

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 May-2020
	Coal	Tons	460 000	37 190
	Fuel Oil	Tons	5 000	276

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate May-2020
	Energy	GWh	707	63
	Ash	Tons	160 000	19
	RE PM	kg/MWh	0.46	0.31

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.940
Sulphur Content	%	<= 1.2	0.510
Ash Content	%	<= 33	21.400

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 May-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)	100.0%
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)	99.7%

*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	62.5	62.5	62.5	56.3	58.3	62.5
West	96.6	78.5	95.3	95.1	95.3	96.6

6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of May-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	19.5	580.2	515.9	84 125
SUM	19.5	580.2	515.9	84 125

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven-tion	Total Exceedance	Average PM (mg/Nm ³)
East	0	1	0	0	1	107.2
West	31	0	0	0	0	43.7
SUM	31	1	0	0	1	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven-tion	Total Exceedance	Average SOx (mg/Nm ³)
East	1	0	0	0	0	2 111.3
West	31	0	0	0	0	1 274.0
SUM	32	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contraven-tion	Total Exceedance	Average NOx (mg/Nm ³)
East	1	0	0	0	0	535.4
West	31	0	0	0	0	1 135.1
SUM	32	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 - May 2020

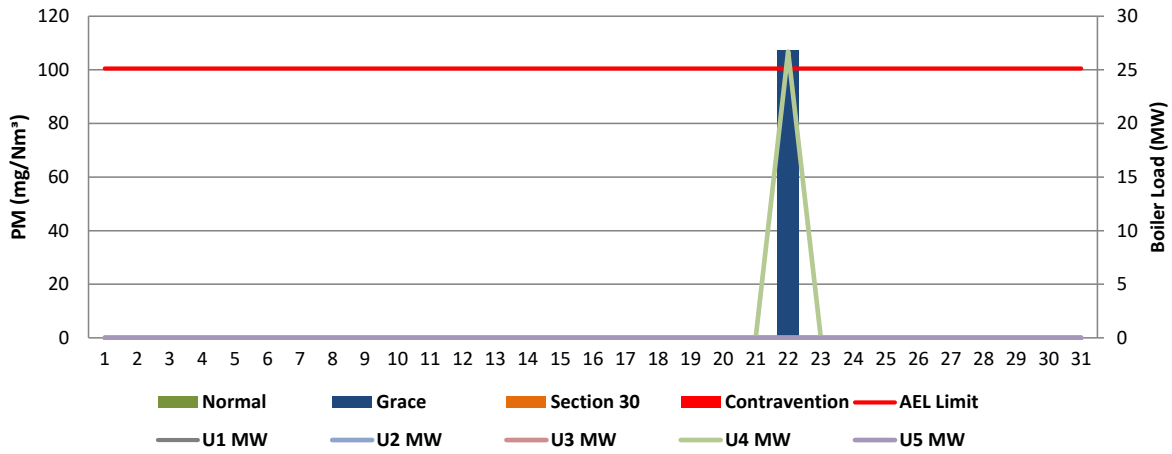


Figure 2: Komati West Stack PM Emissions - May 2020

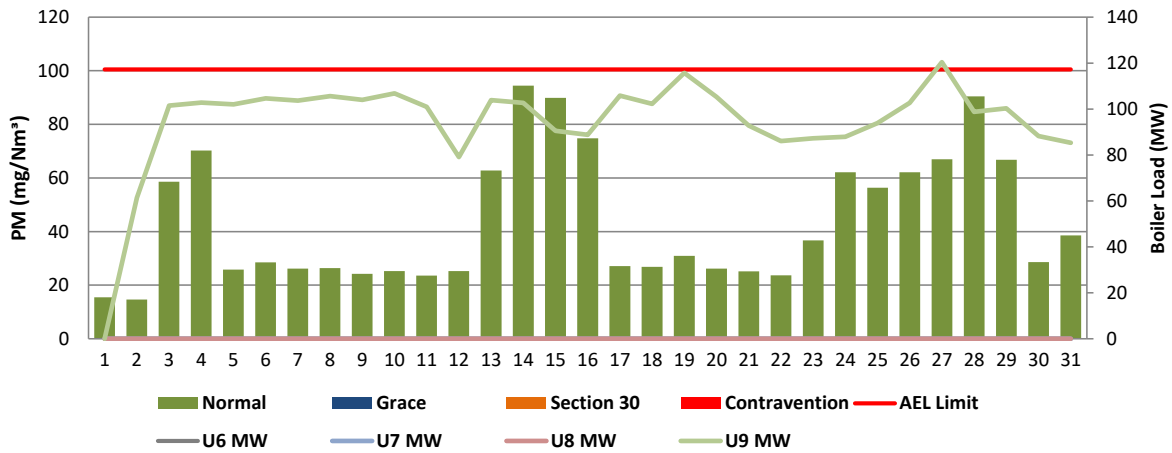


Figure 3: Komati East Stack SOx Emissions - May 2020

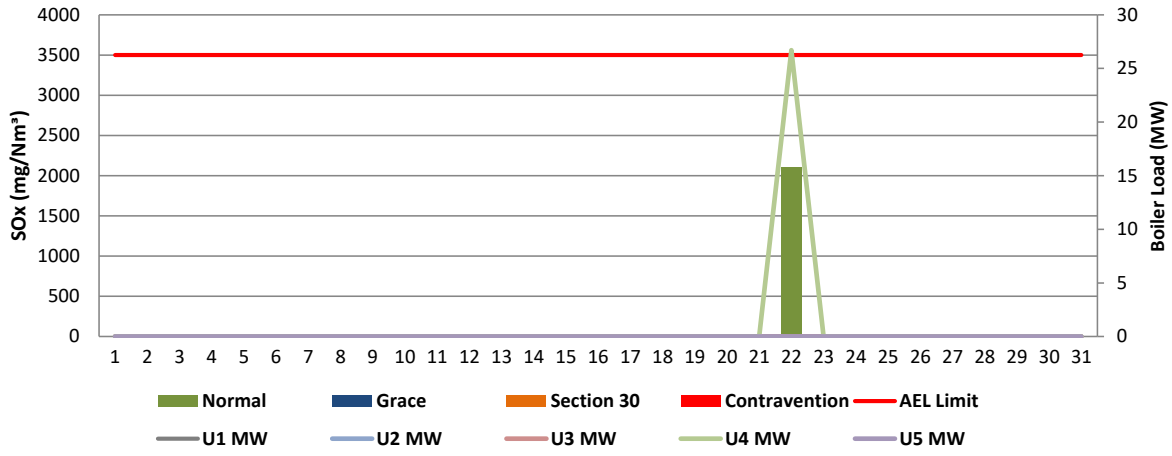


Figure 4: Komati West Stack SOx Emissions - May 2020

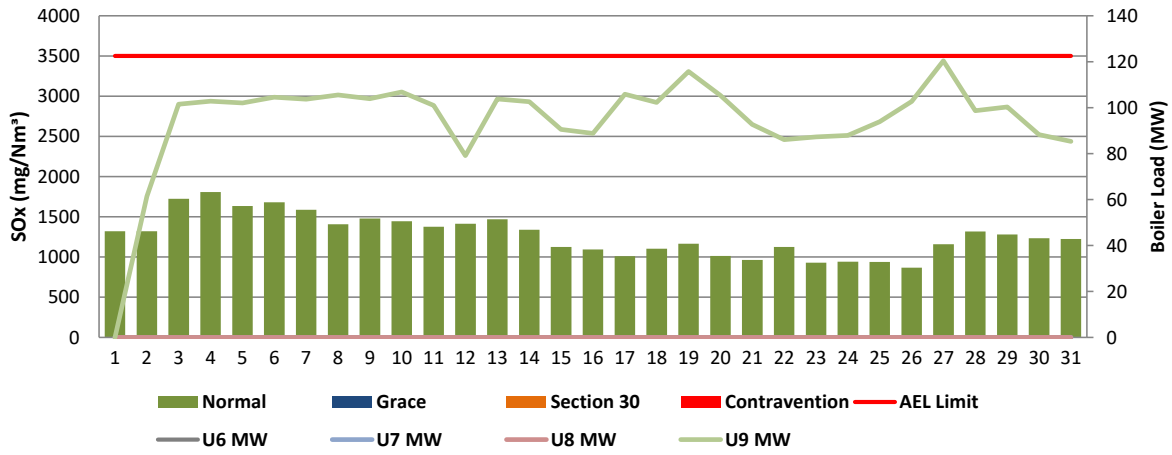


Figure 5: Komati East Stack NOx Emissions - May 2020

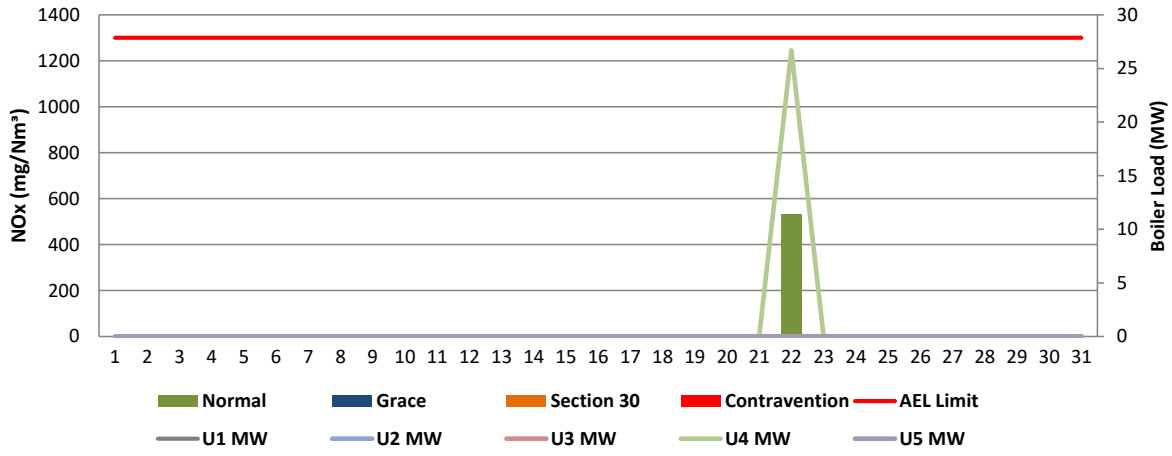
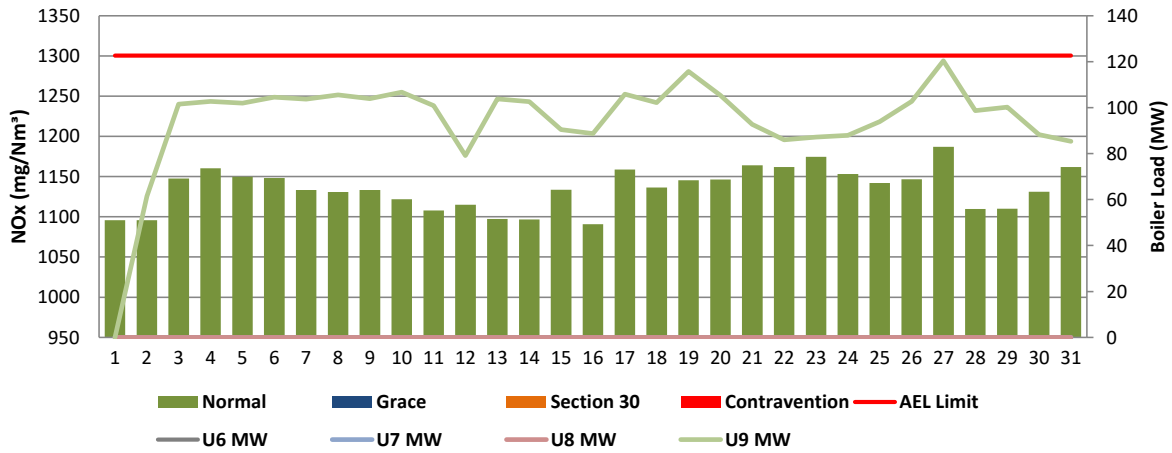


Figure 6: Komati West Stack NOx Emissions - May 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of May-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>3:25 PM</i>	<i>2020/05/14</i>				
Draught Group (DG) Shut Down (SD)			<i>9:35 PM</i>	<i>2020/05/14</i>				
BO to DG SD (duration)		DD:HH:MM	<i>00:06:10</i>	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>Unit</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>4:25 PM</i>	<i>2020/05/11</i>	<i>BO previously</i>	<i>BO previously</i>				
Draught Group (DG) Shut Down (SD)	<i>4:45 PM</i>	<i>2020/05/11</i>	<i>n/a</i>	<i>n/a</i>				
