

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 Jan-2022
	Coal	Tons	460 000	21 762
	Fuel Oil	Tons	5 000	101
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Jan-2022
	Energy	GWh	707	37
	Ash	Tons	160 000	20
	RE PM	kg/MWh	0.29	0.54

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.737
Sulphur Content	%	<= 1.2	0.609
Ash Content	%	<= 33	21.025

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 Jan-2022	Technology Type	Utilisation Jan-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)	99.5%	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	74.5	98.3	93.5	95.3	100.0

6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of January-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	19.8	276.0	344.8	51 928
SUM	19.8	276.0	344.8	51 928

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
East	0	0	0	0	0	
West	15	1	0	0	1	79.8
SUM	15	1	0	0	1	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
East	0	0	0	0	0	
West	20	0	0	0	0	956.6
SUM	20	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
East	0	0	0	0	0	
West	20	0	0	0	0	1 177.4
SUM	20	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 - January 2022

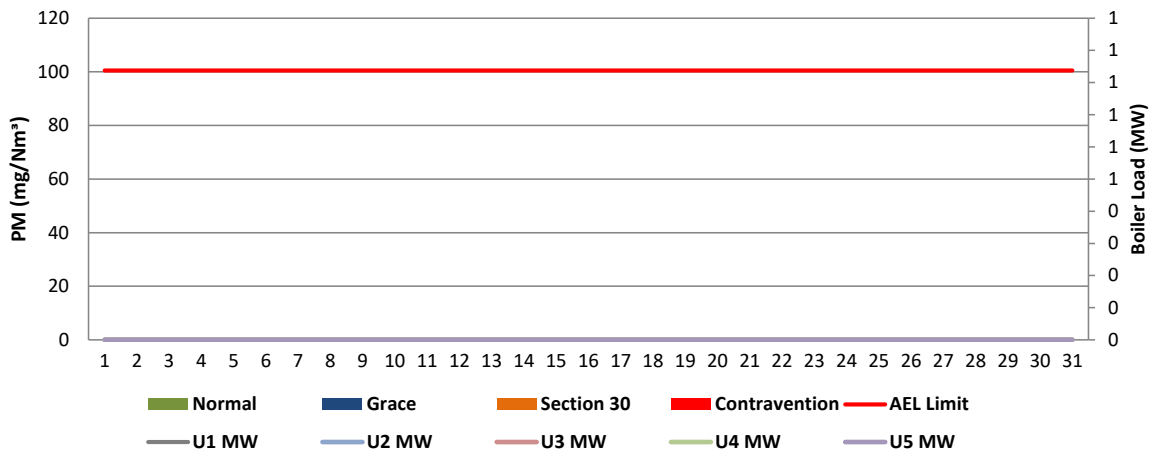


Figure 2: Komati West Stack PM Emissions - January 2022

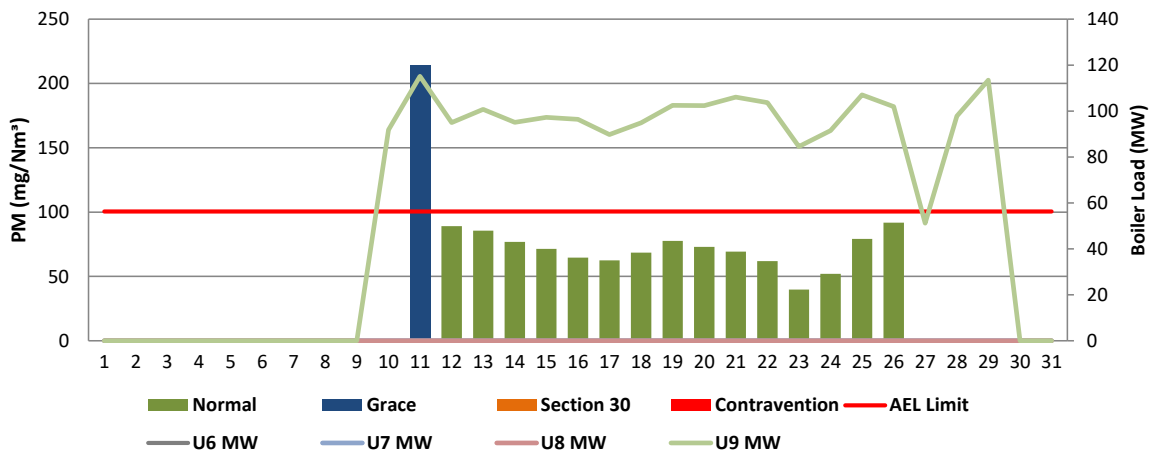


Figure 3: Komati East Stack SOx Emissions - January 2022

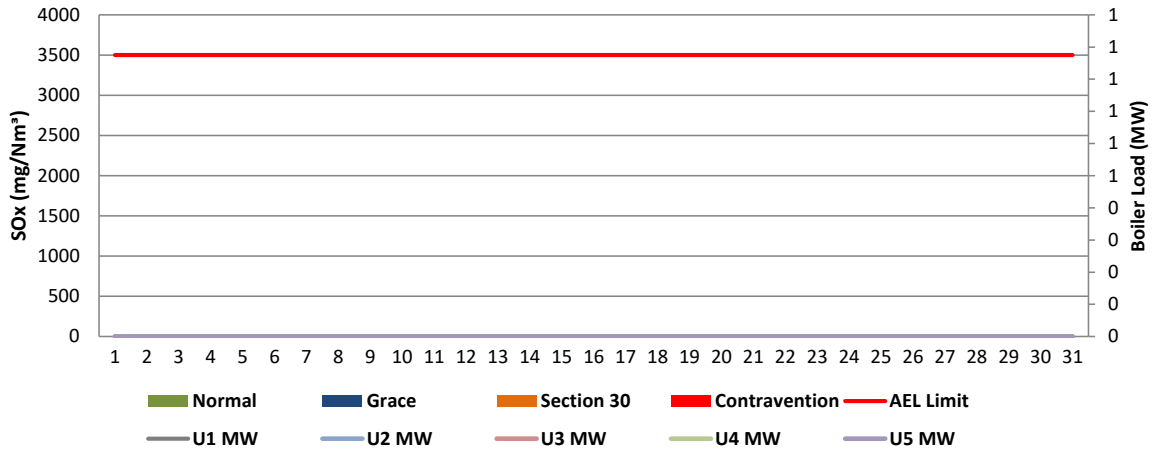


Figure 4: Komati West Stack SOx Emissions - January 2022

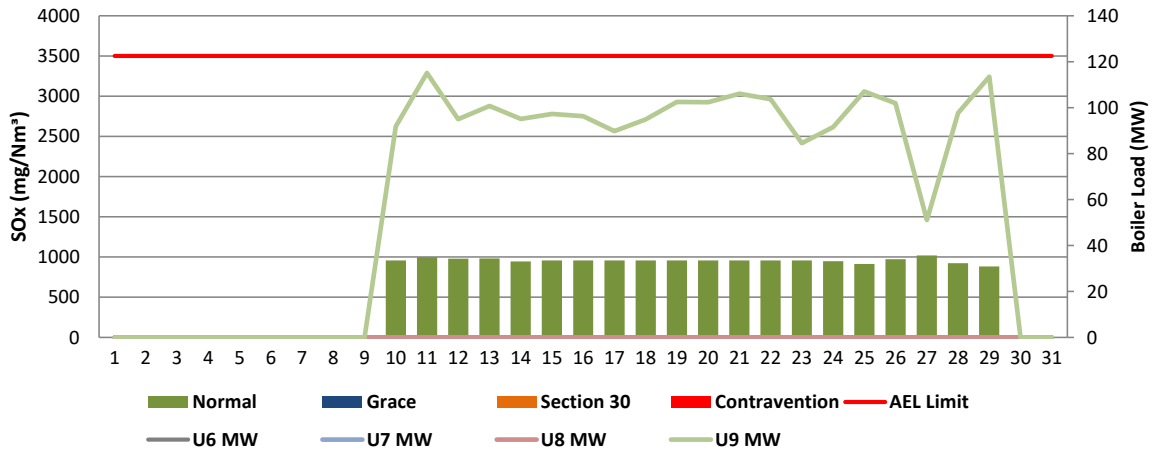


Figure 5: Komati East Stack NOx Emissions - January 2022

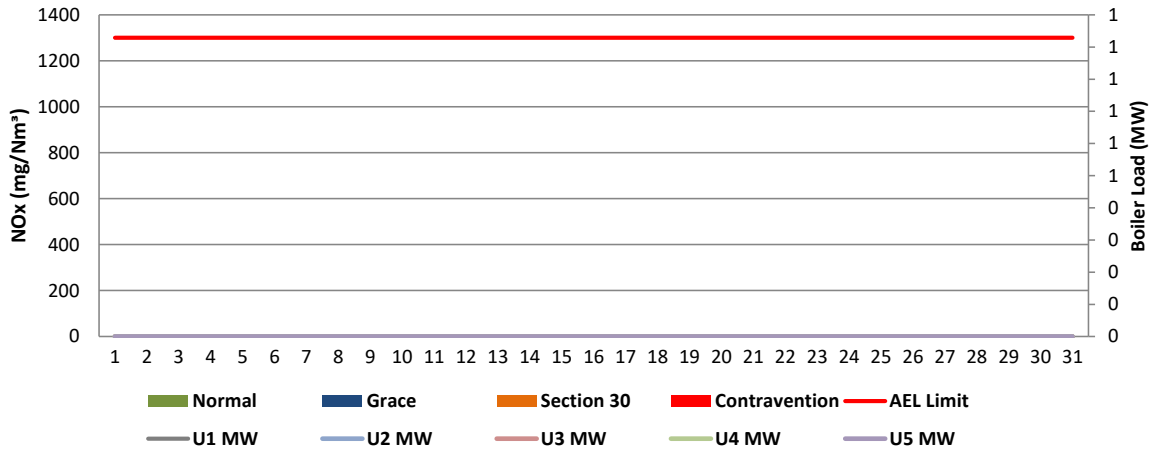
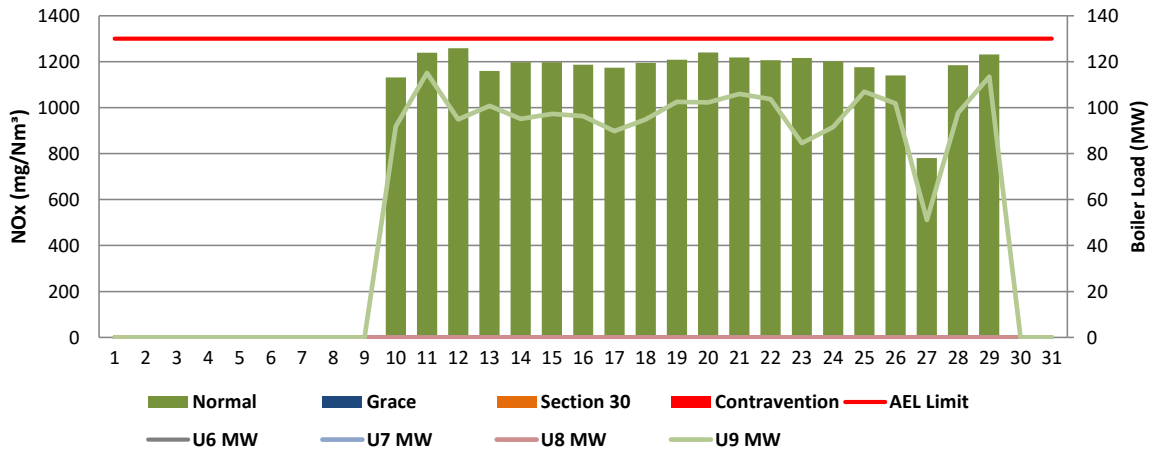


Figure 6: Komati West Stack NOx Emissions - January 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of January-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>11:45 AM</i>	<i>2022/01/26</i>						
Draught Group (DG) Shut Down (SD)	<i>6:20 AM</i>	<i>2022/01/29</i>						
BO to DG SD (duration)	<i>02:18:35</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>9:25 PM</i>	<i>2022/01/09</i>						
Synch. to Grid (or BC)	<i>6:55 AM</i>	<i>2022/01/10</i>						
Fires in to BC (duration)	<i>00:09:30</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>3:00 AM</i>	<i>2022/01/12</i>						
Emissions below limit from BC (duration)	<i>01:20:05</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 January-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

19/11/2021 - SO3 plant not in service
04/12/2021 - More gross AH issues where discovered

 2022/05/26
Boiler Plant Engineering Date

 26/05/2022
Environmental Manager Date

 27/05/2022
General Manager Date

Compiled by: Boiler Engineering Department

Adhir Debising ESP & SO3 Engineer

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

Copies: Eskom Environmental Management

D Herbst
B. Mccourt

Group Technology Engineering

R Rampiar
E. Patel

Komati Power Station:

Bongani Mashimbye Engineering Manager
Marcus Nemedodzi General Manager
Goitsemang Nkomo Boiler Engineering Manager
Mokgadi Mvambo Environmental Manager
Falakhe Mdluli Performance and Test Manager
Jurie Pieterse Production Manager