

**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 Oct-2021
	Coal	Tons	460 000	28 660
	Fuel Oil	Tons	5 000	124
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Oct-2021
	Energy	GWh	707	51
	Ash	Tons	160 000	7
	RE PM	kg/MWh	0.29	0.13

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.958
Sulphur Content	%	<= 1.2	0.627
Ash Content	%	<= 33	21.097

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

Associated Unit/Stack	PM	SOx	NOx
East	100	3500	1300
West	100	3500	1300

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Oct-2021	Technology Type	Utilisation Oct-2021
Unit 1	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 2	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 3	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 4	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 5	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 6	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 7	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 8	Electro Static Precipitators (ESP)	Unit Off-line	SO <sub>3</sub> Plant Utilisation	Unit Off-line
Unit 9	Electro Static Precipitators (ESP)	99.9%	SO <sub>3</sub> 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 <sub>2</sub>	NO	CO <sub>2</sub>	O <sub>2</sub>	Temp
East						
West	100.0	80.0	97.6	96.2	96.2	100.0

## 6 EMISSION PERFORMANCE

Table 4: Monthly tonnages for the month of October-2021

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	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	6.6	433.5	460.5	81 350
<b>SUM</b>	<b>6.6</b>	<b>433.5</b>	<b>460.5</b>	<b>81 350</b>

Table 6.2: Operating days in compliance to PM AEL Limit - October 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
East	0	0	0	0	0	
West	22	0	0	0	0	21.6
<b>SUM</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SO<sub>x</sub> AEL Limit - October 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
East	0	0	0	0	0	
West	24	0	0	0	0	1 146.0
<b>SUM</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

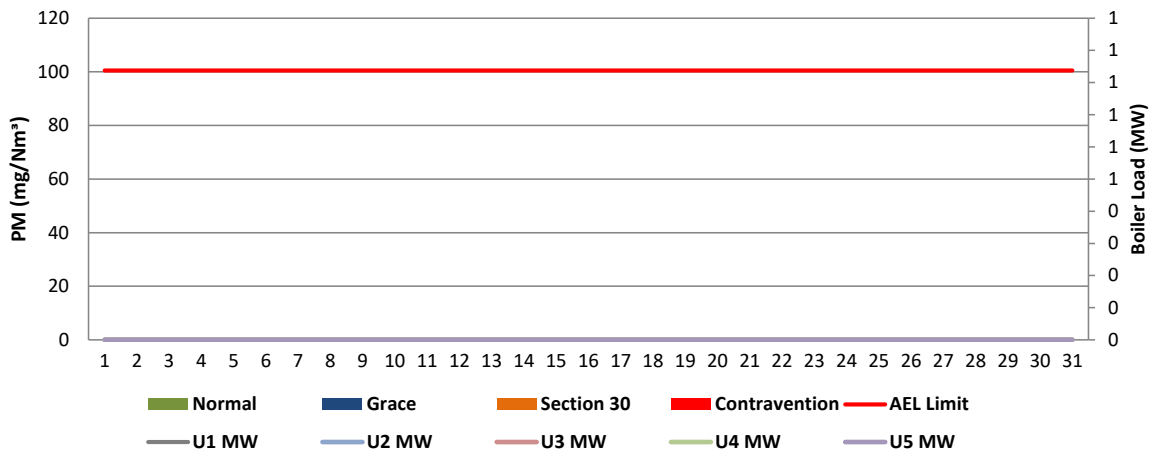
Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - October 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
East	0	0	0	0	0	
West	24	0	0	0	0	1 209.8
<b>SUM</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

