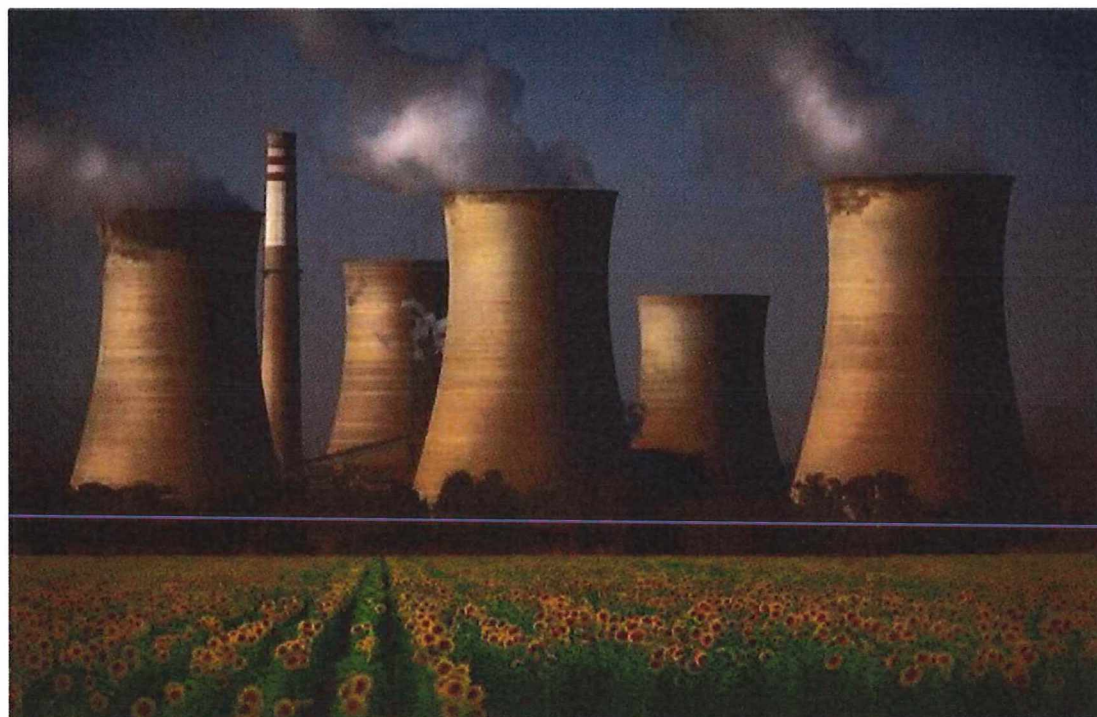


GROOTVLEI POWER STATION MONTHLY EMISSIONS REPORT

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 Mar-2021
	Coal	Tons	650 000	153 303,0
Fuel Oil	Tons	20 000	1160,325	
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Mar-2021
	Energy	GWh	833,28	335,97
	Ash	Tons	300 000	43 154
	RE PM	kg/MWh	not specified	0,08

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0,68
Ash Content	%	27 to < 32	28,15

3 EMISSION LIMITS (mg/Nm³)

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Mar-2021
Unit 1	Fabric Filter Plant (FFP)	99,917%
Unit 2	Fabric Filter Plant (FFP)	99,927%
Unit 3	Fabric Filter Plant (FFP)	99,937%
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	100,0	99,9	100,0	100,0
South				

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of March-2021

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Unit 1	9,78	744,9	243,5
Unit 2	9,08	772,8	245,3
Unit 3	9,21	733,1	243,0
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	28,07	2 250,8	731,8

Table 6.2: Operating days in compliance to PM AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra- vention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	18,0
South	0	0	0	0	0	
SUM	31	0	0	0	0	





Table 6.3: Operating days in compliance to SO_x AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra- vention	Total Exceedance	Average SO _x (mg/Nm ³)
North	31	0	0	0	0	1 329,2
South	0	0	0	0	0	
SUM	31	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra- vention	Total Exceedance	Average NO _x (mg/Nm ³)
North	31	0	0	0	0	443,7
South	0	0	0	0	0	
SUM	31	0	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
Contra- vention		Emissions above ELV but outside grace or S30 incident conditions

