

**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 Feb-2020
	Coal	Tons	460 000	63 018
	Fuel Oil	Tons	5 000	360
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Feb-2020
	Energy	GWh	661	107
	Ash	Tons	160 000	24
	RE PM	kg/MWh	0.46	0.22

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.280
Sulphur Content	%	<= 1.2	0.640
Ash Content	%	<= 33	22.000

## 3 EMISSION LIMITS (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>
East	100	3500	1300
West	100	3500	1300

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-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)	99.8%
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 <sub>2</sub>	NO	CO <sub>2</sub>	O <sub>2</sub>	Temp
East	99.7	98.0	98.6	98.3	98.6	100.0
West	93.7	91.4	93.1	88.6	88.6	94.7

## 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)	CO <sub>2</sub> (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	12.6	861.7	487.4	97 399
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	11.2	623.7	409.2	71 464
<b>SUM</b>	<b>23.8</b>	<b>1 485.4</b>	<b>896.6</b>	<b>168 864</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
East	31	0	0	0	0	28.5
West	28	0	0	0	0	29.8
<b>SUM</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
East	30	1	0	0	1	1 929.9
West	28	0	0	0	0	1 631.5
<b>SUM</b>	<b>58</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	

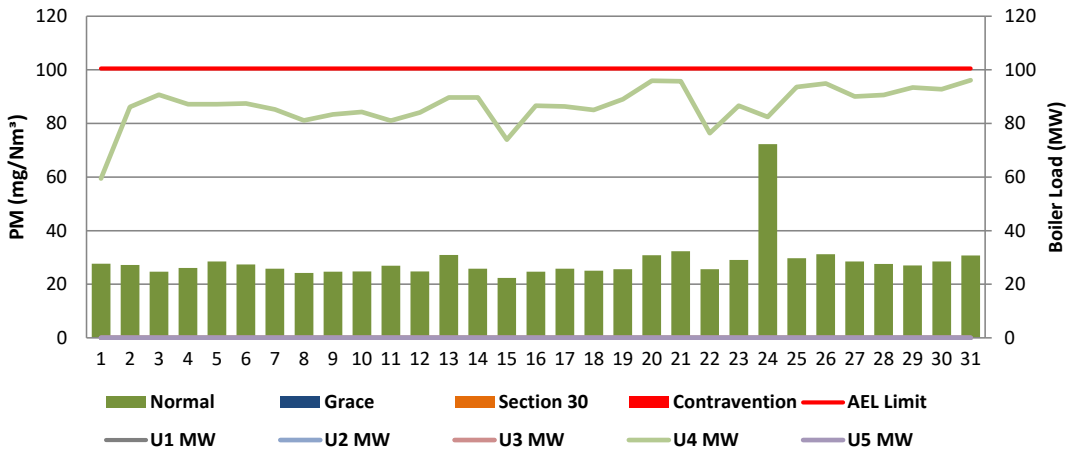
Table 6.4: Operating days in compliance to NOx AEL Limit - February 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
East	31	0	0	0	0	1 069.9
West	28	0	0	0	0	1 065.8
<b>SUM</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

