



Generation

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Corner of Joubert & Oosthuise Streets
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AND

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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

BOILER ENGINEERING MANAGER

2022/08/10

DATE

ENGINEERING MANAGER

2022/08/10

DATE

ENVIRONMENTAL MANAGER

2022/08/10

DATE

GROOTVLEI POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License GPS/0015/2015/F02


1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Jul-2022
	Coal	Tons	650 000	93 663.3
	Fuel Oil	Tons	20 000	4050.12
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Jul-2022
	Energy	GWh	833.28	164.20
	Ash	Tons	300 000	25 757
	RE PM	kg/MWh	not specified	0.06

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	20.50
Sulphur Content	%	0.6 to < 1.2	0.90
Ash Content	%	27 to < 32	27.50

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO
North	100	3500	1100
South	50	3500	1100

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.956%
Unit 3	Fabric Filter Plant (FFP)	99.957%
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line
Unit 6	Fabric Filter Plant (FFP)	Unit Off-line

Note: Abatement plant does not have bypass mode operation, hence plant 100% Utilised.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
North	93.9	83.1	83.3	93.6
South				

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of July-2022

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Unit 1	0.00	0.0	0.0
Unit 2	5.48	676.6	222.7
Unit 3	4.62	575.3	187.4
Unit 4	0.00	0.0	0.0
Unit 5	0.00	0.0	0.0
Unit 6	0.00	0.0	0.0
SUM	10.11	1 251.9	410.1

Table 6.2: Operating days in compliance to PM AEL Limit - July 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	28	0	0	0	12.3
South	0	0	0	0	
SUM	28	0	0	0	





Table 6.3: Operating days in compliance to SOx AEL Limit - July 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SOx (mg/Nm ³)
North	30	0	0	0	1 564.4
South	0	0	0	0	
SUM	30	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - July 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NOx (mg/Nm ³)
North	30	0	0	0	519.2
South	0	0	0	0	
SUM	30	0	0	0	