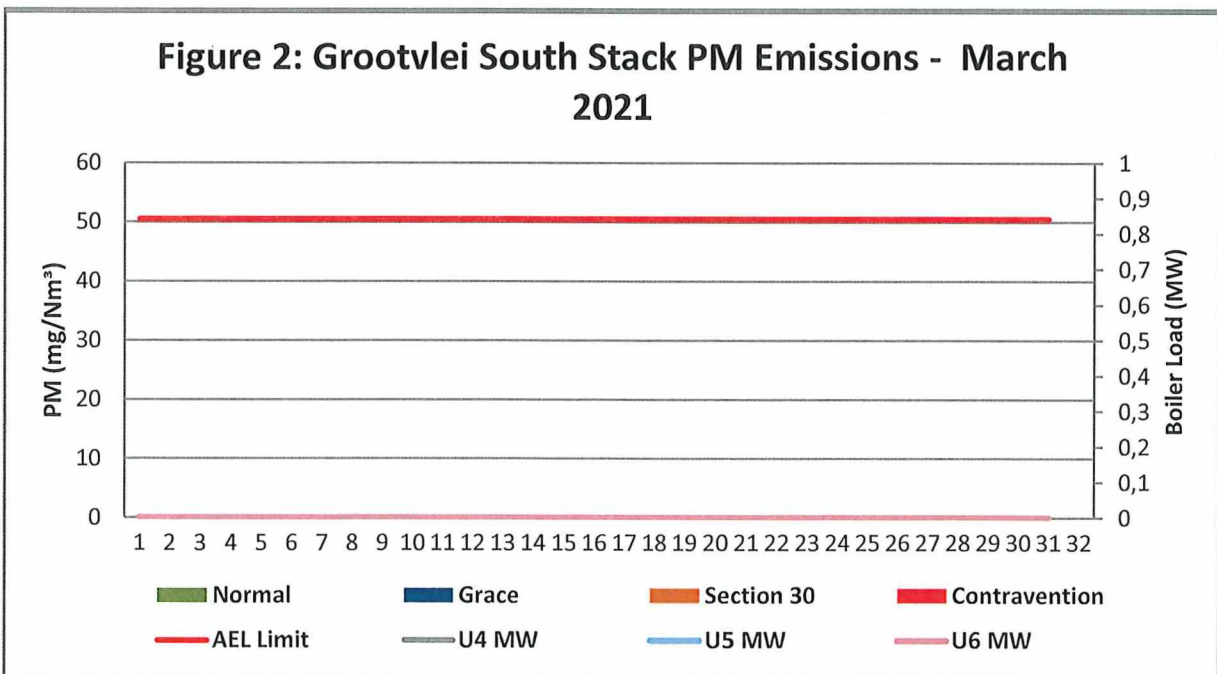
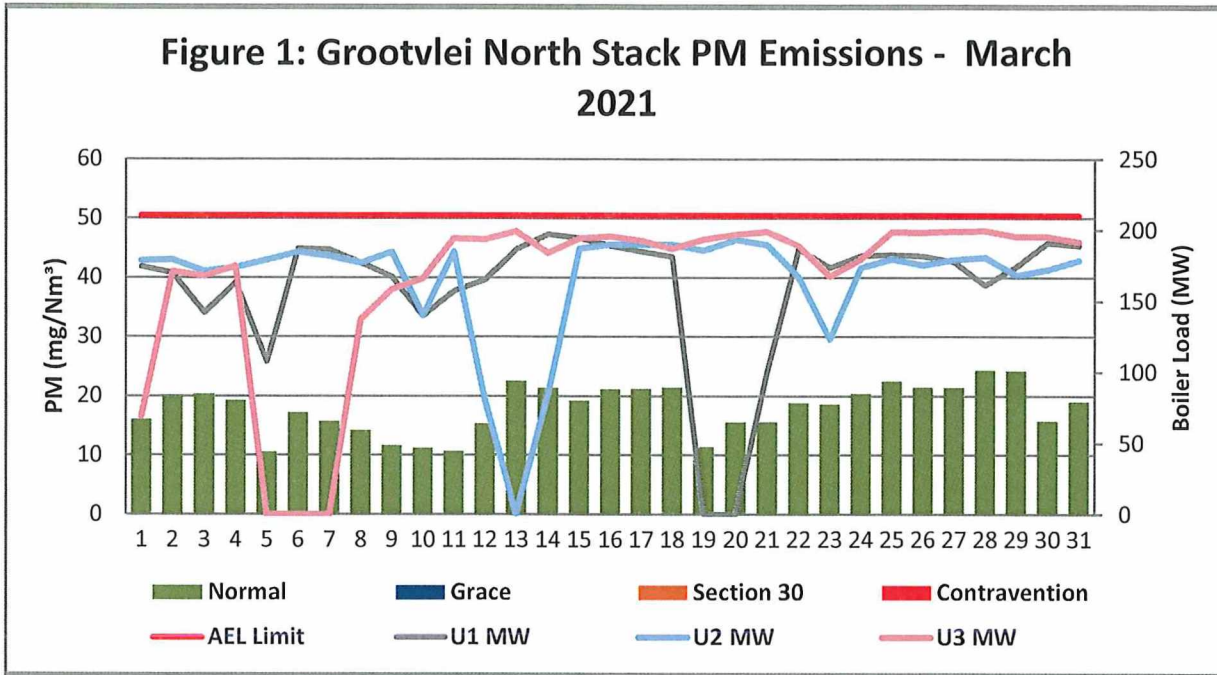


