



Generation

Nkangala District Municipality  
P O Box 437  
Middleburg  
1050

Date: 2019/06/20

Attention:  
Ms M Nembilwi

AND

Directorate: Air Quality Management Services  
The Director:  
Mr Vumile Senene  
Department of Environmental Affairs  
Private Bag X447  
PRETORIA  
0001  
Tel: (012) 310 3263  
Fax: (012) 320 0488

Total number of pages:  
16

Total number of annexes:

## MATLA POWER STATION

Atmospheric Emission License 17/4/AEL/MP312/11/14

\_\_\_\_\_  
BOILER ENGINEERING MANAGER

24/06/19  
\_\_\_\_\_  
DATE

\_\_\_\_\_  
ENVIRONMENTAL MANAGER

2019-06-24  
\_\_\_\_\_  
DATE

\_\_\_\_\_  
ENGINEERING MANAGER

24/06/2019  
\_\_\_\_\_  
DATE

MONTHLY EMISSIONS REPORT FOR MATLA POWER STATION  
 Atmospheric Emission License 17/4/AEL/MP312/11/14  
 REPORTING MONTH May-2019

1 PARTICULATE EMISSIONS

EMISSION LIMIT: North U5 & U6: 100 mg/Nm<sup>3</sup> South Stack: 200 mg/Nm<sup>3</sup>  
 North U4: 200 mg/Nm<sup>3</sup>

2 GASEOUS EMISSIONS

EMISSION LIMIT: North Stack: South Stack  
 NO<sub>x</sub> 1200 mg/Nm<sup>3</sup> 1200 mg/Nm<sup>3</sup>  
 SO<sub>2</sub> 3500 mg/Nm<sup>3</sup> 3500 mg/Nm<sup>3</sup>

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption/ Rate	Consumption/ Rate May-2019
	Coal	Tons/month	1 475 000	898 883
	Fuel Oil	Tons/month	2 500	898833

Production Rates	Product/ By-Product	Unit	Maximum Production Capacity Permitted	Production Rate in Month of May-2019
	Energy	GWh	2566.8	1846
	Ash	Tons/month	471000	251777
	RE PM	kg/MWh	not specified	0.925

2 ABATEMET TECHNOLOGY

Associated Unit/Stack	Technology Type	Efficiency (%) for May-2019	Reliability (%) May-2019			
			PM	SO <sub>2</sub>	NO	CO <sub>2</sub>
South Stack	ESP	99.6%	92.6	48.4	48.4	
Unit 4	ESP	98.3%	88.4	100.0	100.0	
Unit 5	ESP	Unit off	34.2	Unit Off	Unit Off	
Unit 6	ESP	99.7%	95.4	100.0	100.0	

3 ENERGY SOURCE CHARACTERISTICS

Characteristic	Stipulated Range (Unit)	Monthly Average Content
CV Content	16-24 (M.J/Kg)	
Sulphur Content	0.8-1.1 (%)	1.00
Ash Content	21-40 (%)	28.01

#### 4 EMISSION PERFORMANCE

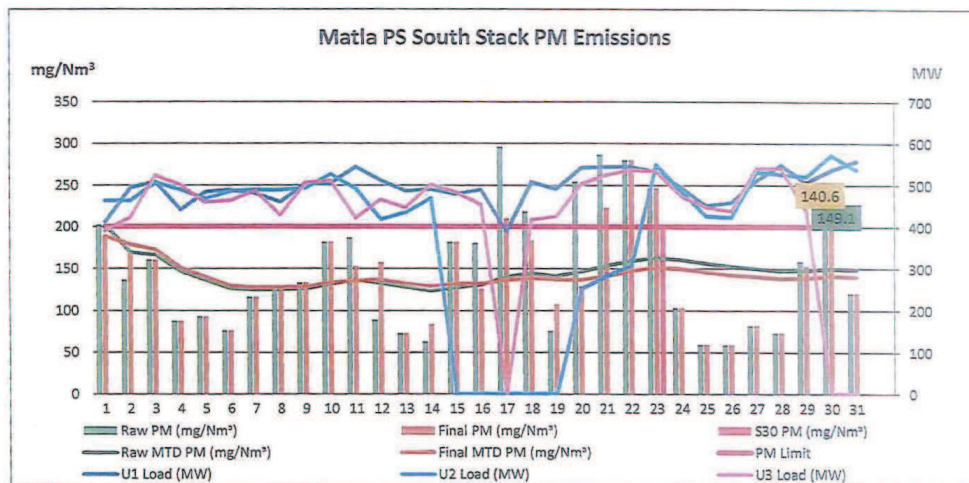


Figure 1. PM emissions (daily averages) for the month of May-2019 against emission limit for the South Stack

