

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 Nov-2020
	Coal	Tons	460 000	26 875
	Fuel Oil	Tons	5 000	227
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Nov-2020
	Energy	GWh	684	46
	Ash	Tons	160 000	12
	RE PM	kg/MWh	0.46	0.27

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.766
Sulphur Content	%	<= 1.2	0.868
Ash Content	%	<= 33	21.898

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 Nov-2020
Unit 1	Electro Static Precipitators (ESP)	Unit Off-line
Unit 2	Electro Static Precipitators (ESP)	Unit Off-line
Unit 3	Electro Static Precipitators (ESP)	Unit Off-line
Unit 4	Electro Static Precipitators (ESP)	Unit Off-line
Unit 5	Electro Static Precipitators (ESP)	Unit Off-line
Unit 6	Electro Static Precipitators (ESP)	Unit Off-line
Unit 7	Electro Static Precipitators (ESP)	Unit Off-line
Unit 8	Electro Static Precipitators (ESP)	Unit Off-line
Unit 9	Electro Static Precipitators (ESP)	99.8%

*Note: Abatement 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	98.2	97.2	99.5	98.5	99.5	100.0

6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of November-2020

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	12.1	438.9	344.6	59 685
SUM	12.1	438.9	344.6	59 685

Table 6.2: Operating days in compliance to PM AEL Limit - November 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average PM (mg/Nm ³)
East	0	0	0	0	0	
West	24	0	0	0	0	38.5
SUM	24	0	0	0	0	

Table 6.3: Operating days in compliance to SOx AEL Limit - November 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average SOx (mg/Nm ³)
East	0	0	0	0	0	
West	24	0	0	0	0	1 372.6
SUM	24	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - November 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average NOx (mg/Nm ³)
East	0	0	0	0	0	
West	24	0	0	0	0	1 077.1
SUM	24	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 - November 2020