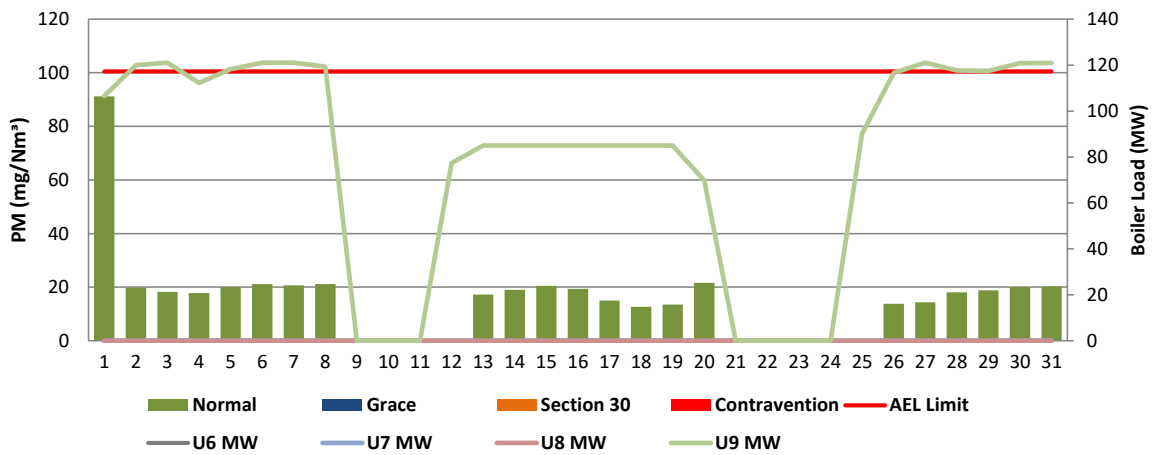
Table 6.5: Legend Description

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

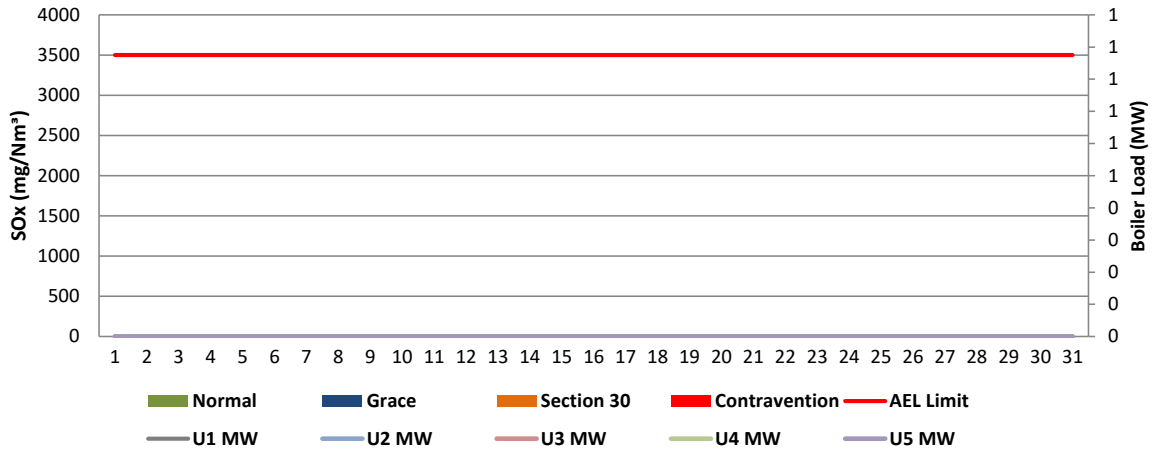
**Figure 1: Komati East Stack PM Emissions - October 2021**



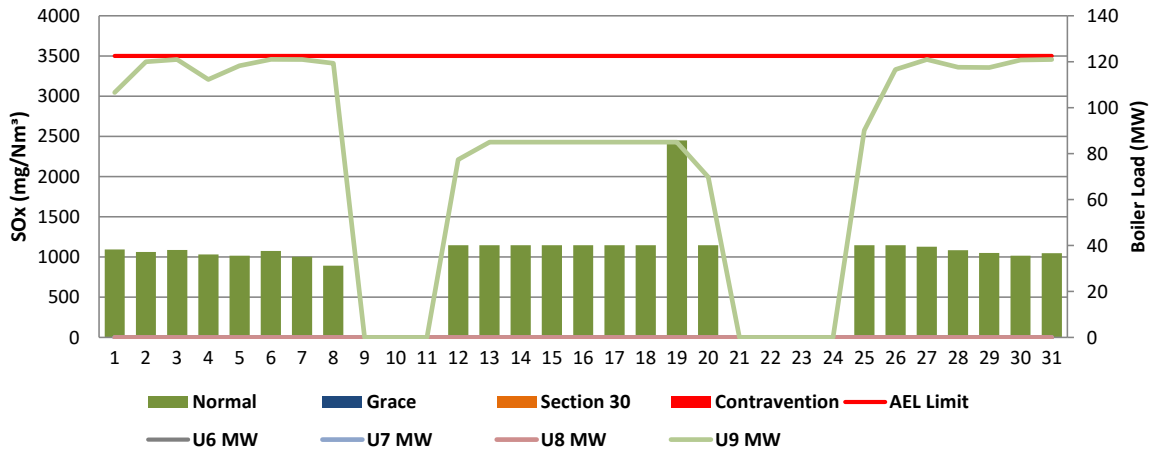
**Figure 2: Komati West Stack PM Emissions - October 2021**



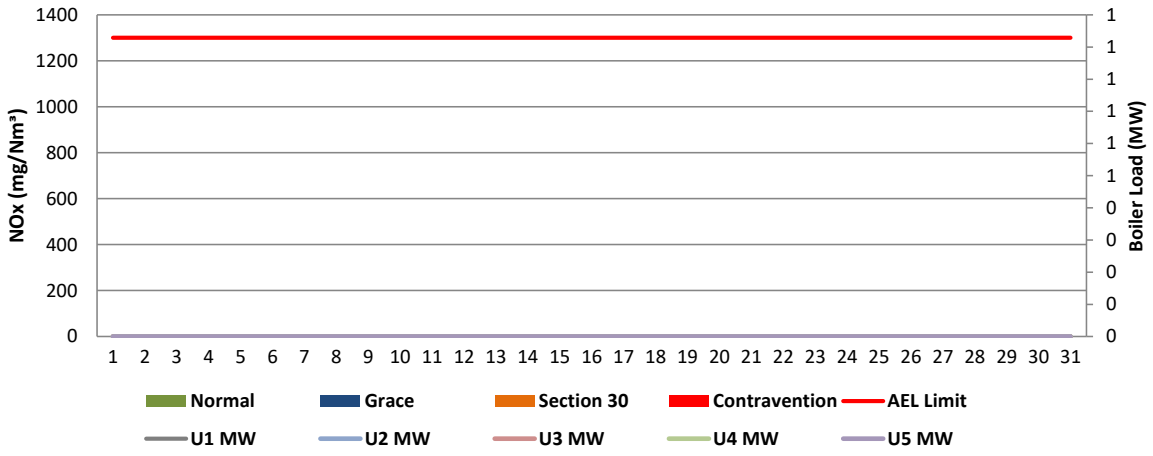
**Figure 3: Komati East Stack SOx Emissions - October 2021**