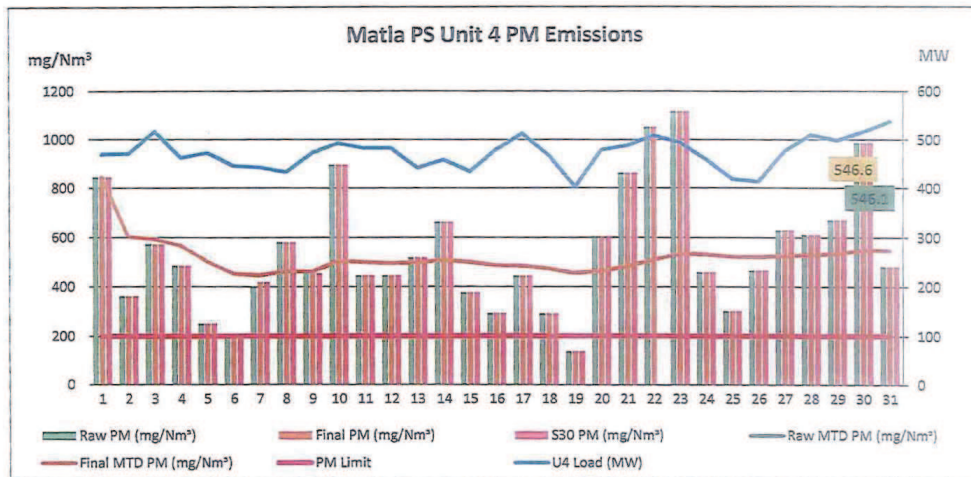


Figure 2. PM emissions (daily averages) for the month of May-2019 against emission limit for Unit 4

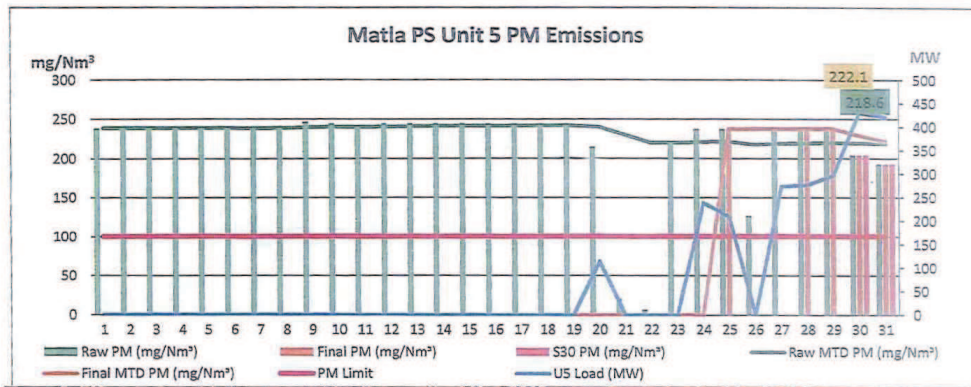


Figure 3. PM emissions (daily averages) for the month of May-2019 against emission limit for Unit 5

