

KOMATI POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP313/12/12


1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Jun-2022
	Coal	Tons	460 000	26 602
	Fuel Oil	Tons	5 000	81
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Jun-2022
	Energy	GWh	684	46
	Ash	Tons	160 000	31
	RE PM	kg/MWh	0.29	0.67

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	23.046
Sulphur Content	%	<= 1.2	0.653
Ash Content	%	<= 33	20.230

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SOx	NOx
East	100	3500	1300
West	100	3500	1300

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jun-2022	Technology Type	Utilisation Jun-2022
Unit 1	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 2	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 3	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 4	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 5	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 6	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 7	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 8	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 9	Electro Static Precipitators (ESP)	99.4%	SO ₃ Plant Utilisation	0.0

*Note: The ESP plant does not have bypass mode operation, hence plant 100% Utilised.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂	Temp
East						
West	99.1	98.2	98.2	97.7	97.7	99.5

6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of June-2022

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)	CO ₂ (tons)
1	0.0	0.0	0.0	0
2	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0
9	30.9	383.4	442.9	71 025
SUM	30.9	383.4	442.9	71 025

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average PM (mg/Nm ³)
East	0	0	0	0	0	
West	18	2	5	0	7	83.9
SUM	18	2	5	0	7	

Table 6.3: Operating days in compliance to SO_x AEL Limit - June 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average SO _x (mg/Nm ³)
East	0	0	0	0	0	
West	26	0	0	0	0	994.3
SUM	26	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - June 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average NO _x (mg/Nm ³)
East	0	0	0	0	0	
West	26	0	0	0	0	1 139.8
SUM	26	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
Contravention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Komati East Stack PM Emissions - June 2022

