



Generation

Gert Sibande District Municipality
Corner of Joubert & Oosthuise Streets
Ermelo
2350

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10

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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02



BOILER ENGINEERING MANAGER

2021/07/07

DATE



ENGINEERING MANAGER

07/07/2021

DATE



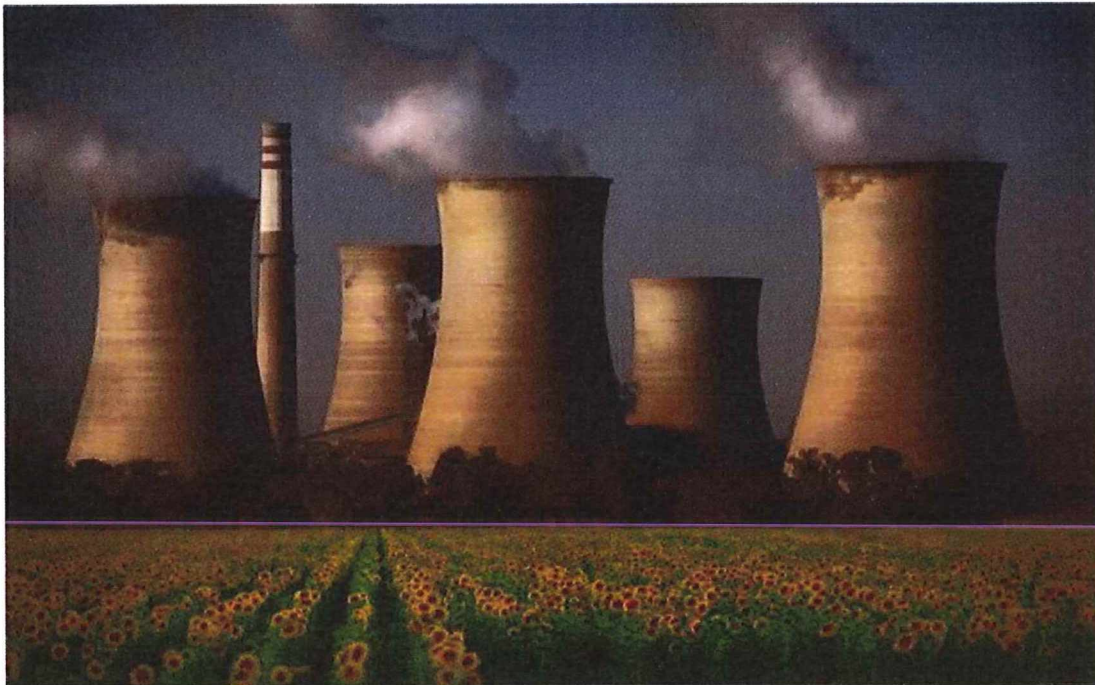
ENVIRONMENTAL MANAGER

2021/07/07

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	Maximum Permitted Consumption Rate	Consumption Rate Jun-2021
	Coal	650 000	164 036.9
	Fuel Oil	18 000	1608.48
Production Rates	Product / By-Product Name	Maximum Production Capacity Permitted	Production Rate Jun-2021
	Energy	806.4	287.81
	Ash	300 000	47 534
	RE PM	not specified	0.16

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0.98
Ash Content	%	27 to < 32	28.98

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	
Unit 1	Fabric Filter Plant (FFP)	
Unit 2	Fabric Filter Plant (FFP)	
Unit 3	Fabric Filter Plant (FFP)	
Unit 4	Fabric Filter Plant (FFP)	
Unit 5	Fabric Filter Plant (FFP)	
Unit 6	Fabric Filter Plant (FFP)	

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	100.0	100.0	100.0
South				

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Unit 1	15.94	894.7	180.5
Unit 2	16.52	1 041.8	223.9
Unit 3	13.22	904.9	193.4
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	45.68	2 841.5	597.8

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	30	1	0	1	34.3
South	0	0	0	0	
SUM	30	1	0	1	