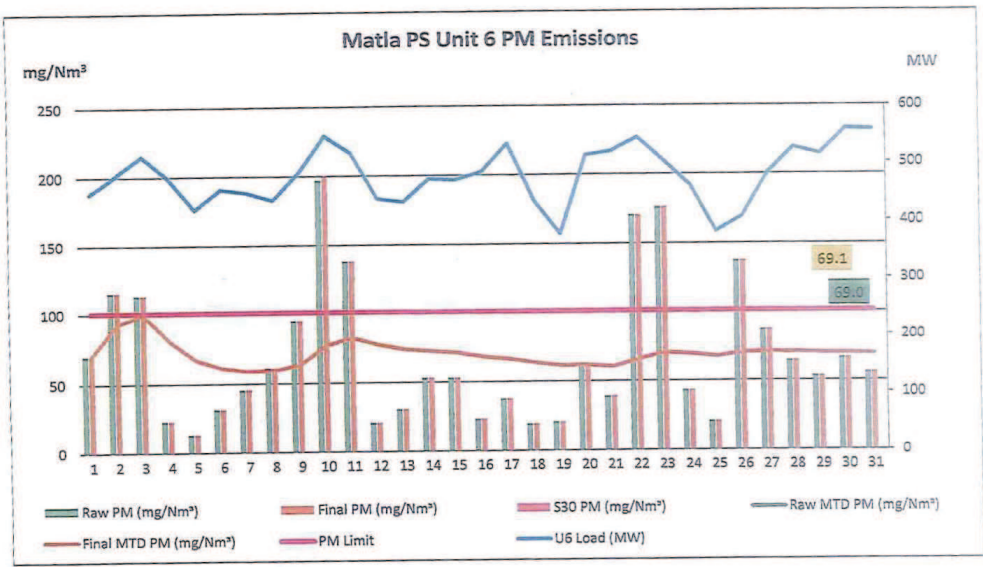


Figure 4. PM emissions (daily averages) for the month of May-2019 against emission limit for Unit 6



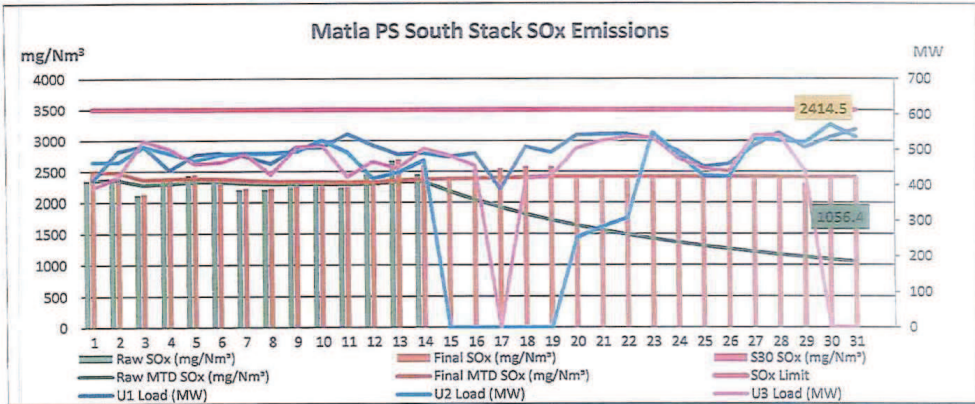


Figure 5. SO<sub>2</sub> emissions (daily averages) for the month of May-2019 against emission limit for the South Stack

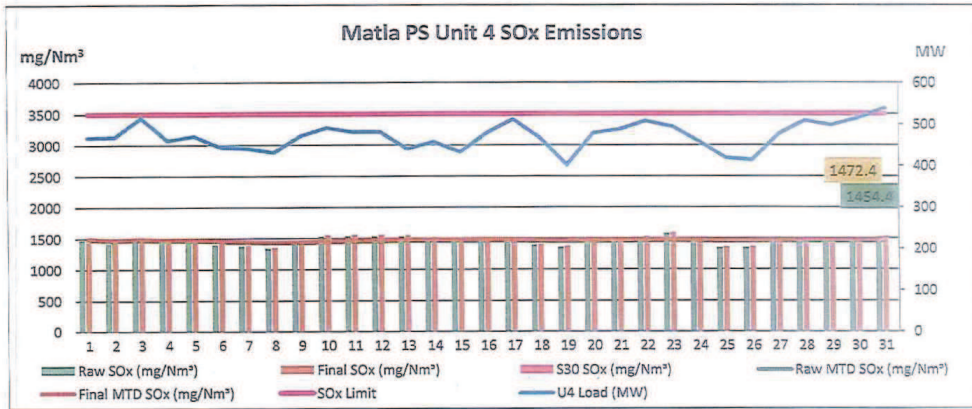


Figure 6. SO<sub>2</sub> emissions (daily averages) for the month of May-2019 against emission limit for Unit 4

