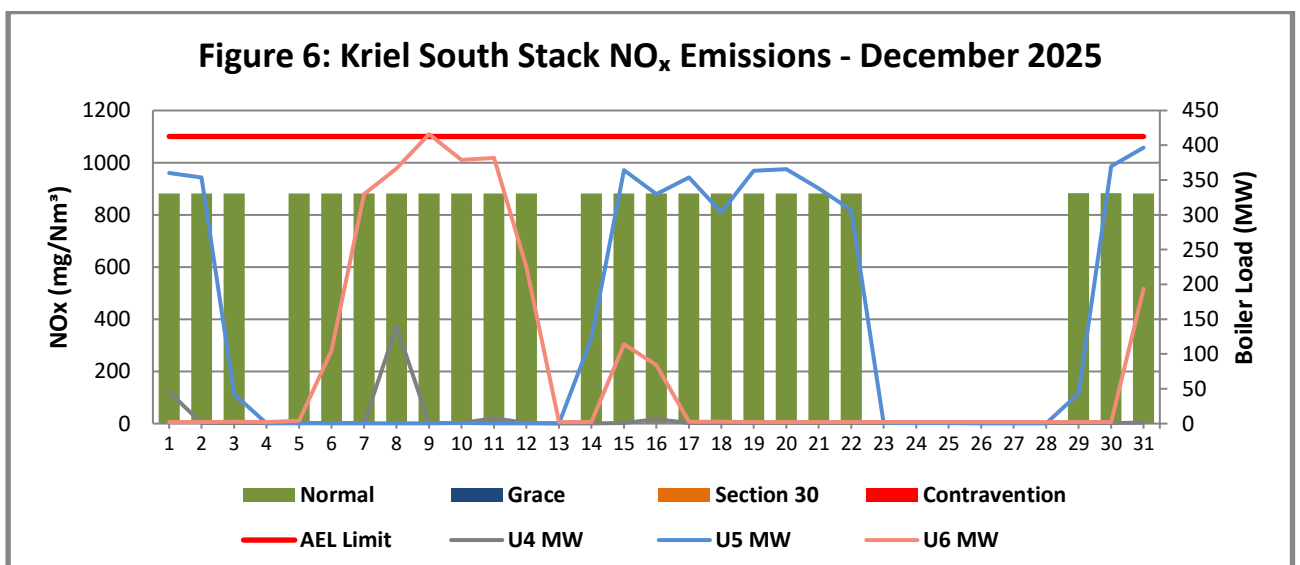


Figure 6. NO<sub>x</sub> emissions for the month of December 2025 against daily emission limit (1100mg/Nm<sup>3</sup>) for the South Stack. Moreover, reason for constant reading is attributed to the fact that all gaseous readings are faulty due to possible monitor malfunctioning.

**Table 4:** Monthly tonnages for the month December 2025

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
<b>SUM</b>	1 620.56	4 707	2 035

**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 – December 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Monthly Limit Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	11	5	0	15	20	182.4
South	0	9	0	10	19	1 452.3

Table 5.2: Operating days in compliance to SO<sub>x</sub> AEL Limit – December 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1 403.2
South	23	0	0	0	0	1 625.5

Table 5.3: Operating days in compliance to NO<sub>x</sub> AEL Limit – December 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	504.7
South	23	0	0	0	0	882.3