BO to DG SD (duration)	<i>00:00:20</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>2:00 AM</i>	<i>2020/05/02</i>	<i>4:50 PM</i>	<i>2020/05/11</i>				
Synch. to Grid (or BC)	<i>8:40 AM</i>	<i>2020/05/02</i>	<i>5:25 AM</i>	<i>2020/05/12</i>				
Fires in to BC (duration)	<i>00:06:40</i>	DD:HH:MM	<i>00:12:35</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>	<i>12:00 AM</i>	<i>2020/05/13</i>				
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	<i>00:18:35</i>	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 May-2020 in mg/Nm³

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

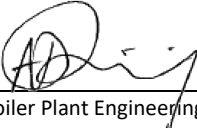
Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX


11 General

2020/05/13-16 - Common Plant - Sulphur steam electrode boiler No. 2 was faulty and maintenance was done on it to recover the SO3 skid on Unit 9.


2020/05/22 - Unit 4 - Natural draught (Unit Shutdown)


 Boiler Plant Engineering 2020/08/24

 Date


 Environmental Practitioner 2020/08/21

 Date


 General Manager 2020/08/24

 Date

Compiled by: Boiler Engineering Department

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 Falakhe Mdluli Performance and TestManager
 Jurie Pieterse Production Manager
 Ntsoaki Fakudze Maintenance Manager (Acting)