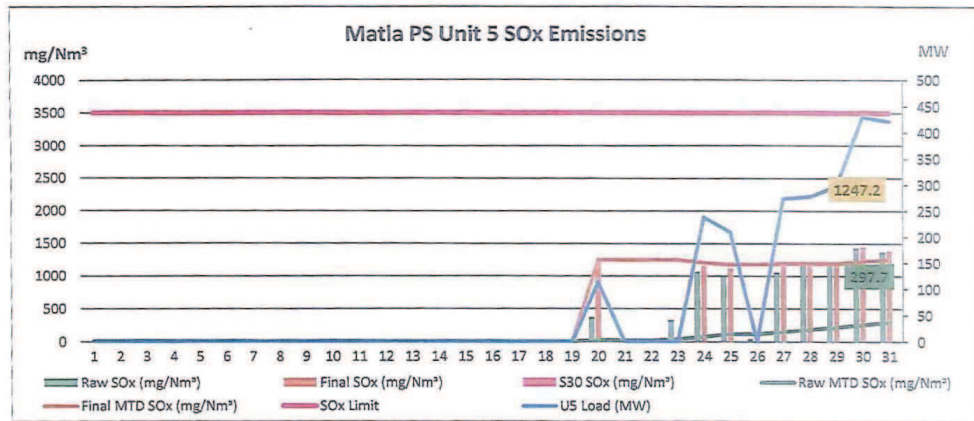


Figure 7. SO<sub>2</sub> emissions (daily averages) for the month of May-2019 against emission limit for Unit 5

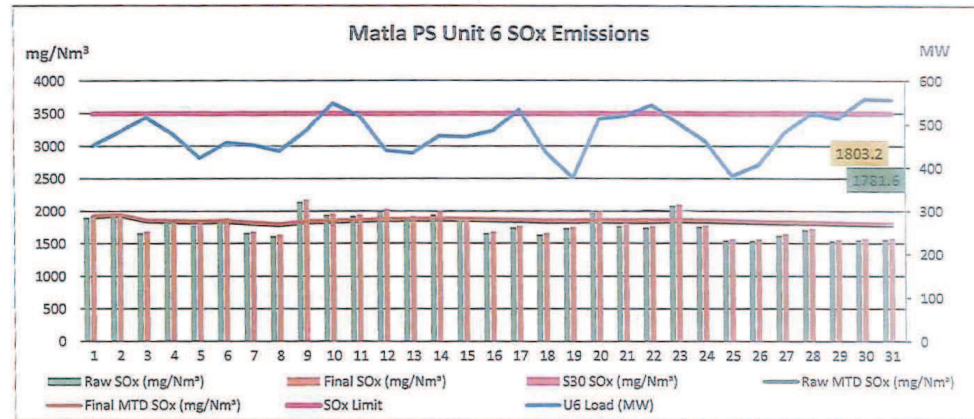


Figure 8. SO<sub>2</sub> emissions (daily averages) for the month of May-2019 against emission limit for Unit 6

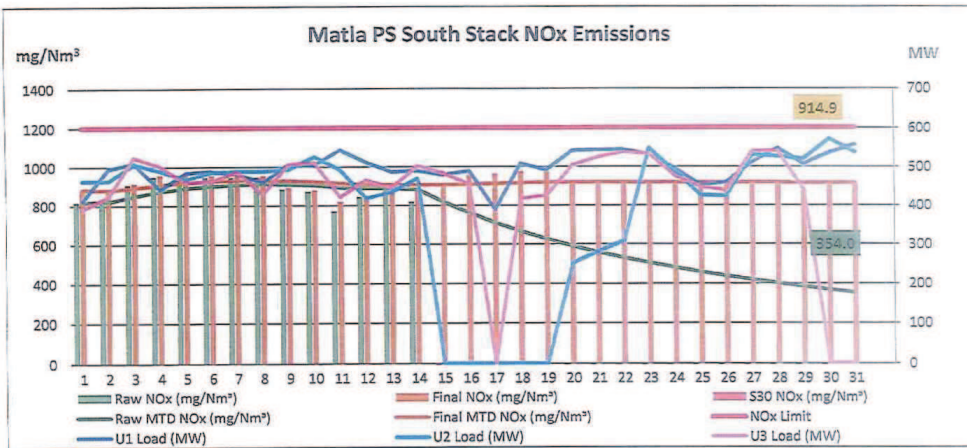


Figure 9. NOx emissions (daily averages) for the month of May-2019 against emission limit for the South Stack