## Light up information

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

Event Description		Event 1		Event 2		Event 3		Event 4	
Unit 1	Breaker Open (BO)	2:15 pm	2025/12/02	12:40 am	2025/12/17	4:30 am	2025/12/27	2:25 am	2025/12/31
	Draught Group (DG) Shut Down (SD)	4:35 am	2025/12/03	1:25 am	2025/12/17	6:40 am	2025/12/27	5:35 pm	2025/12/31
	BO to DG SD (duration)	00:14:20	DD:HH:MM	00:00:45	DD:HH:MM	00:02:10	DD:HH:MM	00:15:10	DD:HH:MM
	Fires in time	12:50 am	2025/12/07	4:15 am	2025/12/19	1:40 pm	2025/12/27		
	Synch. to Grid (or BC)	10:55 am	2025/12/07	11:35 am	2025/12/19	8:15 pm	2025/12/27		
	Fires in to BC (duration)	00:10:05	DD:HH:MM	00:07:20	DD:HH:MM	00:06:35	DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)	12:00 am	2025/12/09	12:00 am	2025/12/30	12:00 am	2025/12/30		
	Emissions below limit from BC (duration)	01:13:05	DD:HH:MM	10:12:25	DD:HH:MM	02:03:45	DD:HH:MM		DD:HH:MM

Event Description		Event 1		Event 2		Event 3		Event 4	
Unit 2	Breaker Open (BO)	5:50 pm	2025/12/19	8:55 pm	2025/12/31				
	Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	9:00 pm	2026/01/01				
	BO to DG SD (duration)	n/a	DD:HH:MM	01:00:05	DD:HH:MM		DD:HH:MM		DD:HH:MM
	Fires in time	5:50 pm	2025/12/19						
	Synch. to Grid (or BC)	9:15 pm	2025/12/19						
	Fires in to BC (duration)	00:03:25	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)	12:00 am	2025/12/30						
	Emissions below limit from BC (duration)	10:02:45	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

Event Description		Event 1		Event 2		Event 3		Event 4	
Unit 3	Breaker Open (BO)	2:00 pm	2025/12/07						
	Draught Group (DG) Shut Down (SD)	2:30 pm	2025/12/07						
	BO to DG SD (duration)	00:00:30	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
	Fires in time								
	Synch. to Grid (or BC)								
	Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)								
	Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

Event Description		Event 1		Event 2		Event 3		Event 4	
Unit 5	Breaker Open (BO)	3:05 am	2025/12/03	11:40 pm	2025/12/22				
	Draught Group (DG) Shut Down (SD)	3:40 pm	2025/12/03	12:40 pm	2025/12/23				
	BO to DG SD (duration)	00:12:35	DD:HH:MM	00:13:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
	Fires in time	2:35 am	2025/12/14	11:50 am	2025/12/29				
	Synch. to Grid (or BC)	12:25 pm	2025/12/14	6:05 pm	2025/12/29				
	Fires in to BC (duration)	00:09:50	DD:HH:MM	00:06:15	DD:HH:MM		DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)	12:00 am	2025/12/25	12:00 am	2026/01/03				
	Emissions below limit from BC (duration)	10:11:35	DD:HH:MM	04:05:55	DD:HH:MM		DD:HH:MM		DD:HH:MM

Event Description		Event 1		Event 2		Event 3		Event 4	
Unit 6	Breaker Open (BO)	4:50 pm	2025/12/12	BO previously	BO previously				
	Draught Group (DG) Shut Down (SD)	8:40 pm	2025/12/12	n/a	n/a				
	BO to DG SD (duration)	00:03:50	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
	Fires in time	3:05 pm	2025/12/05	11:35 pm	2025/12/30				
	Synch. to Grid (or BC)	1:30 pm	2025/12/06	9:35 am	2025/12/31				
	Fires in to BC (duration)	00:22:25	DD:HH:MM	00:10:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)	12:00 am	2025/12/14	12:00 am	2026/01/03				
	Emissions below limit from BC (duration)	07:10:30	DD:HH:MM	02:14:25	DD:HH:MM		DD:HH:MM		DD:HH:MM

