

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 Sep-2022
	Coal	Tons	460 000	36 863
	Fuel Oil	Tons	5 000	120
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Sep-2022
	Energy	GWh	684	64
	Ash	Tons	160 000	27
	RE PM	kg/MWh	0.29	0.42

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	23.390
Sulphur Content	%	<= 1.2	0.600
Ash Content	%	<= 33	21.070

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 Sep-2022	Technology Type	Utilisation Sep-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)	99.6%	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	100.0	86.4	98.7	98.1	98.6	100.0

6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of September-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	26.8	415.3	543.1	76 758
SUM	26.8	415.3	543.1	76 758

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average PM (mg/Nm ³)
East	0	0	0	0	0	
West	25	0	0	0	0	60.5
SUM	25	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average SOx (mg/Nm ³)
East	0	0	0	0	0	
West	26	0	0	0	0	897.7
SUM	26	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average NOx (mg/Nm ³)
East	0	0	0	0	0	
West	26	0	0	0	0	1 172.8
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 - September 2022

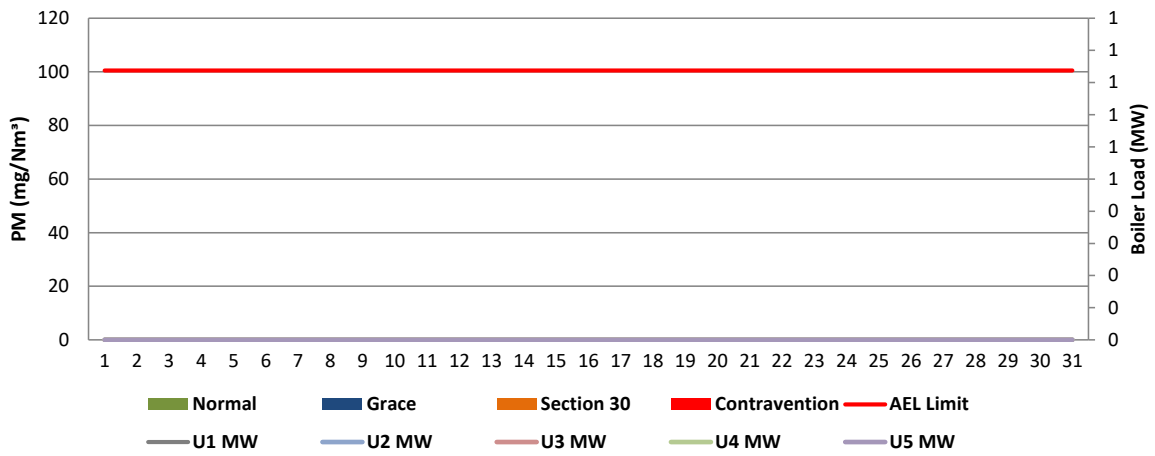


Figure 2: Komati West Stack PM Emissions - September 2022

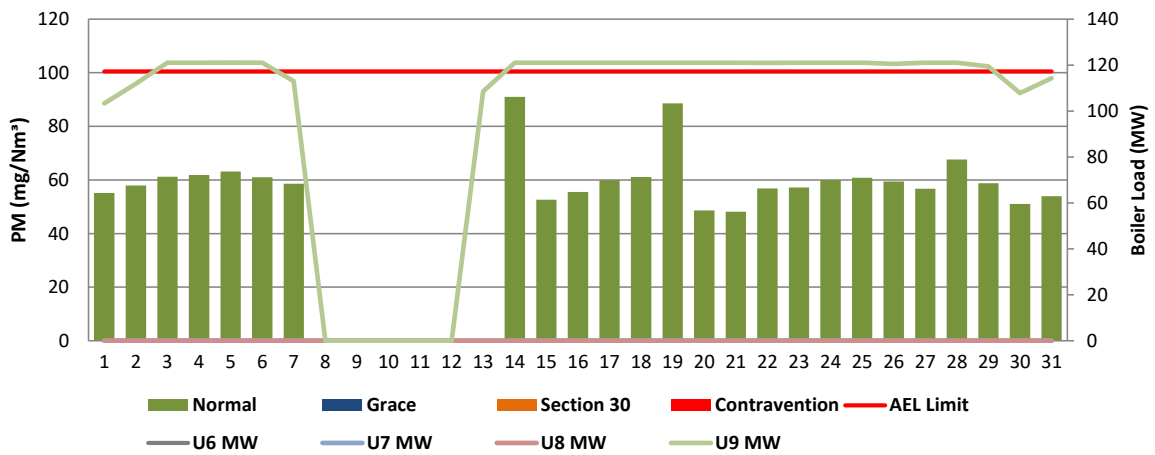


Figure 3: Komati East Stack SOx Emissions - September 2022

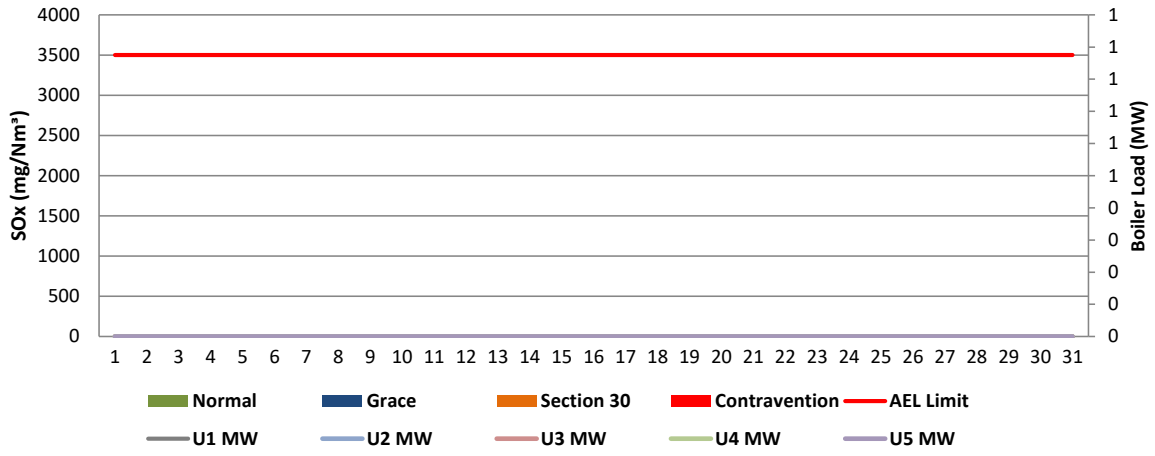


Figure 4: Komati West Stack SOx Emissions - September 2022

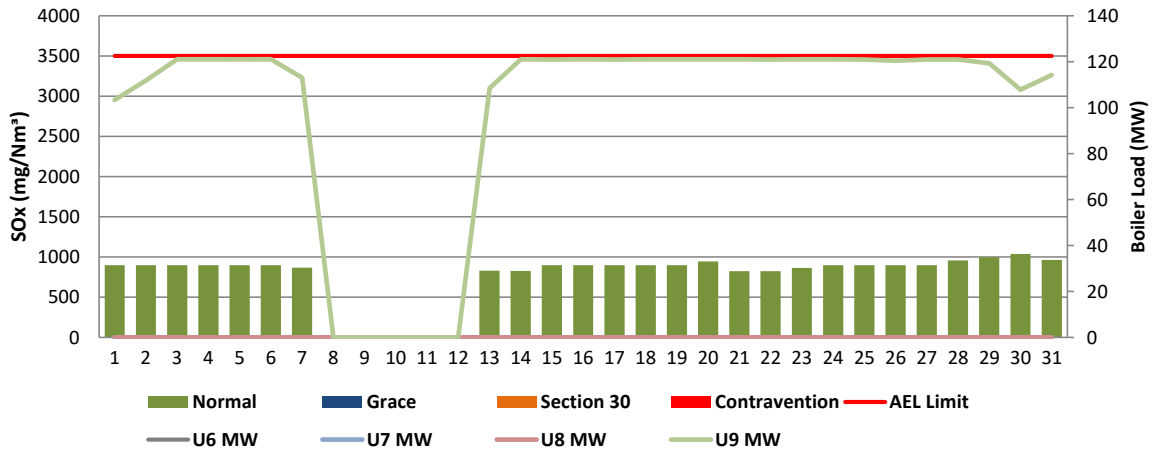


Figure 5: Komati East Stack NOx Emissions - September 2022

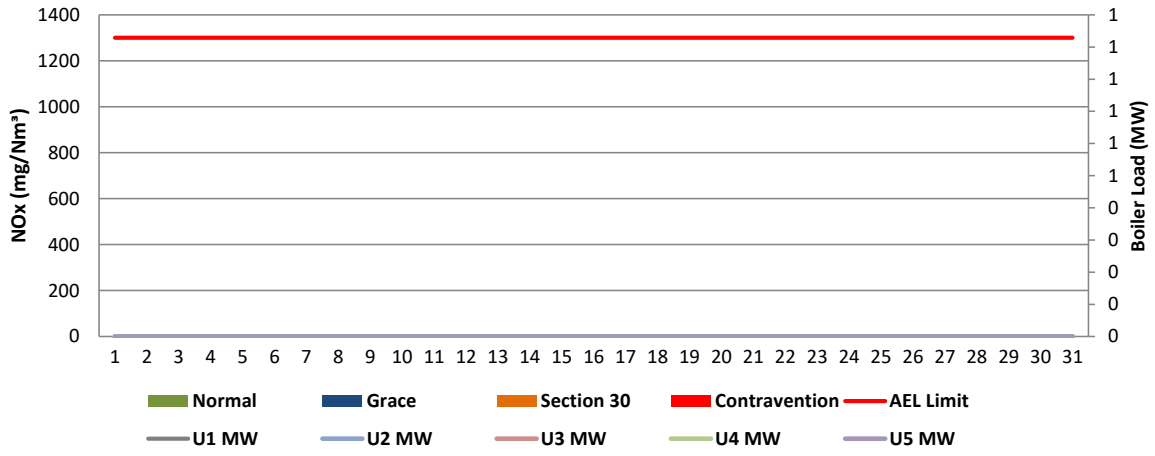
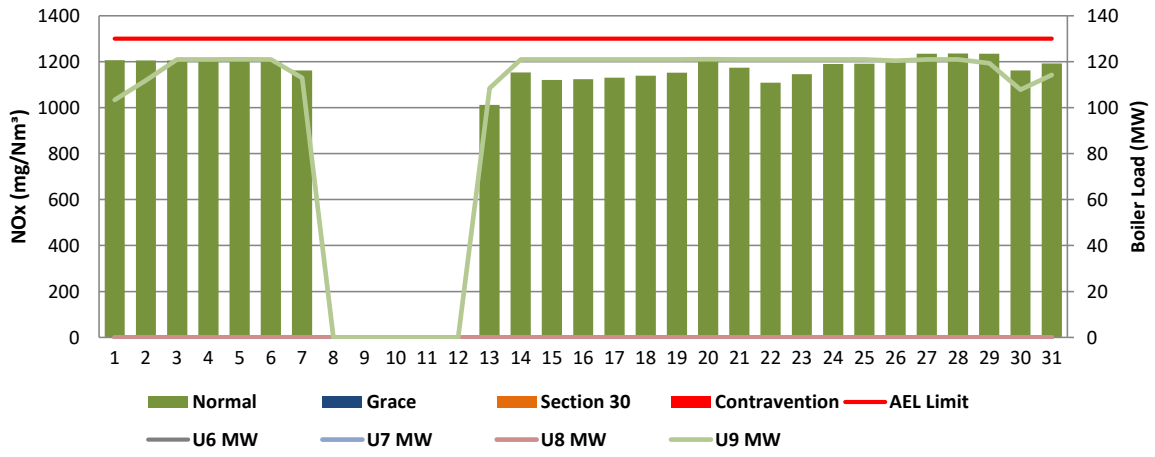


Figure 6: Komati West Stack NOx Emissions - September 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of September-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>9:15 PM</i>	<i>2022/09/07</i>	<i>2:10 PM</i>	<i>2022/10/01</i>	<i>6:15 AM</i>	<i>2022/10/02</i>	<i>3:05 PM</i>	<i>2022/10/03</i>
Draught Group (DG) Shut Down (SD)	<i>6:00 AM</i>	<i>2022/09/08</i>	<i>3:30 PM</i>	<i>2022/10/01</i>	<i>4:50 AM</i>	<i>2022/10/03</i>	<i>4:50 AM</i>	<i>2022/10/04</i>
BO to DG SD (duration)	<i>00:08:45</i>	DD:HH:MM	<i>00:01:20</i>	DD:HH:MM	<i>00:22:35</i>	DD:HH:MM	<i>00:13:45</i>	DD:HH:MM
Fires in time	<i>11:25 AM</i>	<i>2022/09/12</i>						
Synch. to Grid (or BC)	<i>4:40 AM</i>	<i>2022/09/13</i>						
Fires in to BC (duration)	<i>00:17:15</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>2022/09/15</i>						
Emissions below limit from BC (duration)	<i>01:19:20</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 September-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


Boiler Plant Engineering 2022/11/16
Date


Environmental Manager 2022/11/16
Date


General Manager 2022.11.17
Date

Compiled by: Boiler Engineering Department

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

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Thevan Pillay General Manager Acting
Goitseman Ngomo Boiler Engineering Manager
Mokgadi Mvambo Environmental Manager
Falakhe Mdluli Performance and Test Manager