

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-2020
	Coal	Tons	460 000	
	Fuel Oil	Tons	5 000	
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Jan-2020
	Energy	GWh	707	41
	Ash	Tons	160 000	11
	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	
Sulphur Content	%	<= 1.2	
Ash Content	%	<= 33	

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-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)	99,9%

*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	97,4	90,1	95,9		95,9	97,4
West	79,9	27,7	79,9		79,9	79,9

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)	CO ₂ (tons)
1	0,0	0,0	0,0	
2	0,0	0,0	0,0	
3	0,0	0,0	0,0	
4	9,6	360,5	288,8	
5	0,0	0,0	0,0	
6	0,0	0,0	0,0	
7	0,0	0,0	0,0	
8	0,0	0,0	0,0	
9	1,5	33,4	59,4	
SUM	11,1	393,9	348,2	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average PM (mg/Nm³)
East	20	0	0	0	0	34,6
West	4	0	0	0	0	28,1
SUM	24	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average SOx (mg/Nm³)
East	20	0	0	0	0	1 335,7
West	3	0	0	0	0	989,4
SUM	23	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average NOx (mg/Nm³)
East	20	0	0	0	0	1 047,1
West	4	0	0	0	0	1 109,0
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

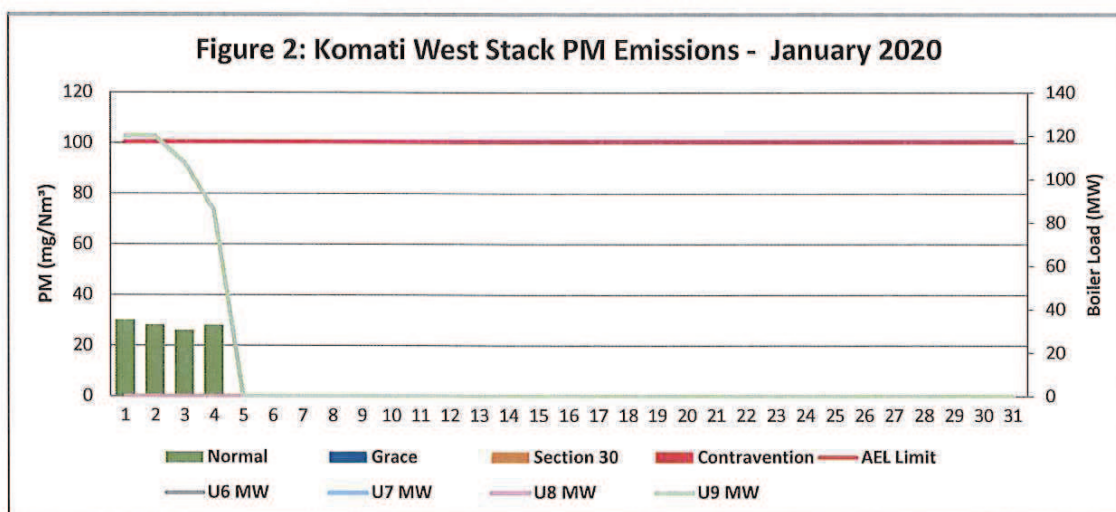
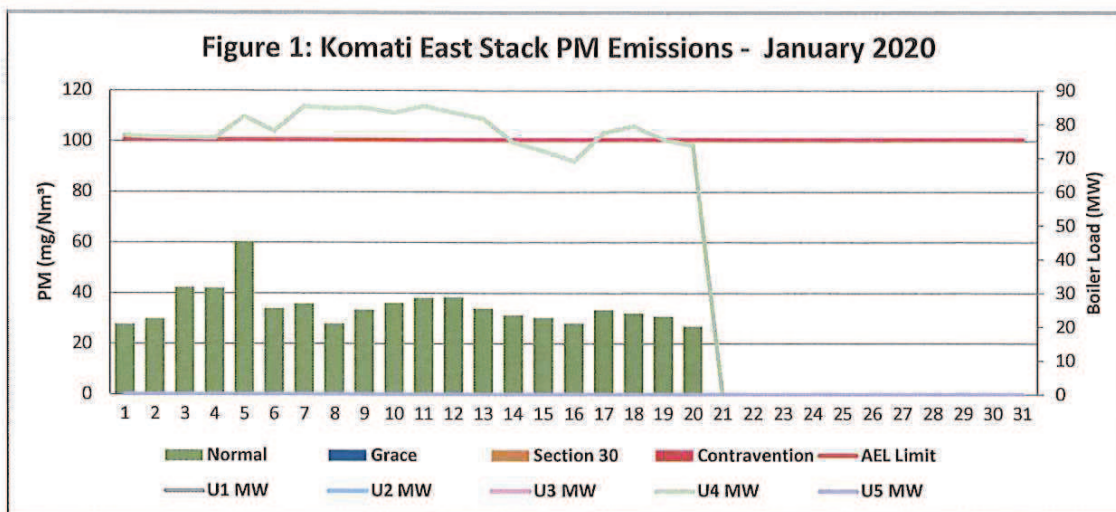