Figure 3: Grootvlei North Stack SOx Emissions - March 2021

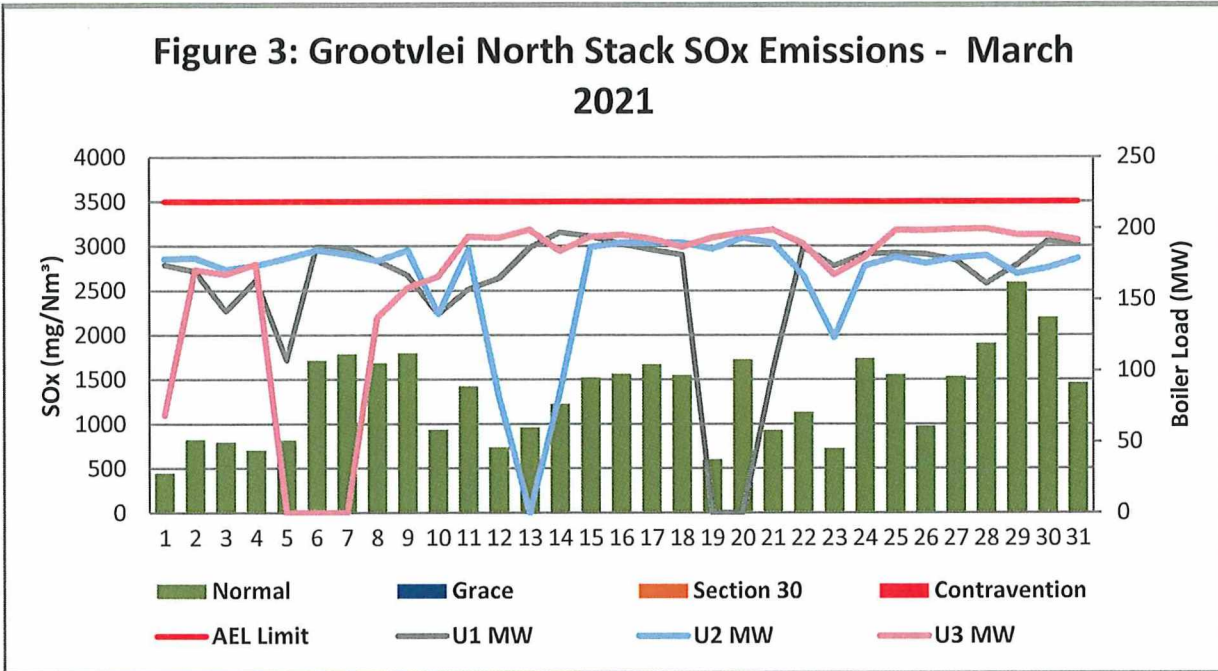


Figure 4: Grootvlei South Stack SOx Emissions - March 2021