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO _x (mg/Nm ³)
North	31	0	0	0	2 120.1
South	0	0	0	0	
SUM	31	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO _x (mg/Nm ³)
North	31	0	0	0	464.0
South	0	0	0	0	
SUM	31	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		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Grootvlei North Stack PM Emissions - June 2021

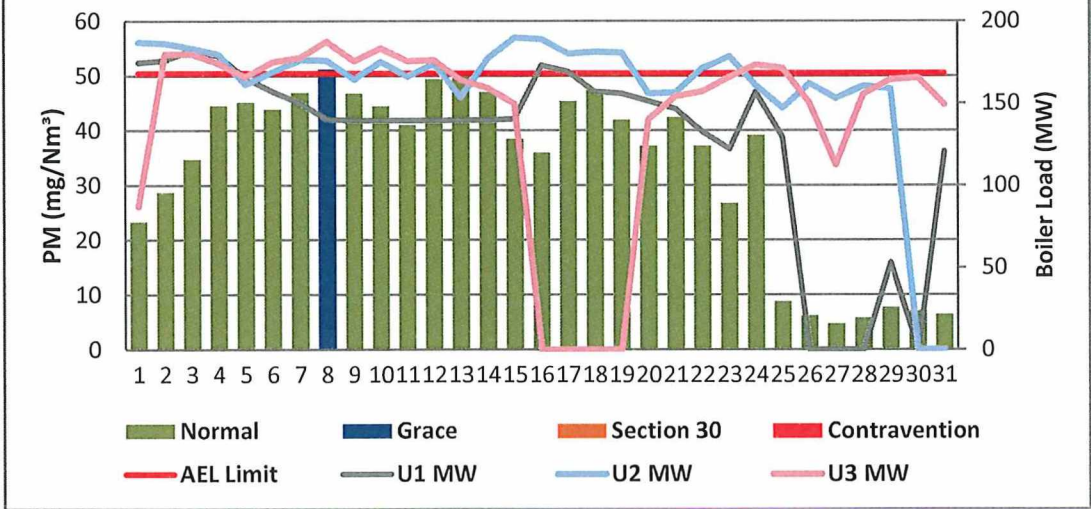


Figure 2: Grootvlei South Stack PM Emissions - June 2021

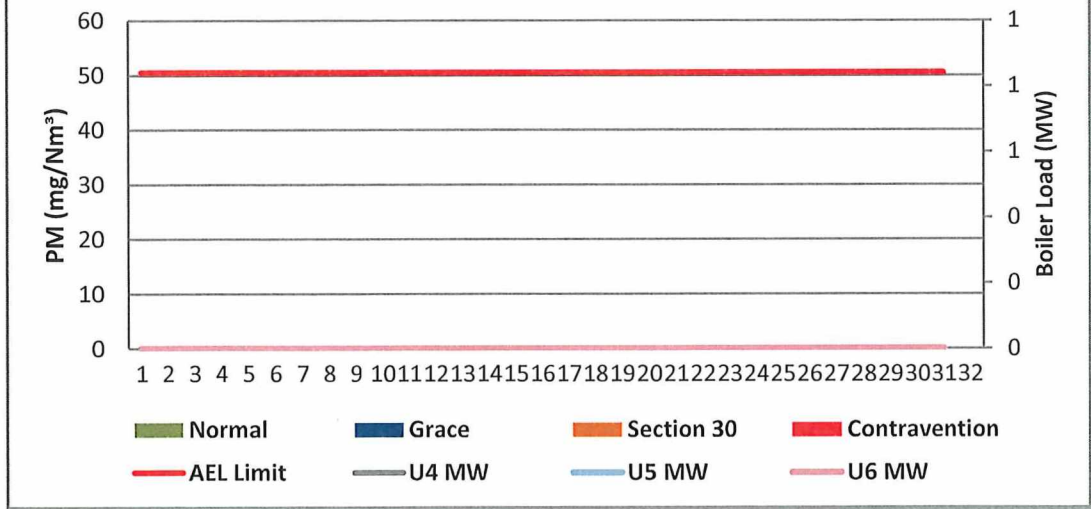


Figure 3: Grootvlei North Stack SOx Emissions - June 2021