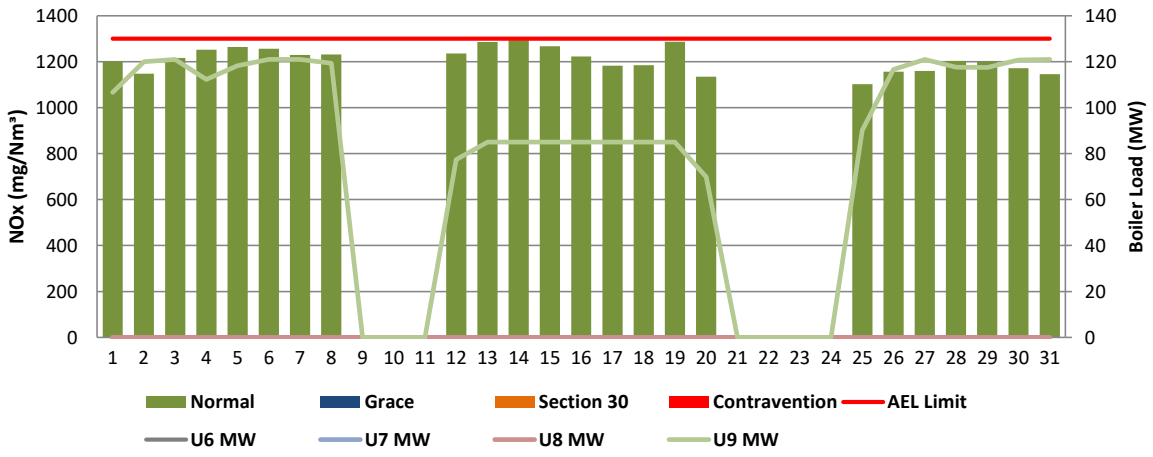
**Figure 4: Komati West Stack SOx Emissions - October 2021**



**Figure 5: Komati East Stack NOx Emissions - October 2021**



**Figure 6: Komati West Stack NOx Emissions - October 2021**



## 7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of October-2021

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>Unit 9</i>		<i>Unit</i>		<i>no event</i>	
Breaker Open (BO)	<i>3:05 PM</i>	<i>2021/10/08</i>	<i>2:20 AM</i>	<i>2021/10/20</i>	<i>BO previously</i>	<i>BO previously</i>		
Draught Group (DG) Shut Down (SD)	<i>11:15 PM</i>	<i>2021/10/08</i>	<i>8:35 AM</i>	<i>2021/10/20</i>	<i>n/a</i>	<i>n/a</i>		
BO to DG SD (duration)	<i>00:08:10</i>	DD:HH:MM	<i>00:06:15</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM
Fires in time	<i>1:05 AM</i>	<i>2021/09/30</i>	<i>7:55 PM</i>	<i>2021/10/11</i>	<i>1:40 PM</i>	<i>2021/10/24</i>		
Synch. to Grid (or BC)	<i>2:00 PM</i>	<i>2021/09/30</i>	<i>9:15 AM</i>	<i>2021/10/12</i>	<i>4:20 AM</i>	<i>2021/10/25</i>		
Fires in to BC (duration)	<i>00:12:55</i>	DD:HH:MM	<i>00:13:20</i>	DD:HH:MM	<i>00:14:40</i>	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>4:00 AM</i>	<i>2021/10/01</i>	<i>12:00 AM</i>	<i>2021/10/13</i>	<i>12:00 AM</i>	<i>2021/10/26</i>		
Emissions below limit from BC (duration)	<i>00:14:00</i>	DD:HH:MM	<i>00:14:45</i>	DD:HH:MM	<i>00:19:40</i>	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 October-2021 in mg/Nm<sup>3</sup>


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




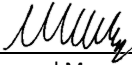
Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

**11 General**


  
 Boiler Plant Engineering      2022/05/26  
 \_\_\_\_\_  
 Date

  
 Environmental Manager      26/05/2022  
 \_\_\_\_\_  
 Date

  
 General Manager      27/05/2022  
 \_\_\_\_\_  
 Date

Compiled by: Boiler Engineering Department

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 Jurie Pieterse      Production Manager