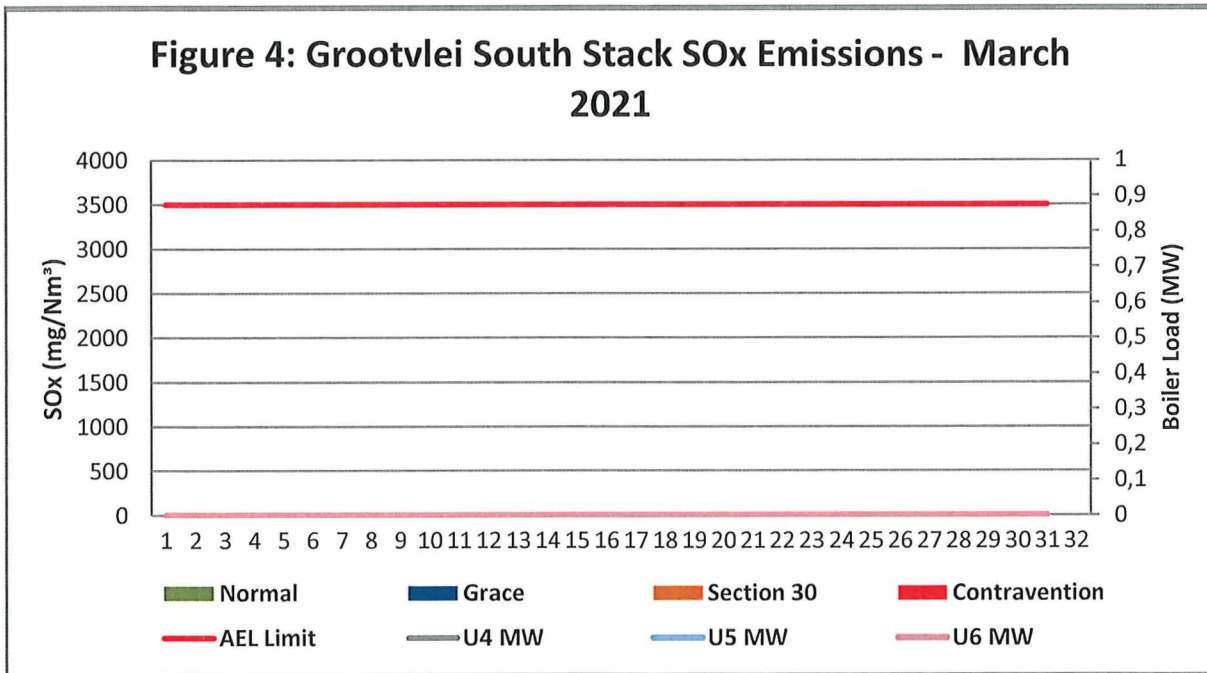


Figure 5: Grootvlei North Stack NOx Emissions - March 2021

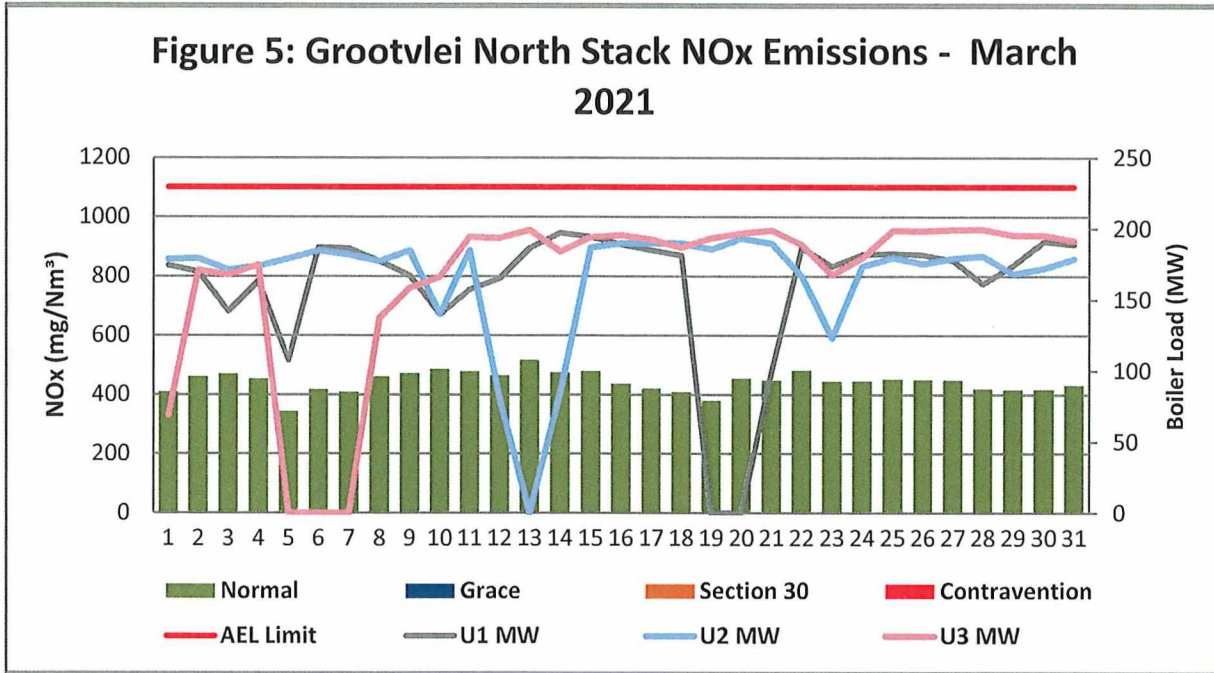
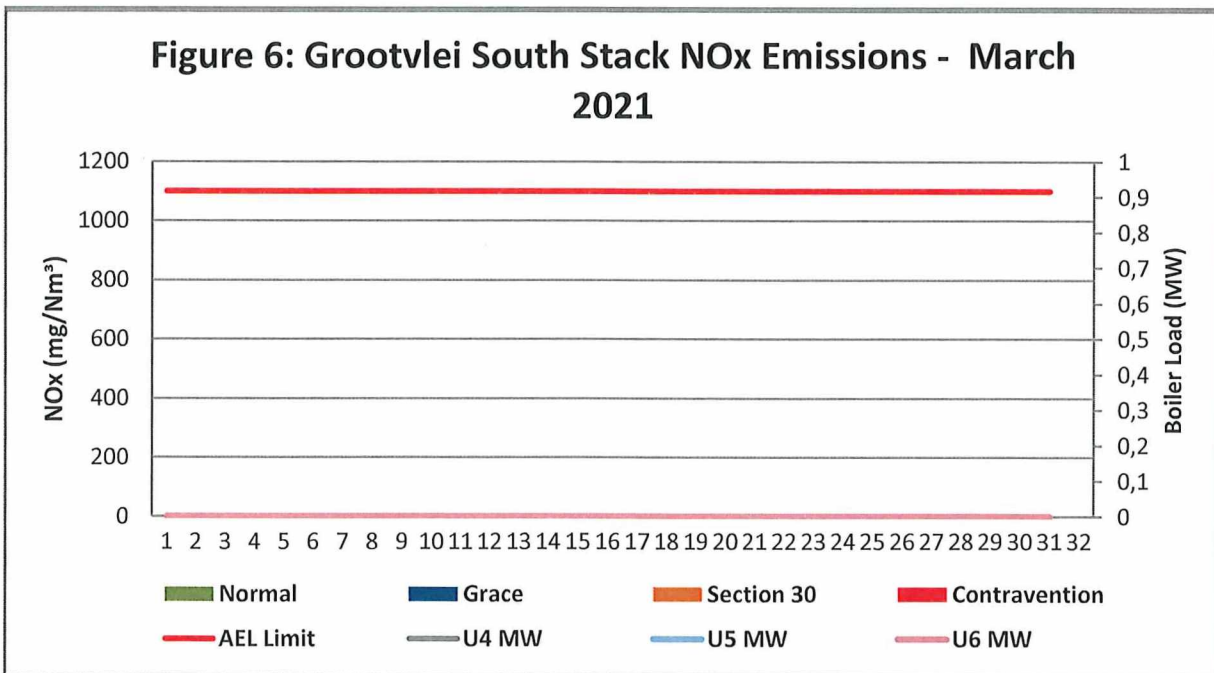