Table 6.5: 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		

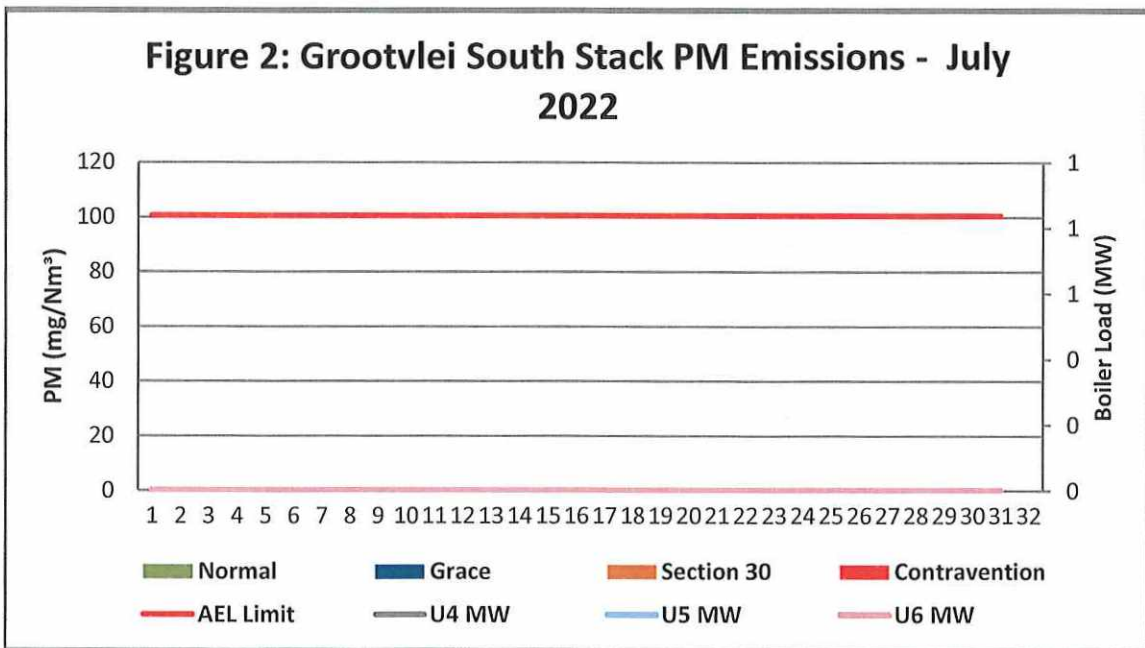
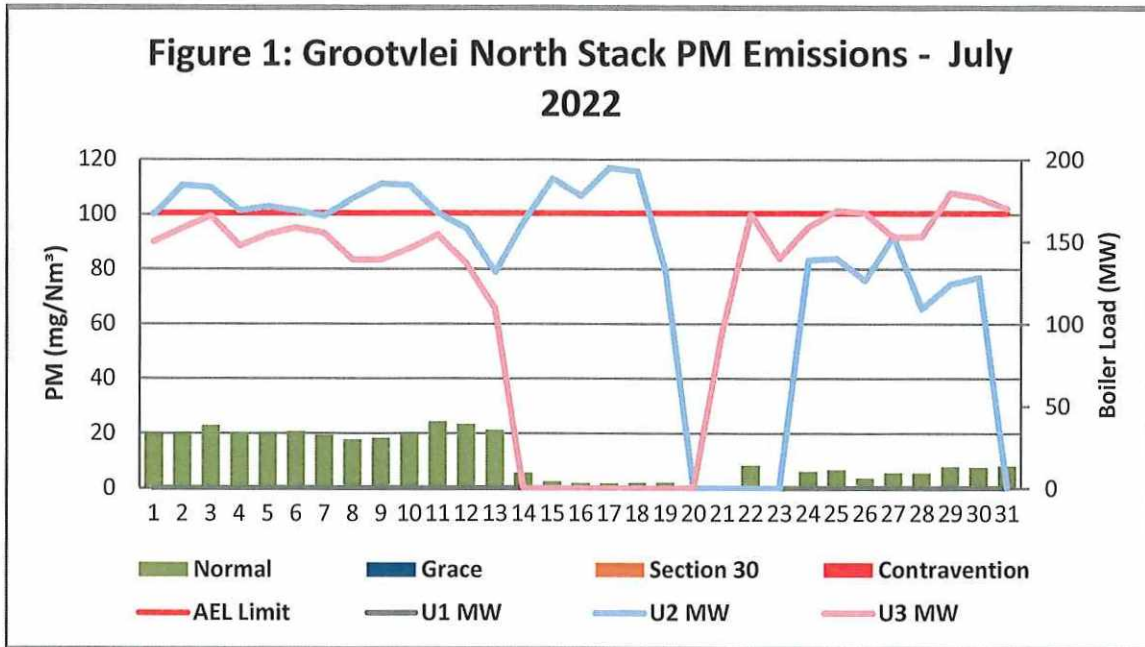