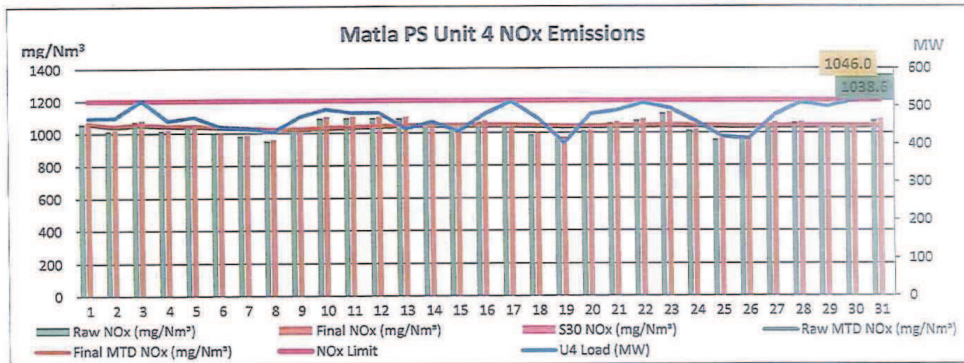


Figure 10. NOx emissions (daily averages) for the month of May-2019 against emission limit for Unit 4



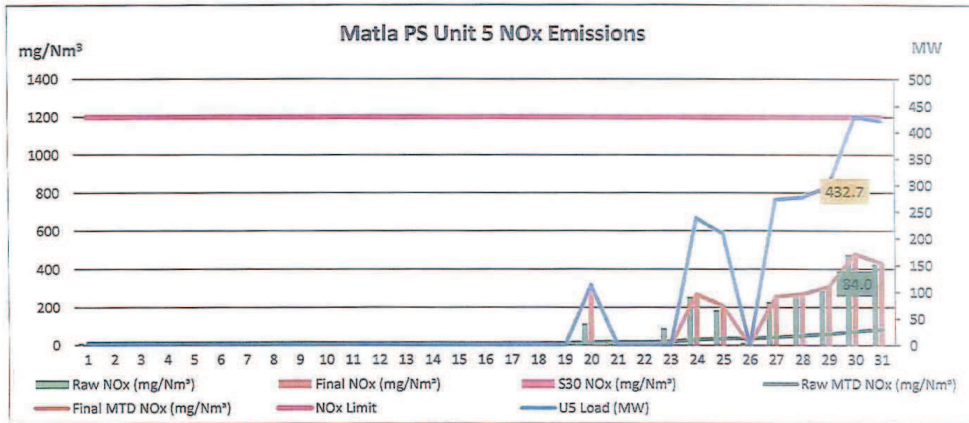


Figure 11. NOx emissions (daily averages) for the month of May-2019 against emission limit for Unit 5

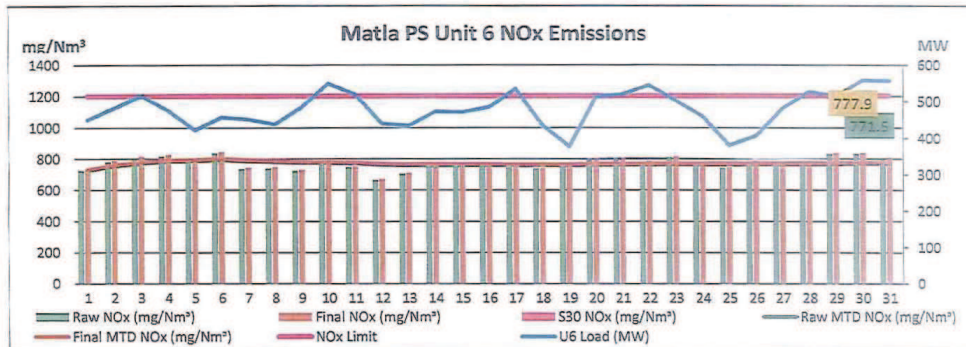


Figure 12. NOx emissions (daily averages) for the month of May-2019 against emission limit for Unit 6

Table 4: Monthly tonnages for the month of May-2019

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)	CO <sub>2</sub> (tons)
1	211.7	3 628.6	1 378.3	
2	174.2	3 072.9	1 167.7	
3	185.5	3 317.6	1 261.8	
4	786.7	2 103.9	1 494.7	
5	32.6	193.3	54.0	
6	130.6	3 295.2	1 422.5	
SUM	1 521.4	15 611.5	6 779.0	