Figure 6: Grootvlei South Stack NOx Emissions - March 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of March-2021

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 2		Unit 2		Unit 2	
Breaker Open (BO)	11:45 PM	2021/03/18	5:15 PM	2021/03/04	1:10 AM	2021/03/12	4:55 AM	2021/03/23
Draught Group (DG) Shut Down (SD)	12:15 AM	2021/03/20	5:20 PM	2021/03/04	3:30 PM	2021/03/12	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	01:00:30	DD:HH:MM	00:00:05	DD:HH:MM	00:14:20	DD:HH:MM	n/a	DD:HH:MM
Fires in time	12:45 AM	2021/03/21	6:20 PM	2021/03/04	8:30 AM	2021/03/14	4:55 AM	2021/03/23
Synch. to Grid (or BC)	5:20 PM	2021/03/21	10:25 PM	2021/03/04	6:15 PM	2021/03/14	6:35 AM	2021/03/23
Fires in to BC (duration)	00:16:35	DD:HH:MM	00:04:05	DD:HH:MM	00:09:45	DD:HH:MM	00:01:40	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)	n/a	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.	no event		no event		no event		Unit 3	
Breaker Open (BO)	5:40 AM	2021/04/01						
Draught Group (DG) Shut Down (SD)	7:50 PM	2021/04/01						
BO to DG SD (duration)	00:14:10	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	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<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 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<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 March-2021 in mg/Nm³

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


Remember to add attachments here; see ReportAddendum Tab

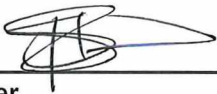
Reserved for Addendum XXXX

11 General

South Stack off.


Environmental Department Date


Boiler Engineering 12-05-2021
Date


General Manager 18/05/2021
Date

Compiled by Boiler Engineering Department

FFP System Engineer

For: Gert Sibande District Municipality

Chief Air Pollution Control Officer

Copies: Eskom Environmental Management

D Herbst

Group Technology Engineering

R Rampiar
E. Patel

Grootvlie Power Station:

Engineering Manager
Operating Manager
Maintenance Manager
Unit Production Manager
Boiler Engineering Manager
System Engineer
Environmental Officer
Performance and Test
Production Manager