Figure 3: Grootvlei North Stack SOx Emissions - July 2022

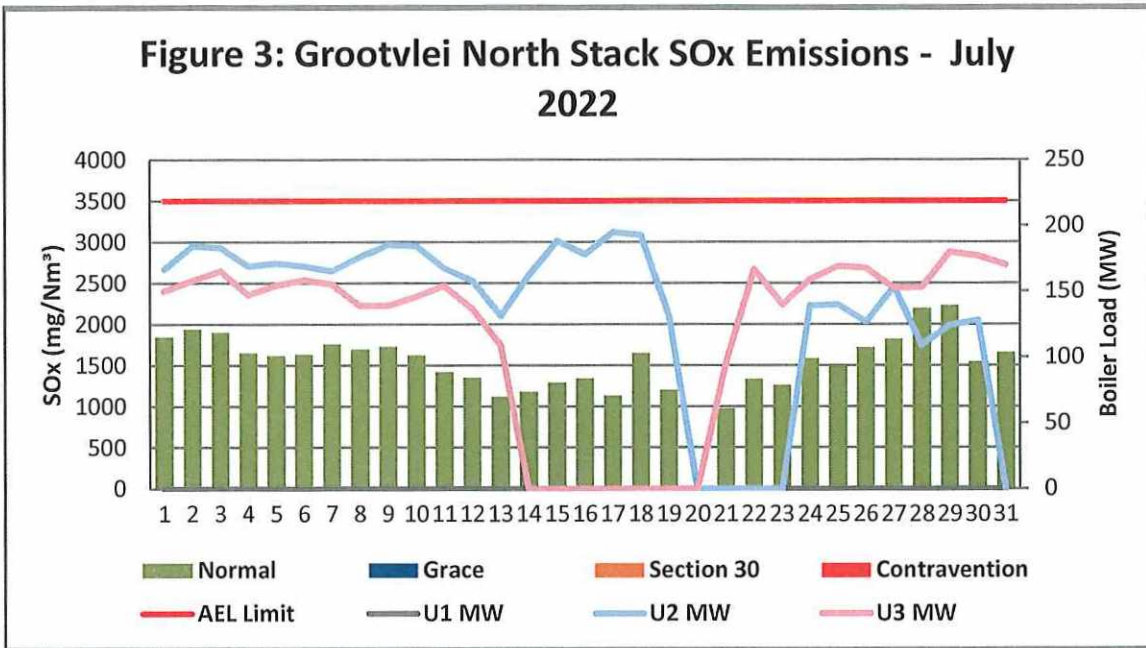


Figure 4: Grootvlei South Stack SOx Emissions - July 2022