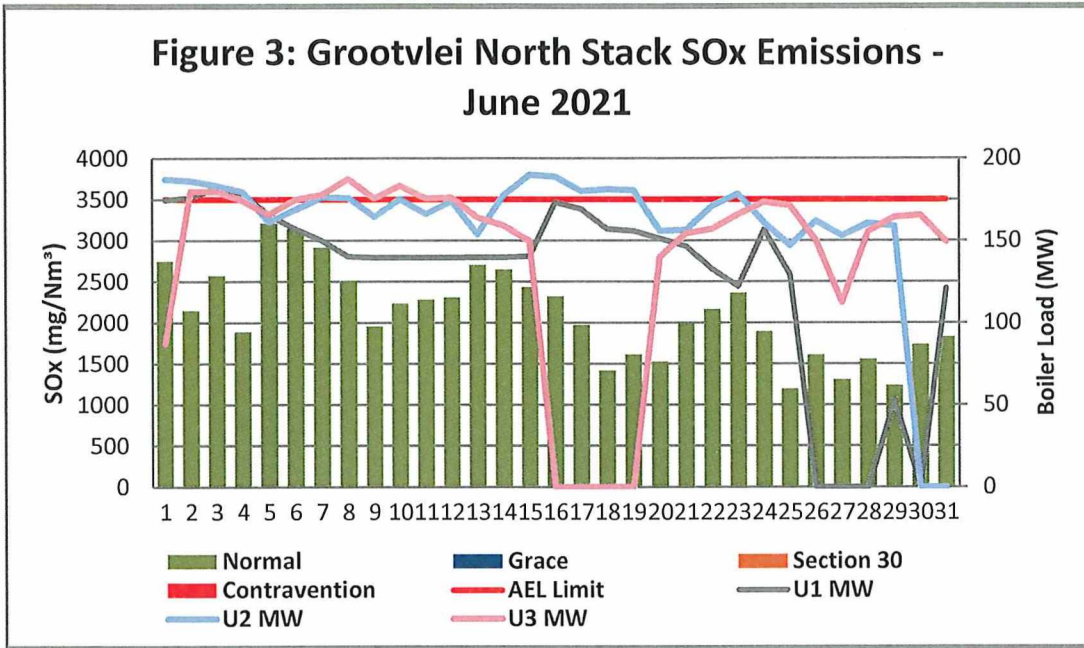


Figure 4: Grootvlei South Stack SOx Emissions - June 2021

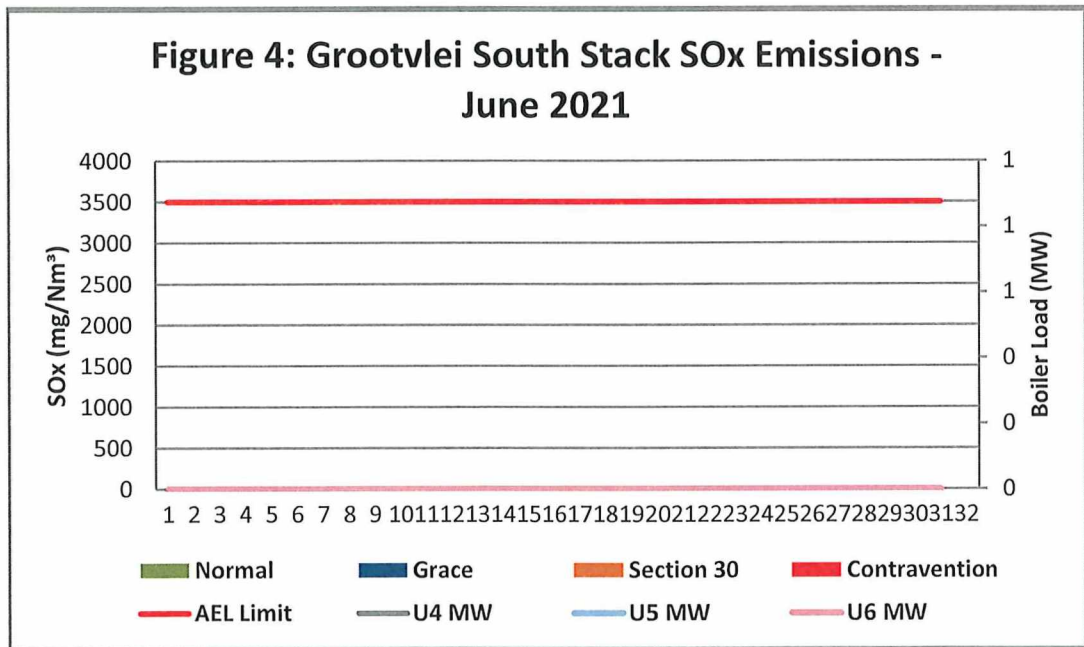


Figure 5: Grootvlei North Stack NOx Emissions - June 2021

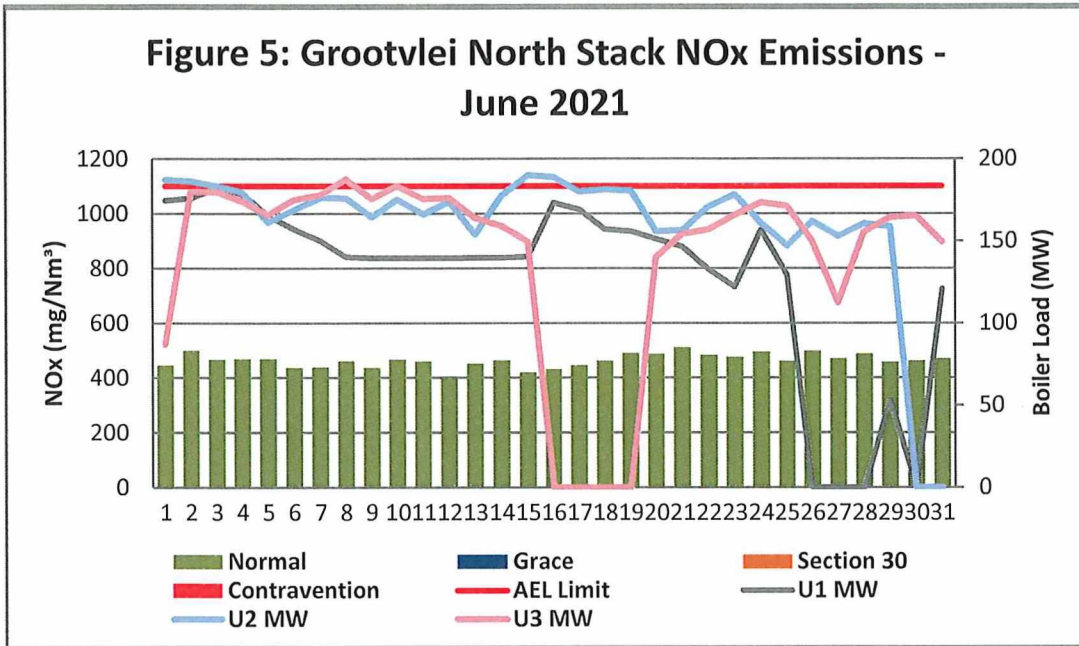
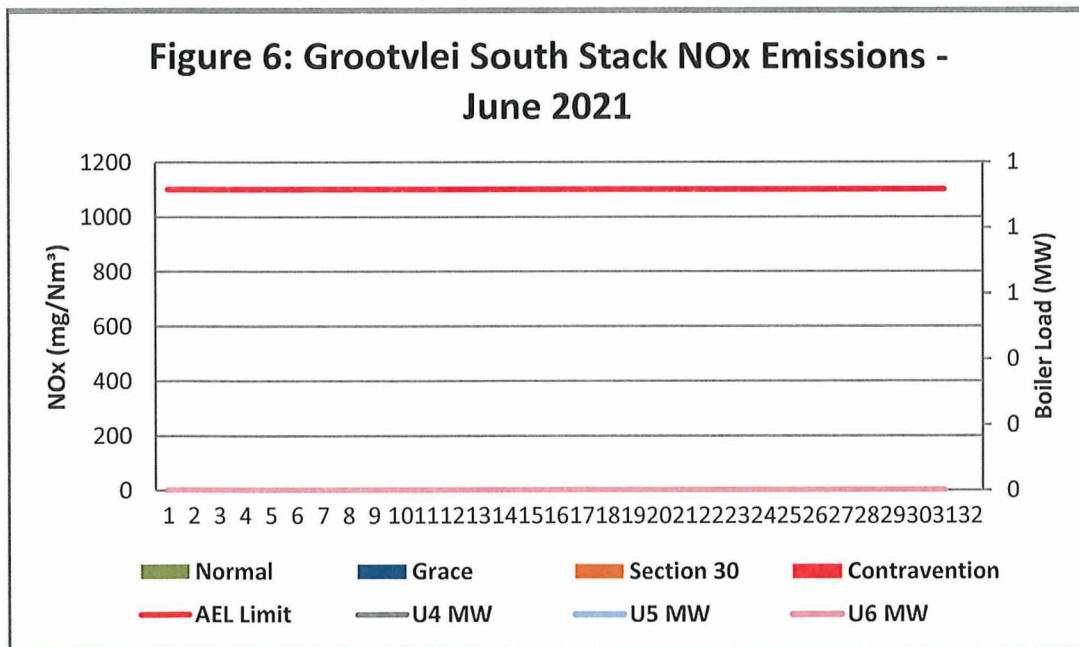