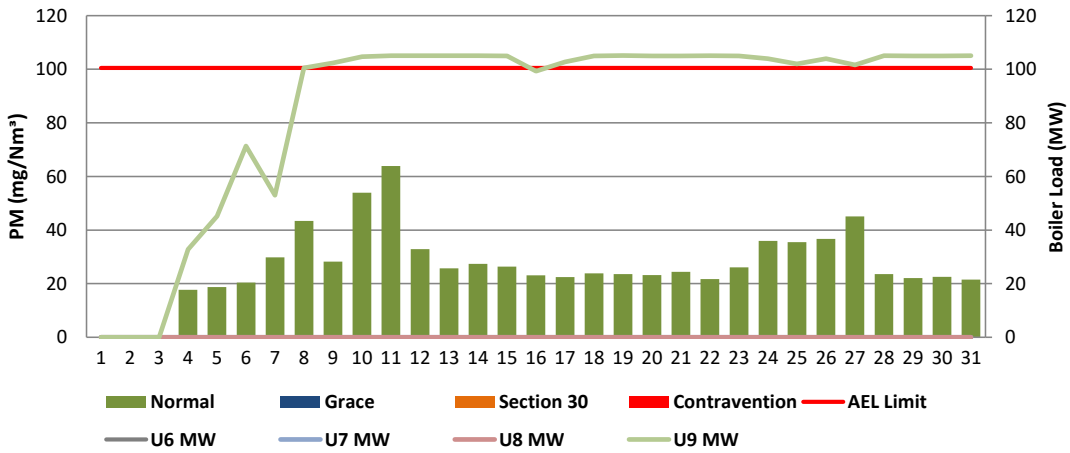
Table 6.5: Legend Description

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

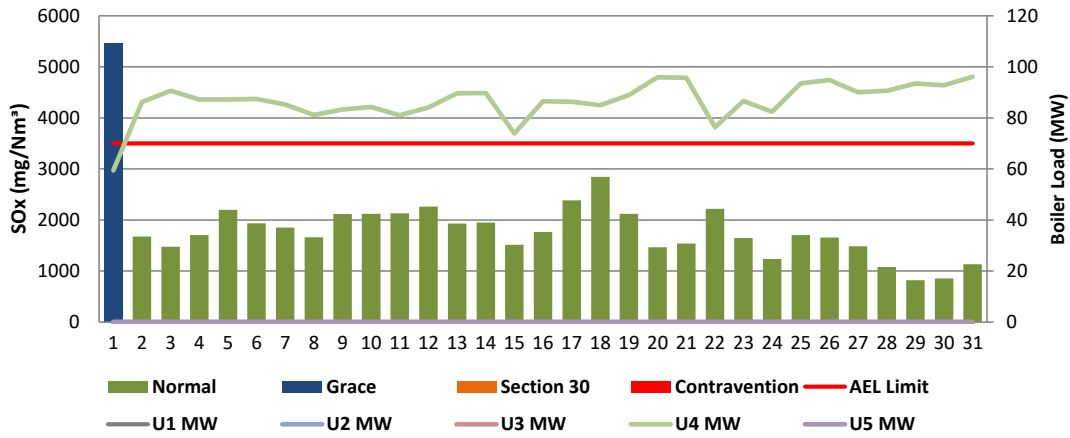
**Figure 1: Komati East Stack PM Emissions - February 2020**



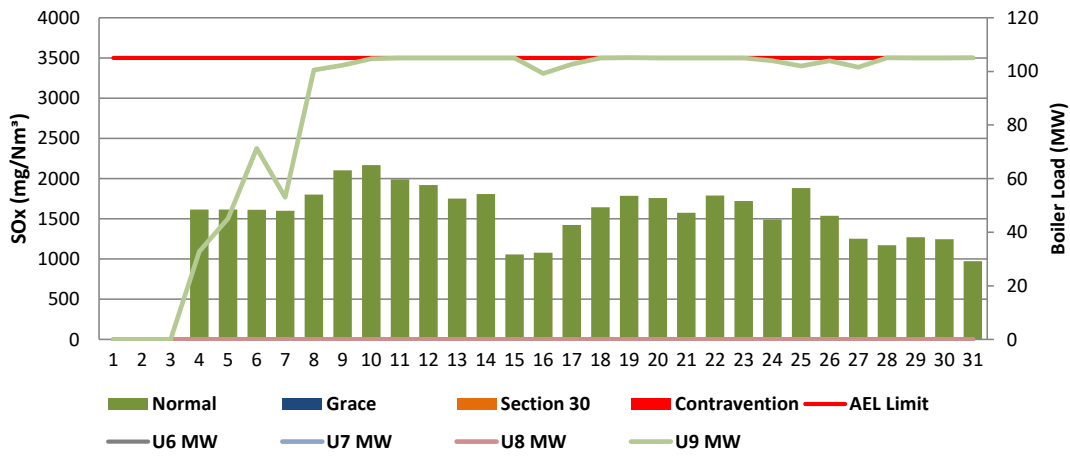
**Figure 2: Komati West Stack PM Emissions - February 2020**



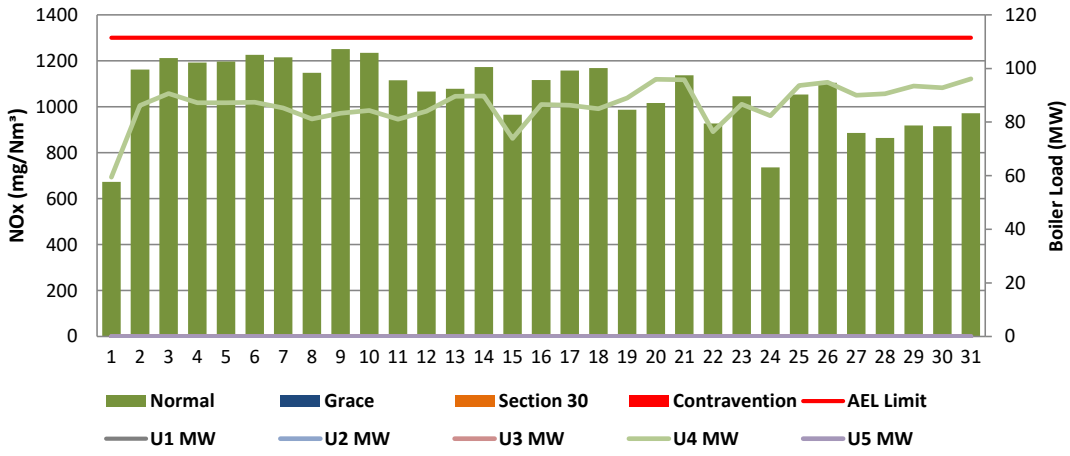
**Figure 3: Komati East Stack SOx Emissions - February 2020**