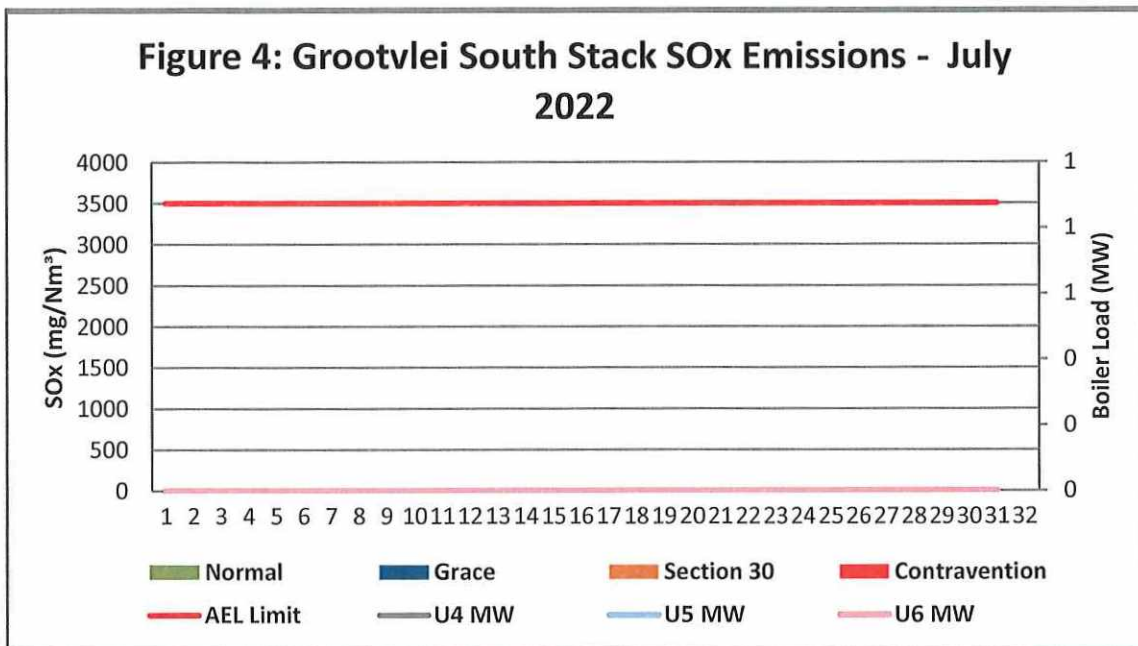


Figure 5: Grootvlei North Stack NOx Emissions - July 2022

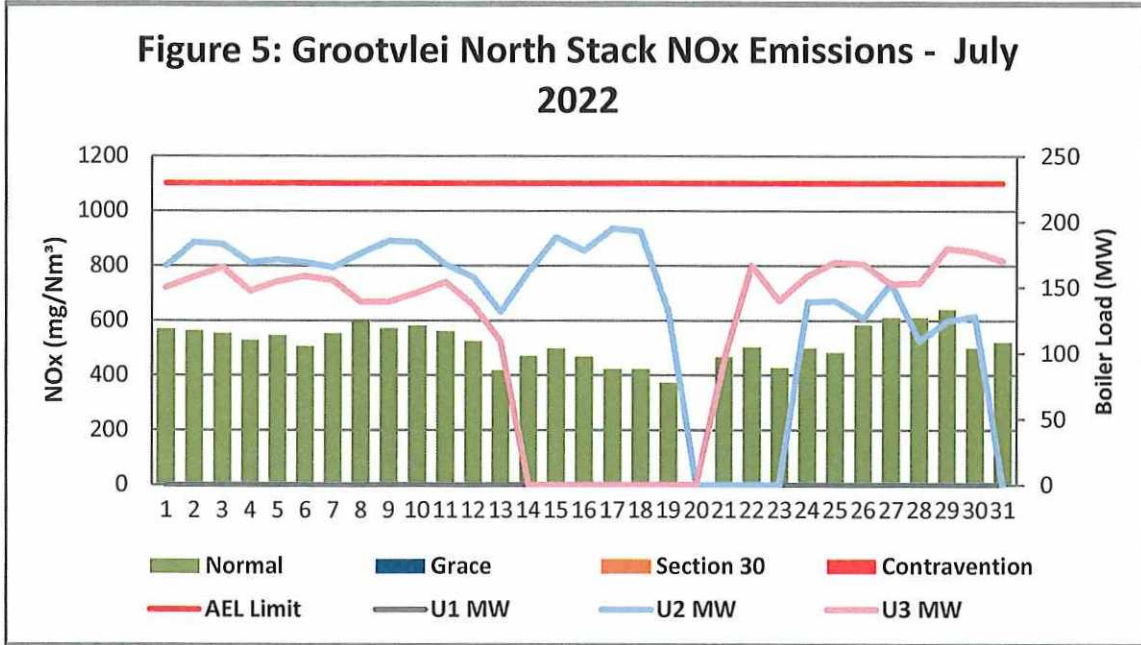
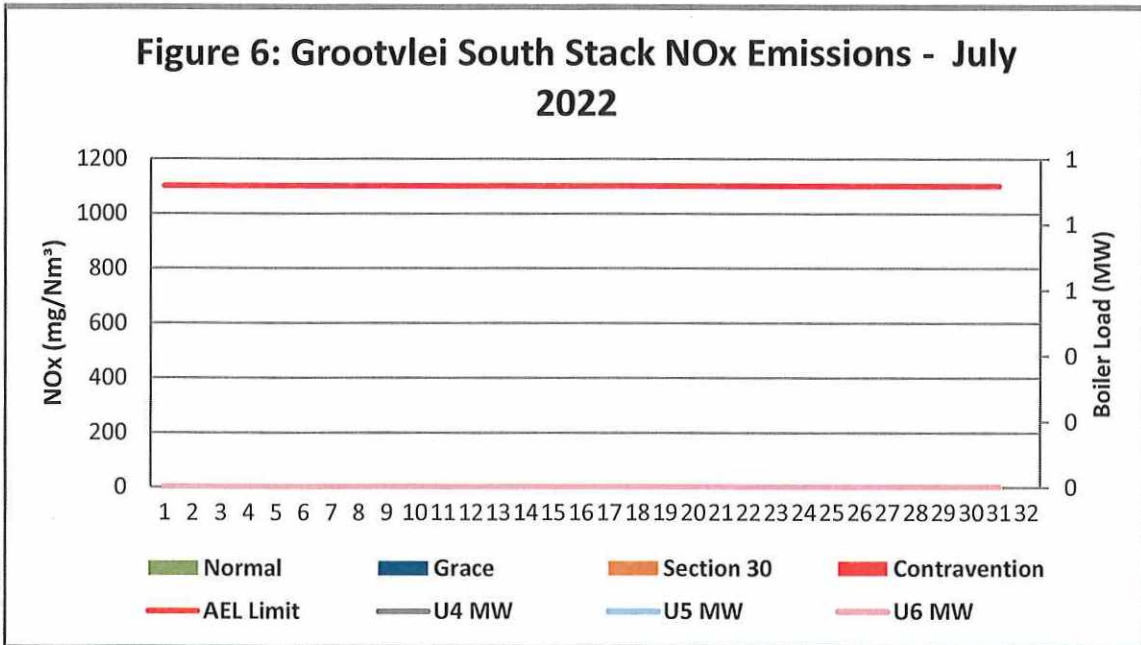