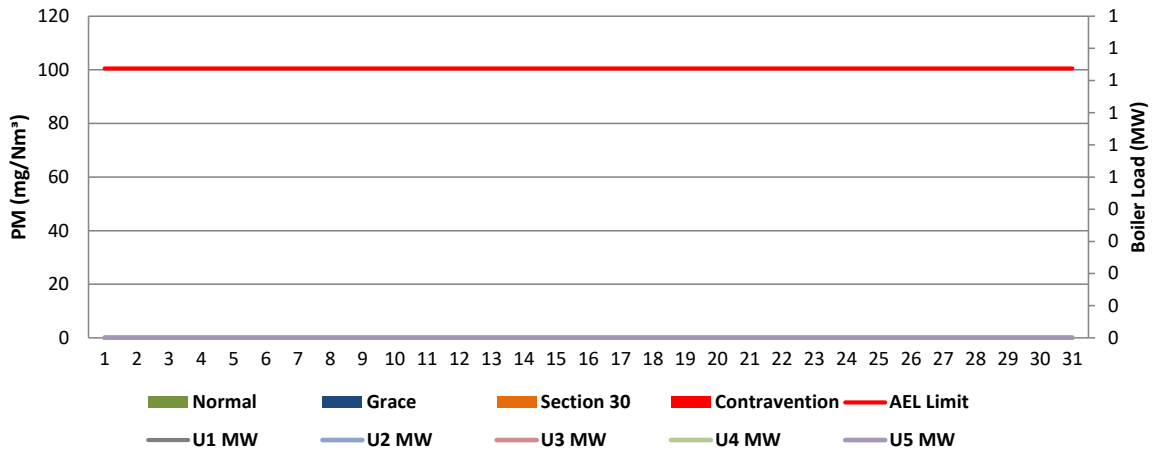


Figure 2: Komati West Stack PM Emissions - June 2022

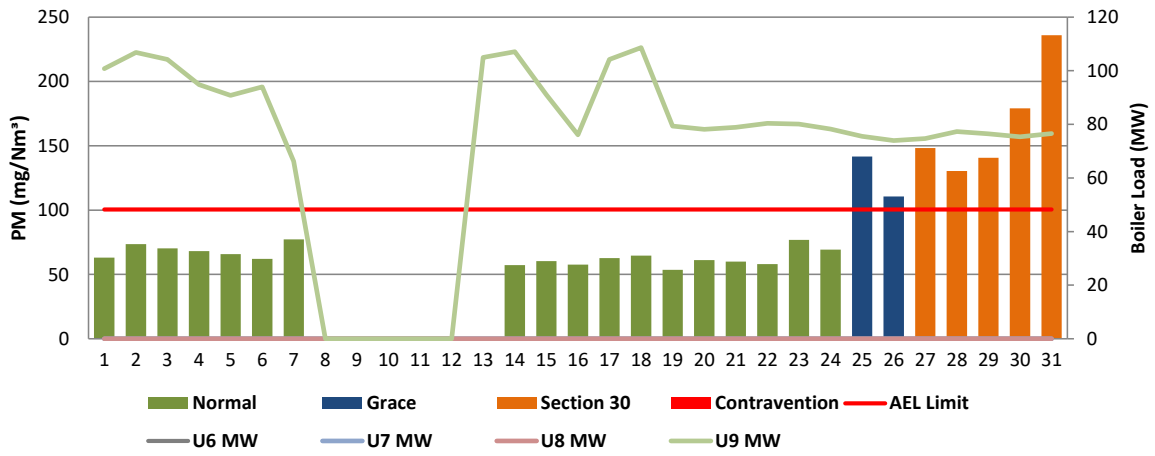


Figure 3: Komati East Stack SOx Emissions - June 2022

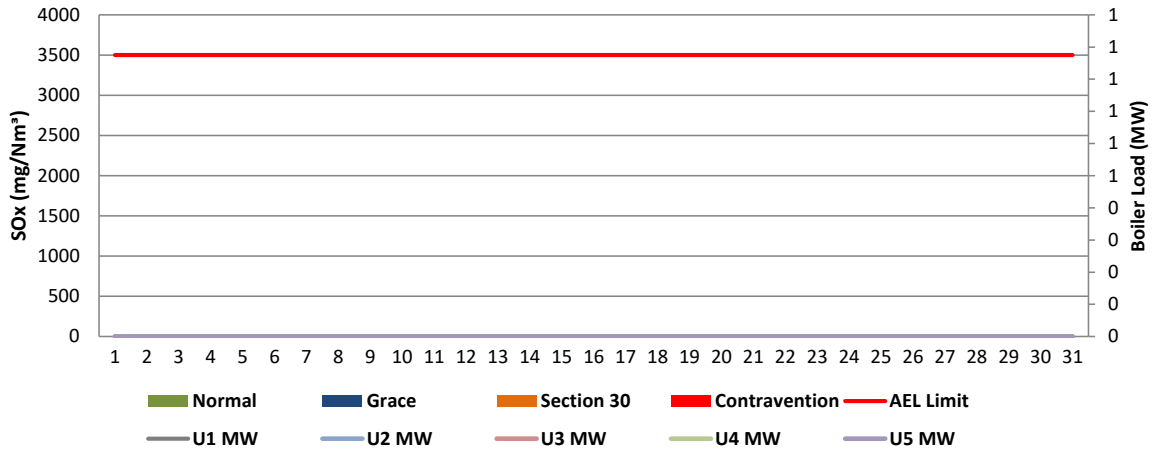


Figure 4: Komati West Stack SOx Emissions - June 2022

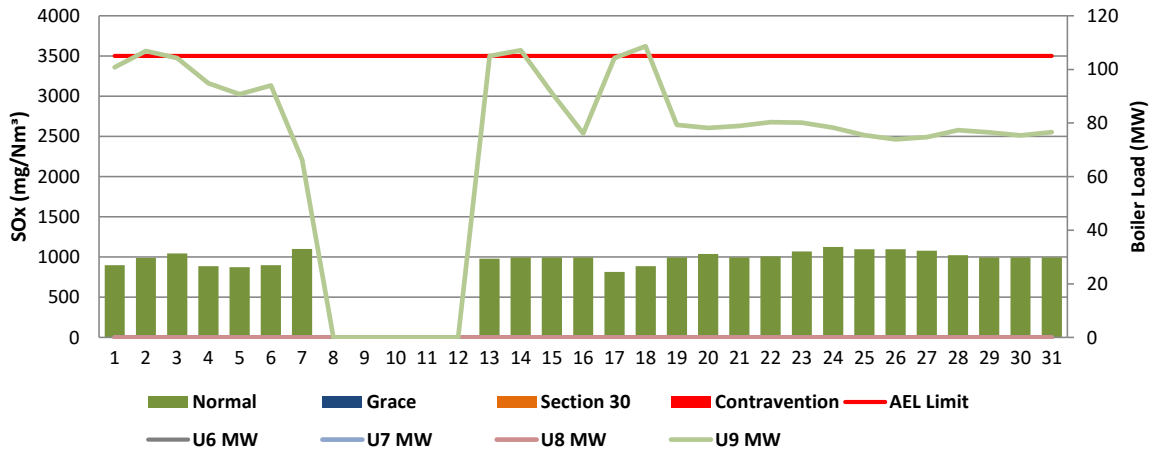


Figure 5: Komati East Stack NOx Emissions - June 2022

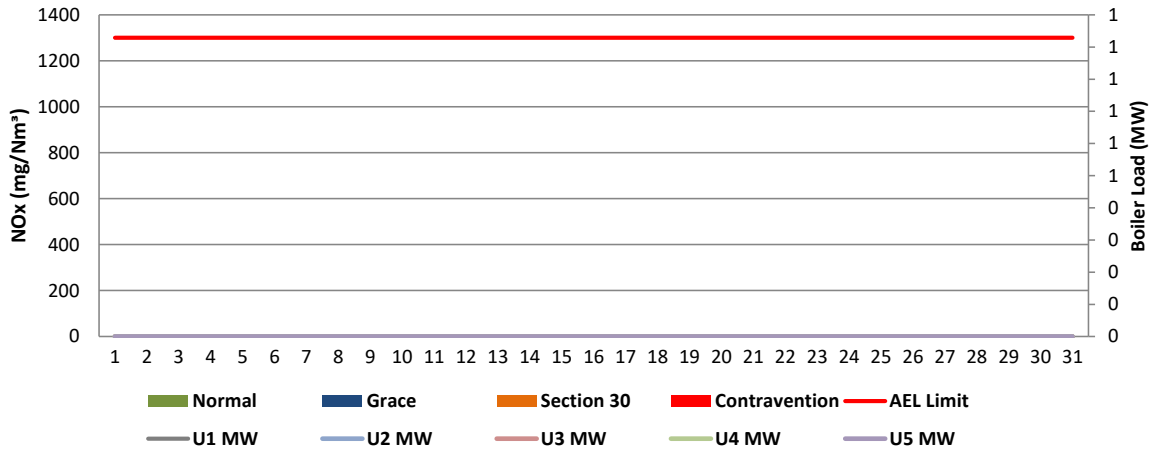
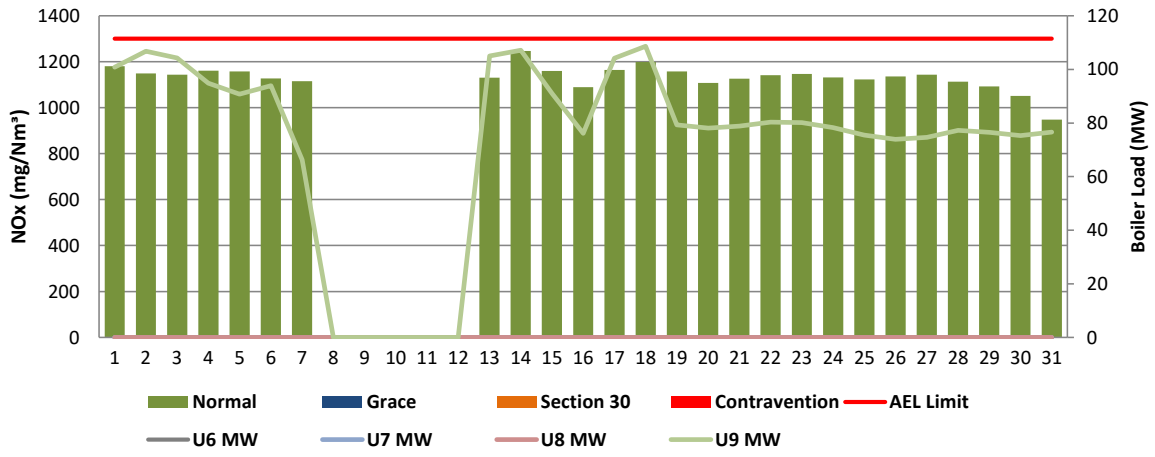


Figure 6: Komati West Stack NOx Emissions - June 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of June-2022

East 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

East Stack ...continued	<i>Event 5</i>		<i>Event 6</i>		<i>Event 7</i>		<i>Event 8</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

West Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 9</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>7:55 AM</i>	<i>2022/06/07</i>	<i>1:20 AM</i>	<i>2022/07/05</i>				
Draught Group (DG) Shut Down (SD)	<i>9:10 PM</i>	<i>2022/06/07</i>	<i>2:00 AM</i>	<i>2022/07/05</i>				
BO to DG SD (duration)	<i>00:13:15</i>	DD:HH:MM	<i>00:00:40</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>2:30 PM</i>	<i>2022/06/12</i>						
Synch. to Grid (or BC)	<i>2:10 AM</i>	<i>2022/06/13</i>						
Fires in to BC (duration)	<i>00:11:40</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>12:00 AM</i>	<i>2022/06/14</i>						
Emissions below limit from BC (duration)	<i>00:21:50</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

West Stack ...continued	<i>Event 5</i>		<i>Event 6</i>		<i>Event 7</i>		<i>Event 8</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 June-2022 in mg/Nm³


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

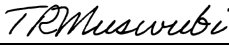
Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

11 General

25/06/2022 - Ash pump failures experienced, unit load losses were taken despite EL1 due to Stage 6 load shedding
27/06/2022- AEL exceedance
28/06/2022 - Sulphur pump failure experienced


Boiler Plant Engineering 2022/07/21
Date

 2022/07/21
Environmental Manager Date


General Manager 2022/07/22
Date

Compiled by: Boiler Engineering Department Adhir Debising ESP & SO3 Engineer

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Jurie Pieterse General Manager(Acting)
Goitseman Nkomo Boiler Engineering Manager
Mokgadi Mvambo Environmental Manager
Falakhe Mdluli Performance and TestManager