Table 5: Each unit and respective days operating under normal operation, days in grace period, and section 30 days respectively

Unit	Operating Days (DD:HH:MM)			
	Normal operation	In grace period	Under S 30	Unit off load
1	26:06:50	00:00:00	00:00:00	00:04:00
2	23:05:05	02:00:00	00:07:00	05:11:55
3	26:12:00	00:00:00	00:00:00	04:12:00
4	18:05:00	02:00:00	10:19:00	00:00:00
5	00:18:35	03:00:00	02:20:00	24:09:25
6	31:00:00	00:00:00	00:00:00	00:00:00

5 LIGHT UP INFORMATION

Table 6. PM Start-up information for the month of May-2019

South Stack		Event 1		Event 2		Event 3		Event 4		Event 5	
Unit No.		no event		Unit 1		Unit 2		Unit 3		no event	
Fires in			03:30 AM	2019/05/01	12:10 AM	2019/05/20	03:35 PM	2019/05/11			
Synch. to Grid			07:25 AM	2019/05/01	10:10 AM	2019/05/20	07:10 PM	2019/05/11			
Emissions > limit from Synch. (Date and Time)			12:00 AM	2019/05/02	not > limit	not > limit	not > limit	not > limit			
Fires in to Synch.		Hrs (dd:hh:mm)	00:03:55	Hrs (dd:hh:mm)	00:10:00	Hrs (dd:hh:mm)	00:03:35	Hrs (dd:hh:mm)			
Emissions < limit from Synch. (Duration)		Hrs (dd:hh:mm)	00:06:00	Hrs (dd:hh:mm)	not > limit	Hrs (dd:hh:mm)	not > limit	Hrs (dd:hh:mm)			
South Stack ...cont.		Event 6		Event 7		Event 8		Event 9		Event 10	
Unit No.		no event		no event		no event		no event		no event	
Fires in											
Synch. to Grid											
Emissions > limit from Synch. (Date and Time)											
Fires in to Synch.		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)			
Emissions < limit from Synch. (Duration)		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)		Hrs (dd:hh:mm)			

Event No.	Event 1	Event 2	Event 3	Event 4	Event 5
Unit No.4	no event	no event	no event	no event	no event
Fires in					
Synch. to Grid					
Emissions > limit from Synch. (Date and Time)					
Fires in to Synch.	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)
Emissions < limit from Synch. (Duration)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)

Event No.	Event 1	Event 2	Event 3	Event 4
Unit No.5	no event	no event	no event	no event
Fires in				
Synch. to Grid				
Emissions > limit from Synch. (Date and Time)				
Fires in to Synch.	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)
Emissions < limit from Synch. (Duration)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)

Event No.	Event 1	Event 2	Event 3	Event 4
Unit No.6	no event	no event	no event	no event
Fires in				
Synch. to Grid				
Emissions > limit from Synch. (Date and Time)				
Fires in to Synch.	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)
Emissions < limit from Synch. (Duration)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)	Hrs (dd:hh:mm)









**6 EMERGENCY GENERATION**

Emergency Generation

Table 8. Emergency Generation per unit for the month of May-2019

	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						

**7 COMPLAINTS REGISTER**

Table 9. Complaints for the month of May-2019

Source Code/ Name	Root Cause Analysis	Calculation of impacts/ emissions associated with	Dispersion modeling of pollutants where	Measures implemented to prevent reoccurrence	Date by which 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)</i>	<i>(Insert mitigation measures taken)</i>	<i>(Insert implementation date)</i>

**8 General**

Gas emission values have errors which are being investigated. Once there investigation is concluded this report will be redone. Target date for completion of investigation is 28/06/2019. Should there be challenges this will be communicated as such. There are section 30's incurred and initial notification has been raised on the section 30's.

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Boiler Plant Engineering	Date	Environmental Practitioner	Date
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General Manager	Date
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ESP & SO3 System Engineer

Compiled by: Boiler Engineering Department

Chief Air Pollution Control Officer

For: Department of Environmental Affairs and Tourism

Copies: Eskom Environmental Management

Group Technology Engineering

Matla Power Station:

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