Figure 6: Grootvlei South Stack NOx Emissions - June 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	<i>Event 1</i>			<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 1</i>			<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>1:20 am</i>	<i>25/06/2021</i>	<i>12/06/2021</i>	<i>10:45 am</i>	<i>29/06/2021</i>		
Draught Group (DG) Shut Down (SD)	<i>10:55 pm</i>	<i>29/06/2021</i>	<i>12/06/2021</i>	<i>2:45 pm</i>	<i>29/06/2021</i>		
BO to DG SD (duration)	<i>04:21:35</i>	DD:HH:MM	DD:HH:MM	<i>00:04:00</i>	DD:HH:MM		DD:HH:MM
Fires in time	<i>5:15 pm</i>	<i>30/06/2021</i>	<i>12/06/2021</i>				
Synch. to Grid (or BC)	<i>2:00 am</i>	<i>01/07/2021</i>	<i>12/06/2021</i>				
Fires in to BC (duration)	<i>00:08:45</i>	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>	<i>not > limit</i>				
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM

North Stack ...Cont.	<i>Event 1</i>			<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 3</i>			<i>no event</i>		<i>Unit 3</i>	
Breaker Open (BO)	<i>4:05 pm</i>	<i>15/06/2021</i>					
Draught Group (DG) Shut Down (SD)	<i>12:30 pm</i>	<i>16/06/2021</i>					
BO to DG SD (duration)	<i>00:20:25</i>	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>4:20 pm</i>	<i>19/06/2021</i>					
Synch. to Grid (or BC)	<i>5:40 am</i>	<i>20/06/2021</i>					
Fires in to BC (duration)	<i>00:13:20</i>	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>					
Emissions below limit from BC (duration)	<i>n/a</i>	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 June-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

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07/07/2021

Environmental Department

Date



07/07/2021

Boiler Engineering

Date



2021/07/15

General Manager

Date

Compiled by Boiler Engineering Department

FFP System Engineer

For: Department of Environmental Affairs and Tourism Chief Air Pollution Control Officer

Copies: Eskom Environmental Management

D Herbst
K Langerman

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



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 June-2021

	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 June-2021

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
<i>(Insert name of affected person/source)</i>	<i>(Insert root cause for incident)</i>	<i>(Insert emissions associated with incident)</i>	<i>(Insert dispersion model information where applicable)</i>	<i>(Insert mitigation measures taken)</i>	<i>(Insert date of implementation of mitigation method)</i>

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 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledgment	Date DEA Acceptable	Comments / Reference No.