Figure 6: Grootvlei South Stack NOx Emissions - July 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of July-2022

North Stack	Event 1			Event 3		Event 4	
Unit No.	Unit 2			no event		no event	
Breaker Open (BO)	12:00 AM	13/07/2022	19/07/2022	8:45 AM	27/07/2022	11:10 AM	30/07/2022
Draught Group (DG) Shut Down (SD)	12:30 AM	13/07/2022	19/07/2022	DG did not trip or SD	DG did not trip or SD	9:45 PM	30/07/2022
BO to DG SD (duration)	00:00:30	DD:HH:MM	DD:HH:MM	n/a	DD:HH:MM	00:10:35	DD:HH:MM
Fires in time	5:55 AM	13/07/2022	25/07/2022				
Synch. to Grid (or BC)	12:20 PM	13/07/2022	26/07/2022				
Fires in to BC (duration)	00:06:25	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit				
Emissions below limit from BC (duration)	n/a	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM

North Stack ...Cont.	Event 1			Event 3		Event 4	
Unit No.	Unit 3			no event		Unit 3	
Breaker Open (BO)	8:30 PM	13/07/2022	22/07/2022	12:10 AM	26/07/2022		
Draught Group (DG) Shut Down (SD)	8:50 PM	13/07/2022	23/07/2022	DG did not trip or SD	DG did not trip or SD		
BO to DG SD (duration)	00:00:20	DD:HH:MM	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time	12:45 PM	20/07/2022	23/07/2022				
Synch. to Grid (or BC)	1:15 PM	21/07/2022	23/07/2022				
Fires in to BC (duration)	01:00:30	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit				
Emissions below limit from BC (duration)	n/a	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM

South Stack	<i>Event 1</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)						
Draught Group (DG) Shut Down (SD)						
BO to DG SD (duration)		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

South Stack ...Cont.	<i>Event 1</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)						
Draught Group (DG) Shut Down (SD)						
BO to DG SD (duration)		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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of July-2022 in mg/Nm³

[Include reference to once off test showing typical emissions rates during fires in and SD]



ADDENDUM TO MONTHLY EMISSIONS REPORT

8 EMERGENCY GENERATION

Emergency Generation [This is only required for stations that are requested to report on this information]

Table 8. Emergency Generation per unit for the month of July-2022

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control						
Emergency Hours declared including hours after stand down						
Hours over the Limit during Emergency Generation						

9 COMPLAINTS REGISTER

Table 9. Complaints for the month of July-2022

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 measure will be implemented
(Insert name of affected person/source)	(Insert root cause for incident)	(Insert emissions associated with incident)	(Insert dispersion model information where applicable)	(Insert mitigation measures taken)	(Insert date of implementation of mitigation method)

10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

To be completed in the case of a S30 incident or a legal contravention:

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	Date S30 investigation report sent	Date DEA Acknowledgment	Date DEA Acceptable	Comments / Reference No.

Remember to add attachments here; see ReportAddendum Tab


Reserved for Addendum XXXX

11 General

South Stack off. Unit 1 is on outage. PM and gas monitor reliability not at 100% due to start and stop operation of Unit 2 and 3 from the 13th of July.



Environmental Department 10/08/2022
Date



Boiler Engineering 10/08/2022
Date



General Manager 15/08/2022
Date

Compiled by:	Boiler Engineering Department	FFP System Engineer
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