Figure 3: Komati East Stack SOx Emissions - January 2020

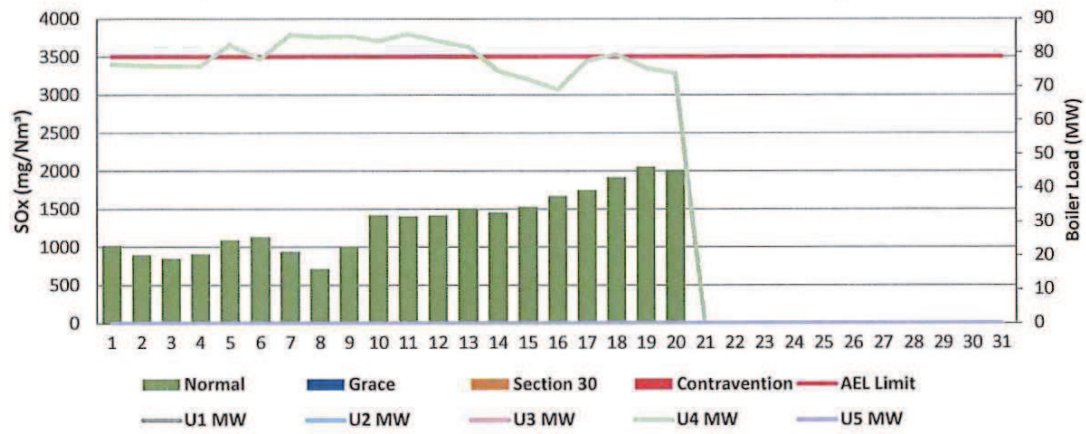


Figure 4: Komati West Stack SOx Emissions - January 2020

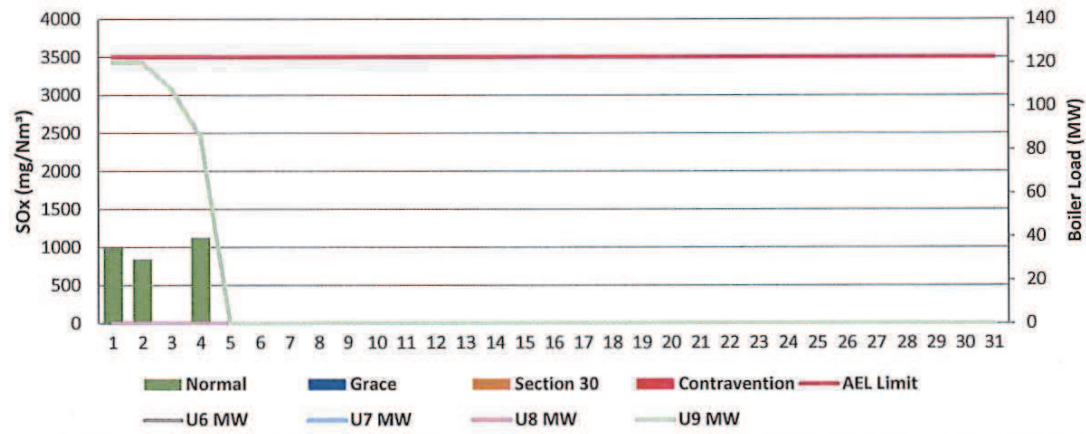


Figure 5: Komati East Stack NOx Emissions - January 2020

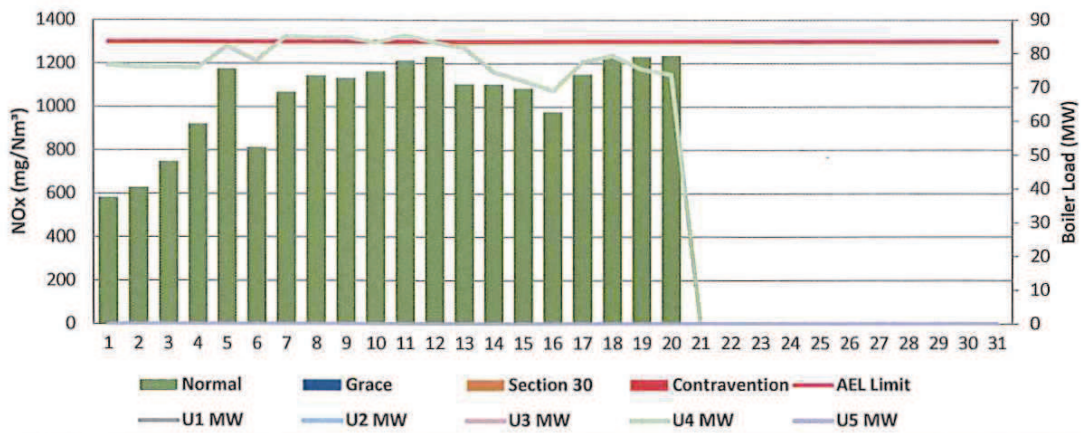
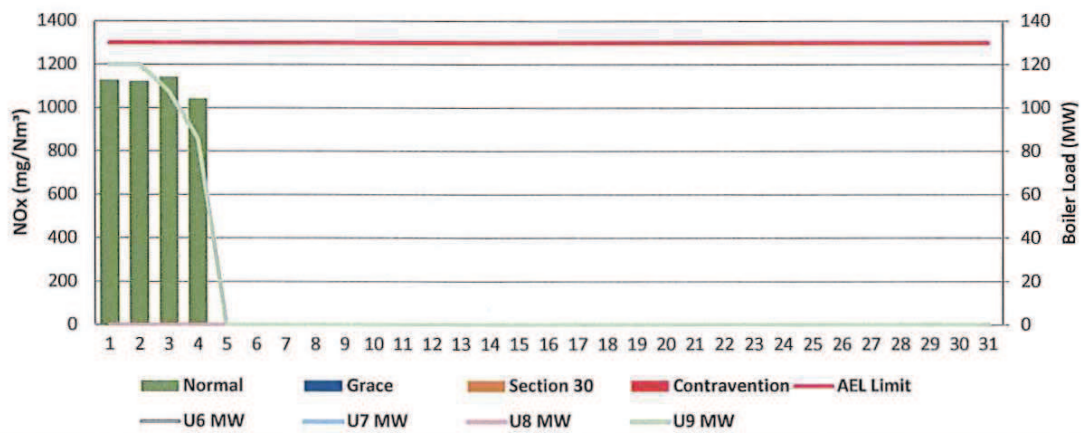


Figure 6: Komati West Stack NOx Emissions - January 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

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

East Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>
Unit No.	<i>Unit 4</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>
Breaker Open (BO)	<i>2:45 AM</i>	<i>2020/01/20</i>					
Draught Group (DG) Shut Down (SD)	<i>8:30 PM</i>	<i>2020/01/20</i>					
BO to DG SD (duration)	<i>00:17:45</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM	
Fires in time	<i>8:05 PM</i>	<i>2020/01/30</i>					
Synch. to Grid (or BC)	<i>1:05 AM</i>	<i>2020/02/01</i>					
Fires in to BC (duration)	<i>01:05:00</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM	
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>					
Emissions below limit from BC (duration)	<i>n/a</i>	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	
Fires in time							
Synch. to Grid (or BC)							
Fires in to BC (duration)		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	

West Stack	Event 1		Event 2		Event 3		Event 4
Unit No.	no event		no event		no event		no event
Breaker Open (BO)	2:55 AM	2020/01/04					
Draught Group (DG) Shut Down (SD)	11:45 AM	2020/01/04					
BO to DG SD (duration)	00:08:50	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	
Emissions below limit from BC (end date)							
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM	

West Stack ...continued	Event 5		Event 6		Event 7		Event 8
Unit No.	no event		no event		no event		no event
Breaker Open (BO)							
Draught Group (DG) Shut Down (SD)							
BO to DG SD (duration)		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	
Emissions below limit from BC (end date)							
Emissions below limit from BC (duration)		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-2020 in mg/Nm³

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

11 General

Boiler Plant Engineering Date / /

Environmental Practitioner Date / /

 Date / /

Compiled by: Environmental Department

Environmental Practitioner

Verified by: Boiler Engineering Department

ESP & SO3 Engineer

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

Copies: Eskom Environmental Management

Group Technology Engineering

Komati Power Station:

General Manager (Acting)
Engineering Manager
Boiler Engineering Manager
Performance and Test Manager
Production Manager