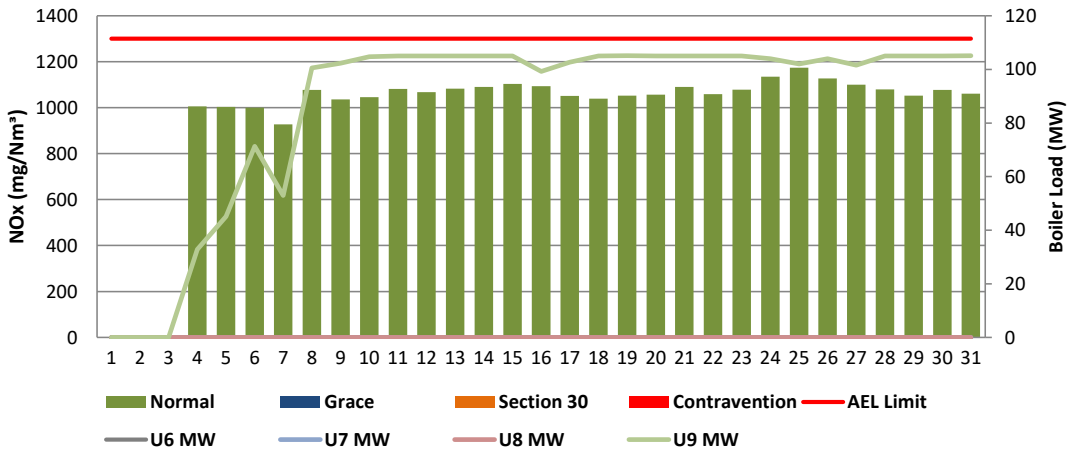
**Figure 4: Komati West Stack SOx Emissions - February 2020**



**Figure 5: Komati East Stack NOx Emissions - February 2020**



**Figure 6: Komati West Stack NOx Emissions - February 2020**



## 7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of February-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)	<i>BO previously</i>	<i>BO previously</i>						
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>						
BO to DG SD (duration)	<i>n/a</i>	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>4:40 PM</i>	<i>2020/02/03</i>	<i>2:55 AM</i>	<i>2020/02/05</i>	<i>5:40 PM</i>	<i>2020/02/05</i>	<i>5:00 AM</i>	<i>2020/02/06</i>
Draught Group (DG) Shut Down (SD)	<i>2:20 AM</i>	<i>2020/02/05</i>	<i>1:15 PM</i>	<i>2020/02/05</i>	<i>4:30 AM</i>	<i>2020/02/06</i>	<i>8:00 AM</i>	<i>2020/02/06</i>
BO to DG SD (duration)	<i>01:09:40</i>	DD:HH:MM	<i>00:10:20</i>	DD:HH:MM	<i>00:10:50</i>	DD:HH:MM	<i>00:03:00</i>	DD:HH:MM
Fires in time	<i>8:05 AM</i>	<i>2020/02/06</i>						
Synch. to Grid (or BC)	<i>7:15 PM</i>	<i>2020/02/06</i>						
Fires in to BC (duration)	<i>00:11:10</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>2020/02/07</i>						
Emissions below limit from BC (duration)	<i>00:04:45</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 February-2020 in mg/Nm<sup>3</sup>

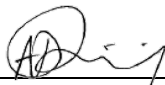
[Include reference to once off test showing typical emissions rates during fires in and SD]



Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

**11 General**



2020/08/21  



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 Boiler Plant Engineering      Date


2020/08/21  


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 Environmental Practitioner      Date


2020/08/21  


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 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
Sello Mamejja	General Manager (Acting)
Goitsewang Nkomo	Boiler Engineering Manager
Mokgadi Mvambo	Environmental Manager(Acting)
Falakhe Mdluli	Performance and TestManager
Jurie Pieterse	Production Manager
Ntsoaki Fakudze	Maintenance