## Reasons for emissions poor performance for both stacks in December 2025

Table 7: Reasons for emissions poor performance for December 2025

Start Date	Plant	Reason	Impact on Emissions	Actions	Feedback	Completion Date
<b>Continous Emission Monitoring Systems</b>						
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 awaiting SICK Automation technician.	TBC
2025/06/29	North Stack	CO ppm Monitor malfunctioning	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
<b>Plant Failures</b>						
03/12/2025	North Stack	Unit 3 low load condition due to LH draught group that tripped. SO3 dosing pump tripped on low load (< 210 MW) protection.	High emissions due to no SO3 injection	Maintenance to carry out necessary repairs on the LH draught group.	LH draught group back in service on the 03/12/2025	03/12/2025
04/12/2025 -06/12/2025	North Stack	Unit 3 ESP fields (3 off) not performing and one field off ( tripped on undervoltage protection) which resulted in increased emissions at a unit higher load.	High Emissions due to poor ESP performance.	Operating & Maintenance to carry out continous rapping on underperforming fields.	Unit 3 shutdown on the 07/12/2025	07/12/2025
10/12/2025	North Stack	Unit 1 poor ESP performance due to sustained full dust hoppers as a results of the Main Silo boards being on permit for commissionng of the boards on the 09/12/2025.	High Emissions due to poor ESP performance	Operating to continously monitor the transporation of the ash once the permit is cleared.	The permit for the main silo boards was cleared 09/12/2025	10/12/2025
12/12/2025 - 15/12/2025	North Stack	Unit 1 poor ESP performance due to sustained full dust hoppers.	High Emissions due to poor ESP performanc	Operating to continously monitor the transporation of the ash to reduce the hopper levels.	Unit 1 offload on the 17/12/2025	17/12/2025
21/12/2025 -22/12/2025	North Stack	SO3 steam leak repairs, common steam supply isolated to allow for necessary repairs.	Unit 1 & 2 SO3 plant off.	Maintenance to carry out the steam leak repairs	Steam repairs completed by the 21/12/2025.	21/12/2025

23/12/2025 - 26/12/2025	North Stack	Poor ESP performance due to Unit 1 & 2 sustained full dust hoppers.	High emissions due to poor ESP performance	Operating to continuously monitor the transportation of ash to reduce the hopper levels.		TBC
01/12/2025-03/12/2025	South Stack	Unit 4 was on an GO outage and the light up commenced on the 23/11/2025.				
01/12/2025-03/12/2025	South Stack	Unit 5 Poor ESP performance due to operating the unit with one blow tank (5.1), fluctuation of conveying air pressure and delays in topping the mobile compressors with fuel.	High Emissions due to poor ESP performance.		Unit 5 shutdown on the 03/12/2025.	03/12/2025
12/12/2025	South Stack	Unit 6 poor ESP performance due to sustained full dust hoppers as a results of defective blow tanks.	High Emissions due to poor ESP performance.	Maintenance to attend to defective blow tanks and operating to monitor the transportation of the dry dust to reduce the hopper levels.		TBC
17/12/2025	South Stack	Unit 5 SO3 plant trip , sulphur dosing pump tripped on low sulphur flow due to condensate build up on the line	High emissions due to no SO3 injection	Maintenance to bleed the sulphur line.	The pump was back in service on the 17/12/2025	17/12/2025
18/12/2025 -19/12/2025	South Stack	Unit 5 Poor ESP performance due to sustained full dust hopper and SO3 plant trip on high converter temps	High Emissions due to poor ESP performance & no SO3 injection	Maintenance to reduce unit 5 SO3 heater firing & Operating to continuously monitor the transportation of the ash to reduce the hopper levels		
20/12/2025 - 22/12/2025	South Stack	Unit 5 Poor ESP performance due to sustained full dust hoppers.	High emissions due to poor ESP performance	Operating to continuously monitor the transportation of the ash to reduce hopper levels	Unit 5 shutdown on the 23/12/2025.	TBC

## Complaints Register

**Table 8:** Complaint for the month of December 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 December 2025.					

**General**

The number of hours for which PM emissions exceeded the limit on the North Stack is 1330.6 and on the South Stack is 383.58 for the month December.

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