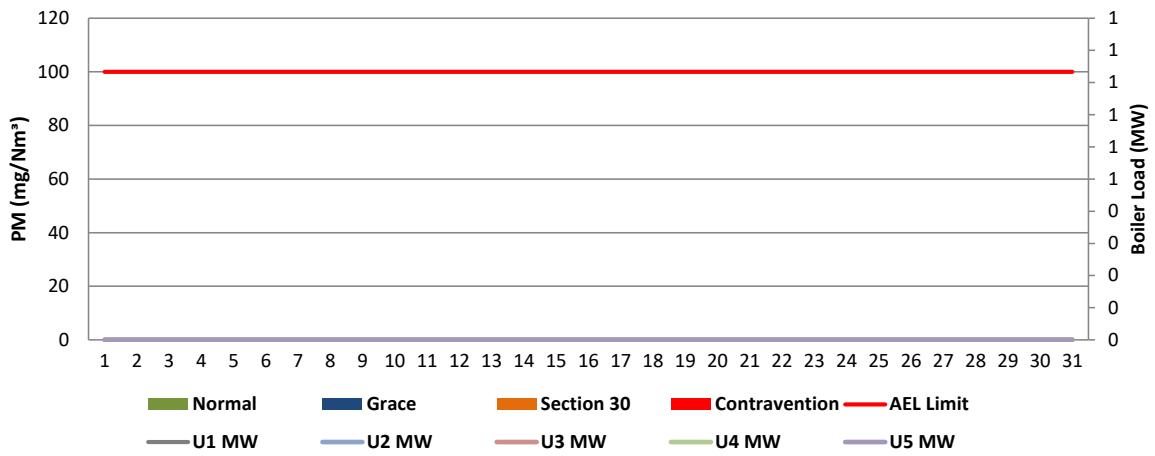


Figure 2: Komati West Stack PM Emissions - November 2020

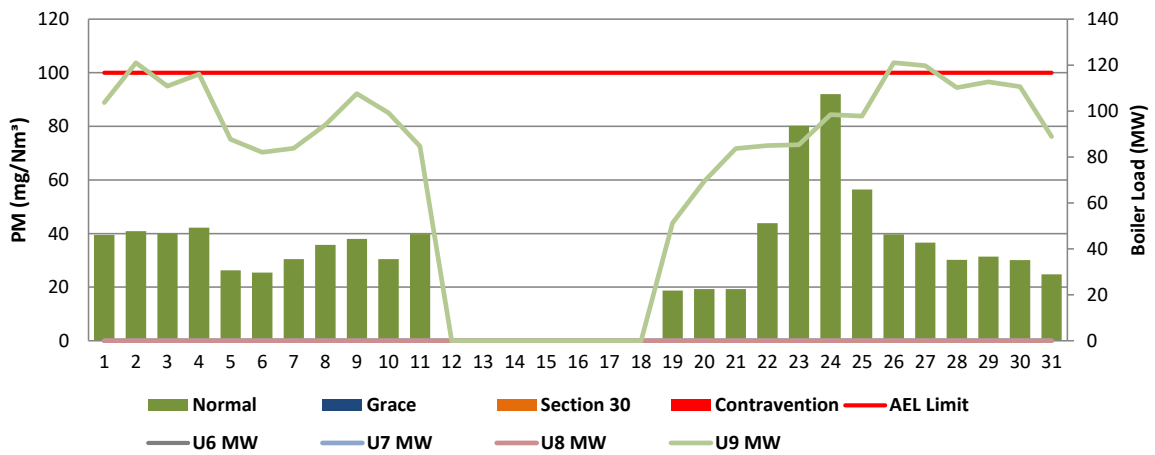


Figure 3: Komati East Stack SOx Emissions - November 2020

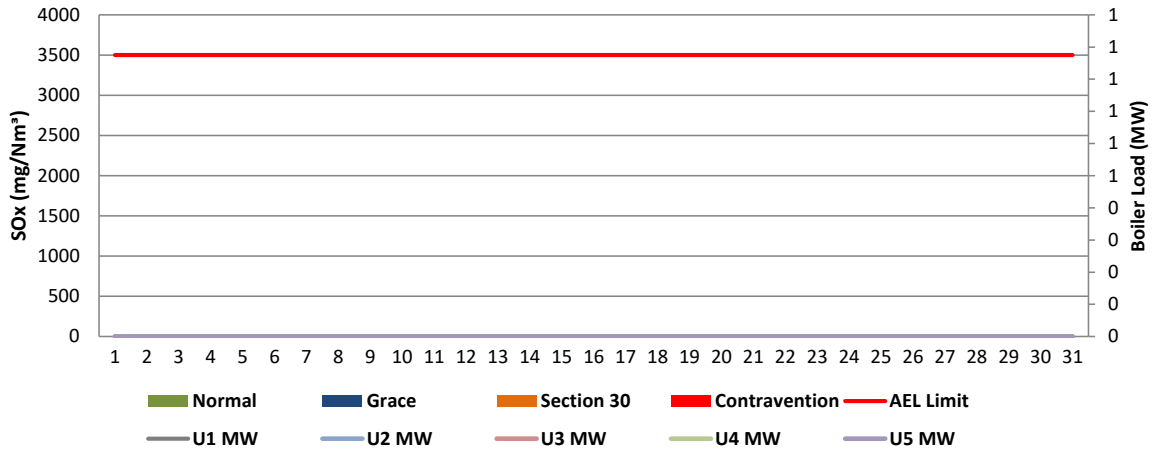


Figure 4: Komati West Stack SOx Emissions - November 2020

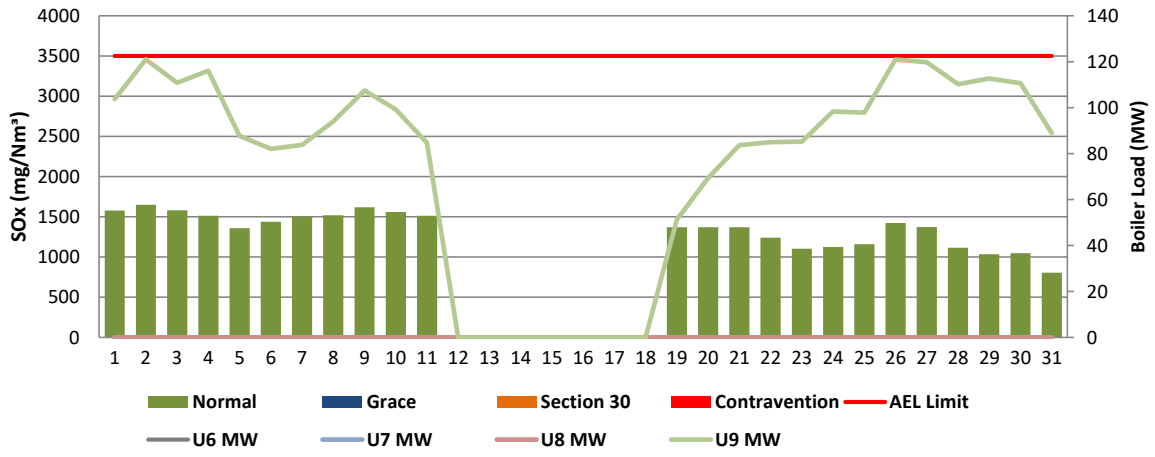


Figure 5: Komati East Stack NOx Emissions - November 2020

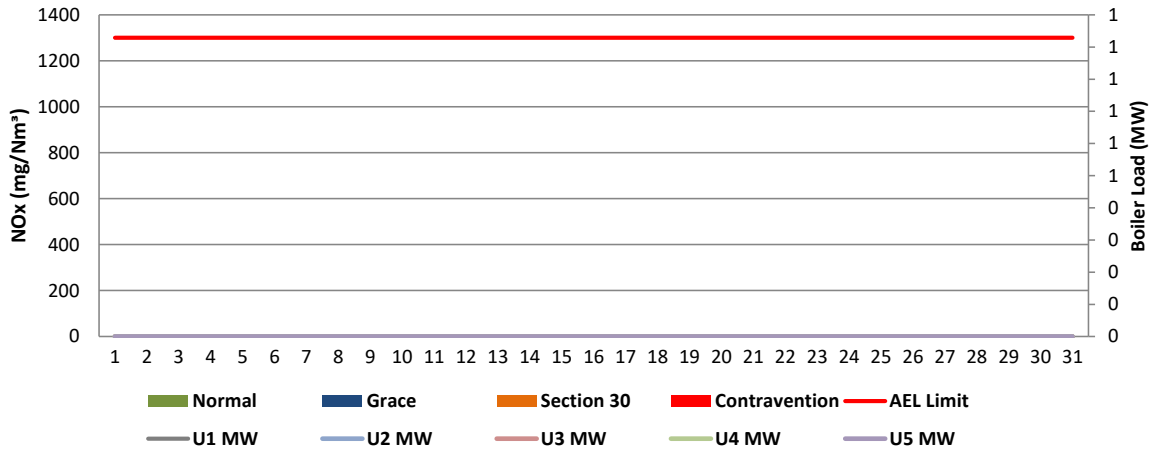
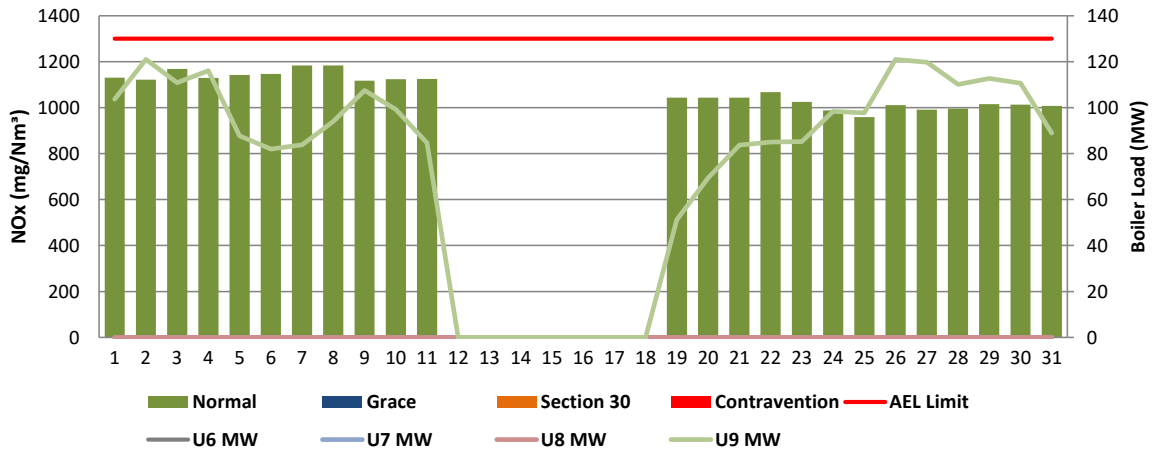


Figure 6: Komati West Stack NOx Emissions - November 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of November-2020

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>5:30 PM</i>	<i>2020/11/11</i>	<i>1:35 AM</i>	<i>2020/11/18</i>				
Draught Group (DG) Shut Down (SD)	<i>8:35 AM</i>	<i>2020/11/12</i>	<i>8:00 PM</i>	<i>2020/11/19</i>				
BO to DG SD (duration)	<i>00:15:05</i>	DD:HH:MM	<i>01:18:25</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>3:35 AM</i>	<i>2020/11/20</i>						
Synch. to Grid (or BC)	<i>12:05 PM</i>	<i>2020/11/21</i>						
Fires in to BC (duration)	<i>01:08:30</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>2020/11/22</i>						
Emissions below limit from BC (duration)	<i>00:11:55</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 November-2020 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

2020/11/18 - Unit 9 - Light-up failure

 2021/04/29
Boiler Plant Engineering Date

 2021/04/21
Environmental Manager Date

 2021.04.29
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 & Maintenance Manager
Jurie Pieterse Operating & Production Manager
Marcus Nematodzi General Manager
Goitseman Nkomo Boiler Engineering Manager
Mokgadi Mvambo Environmental Manager
Falakhe Mdluli Compliance Manager