

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-2021
	Coal	Tons	460 000	36 648
	Fuel Oil	Tons	5 000	189
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Nov-2021
	Energy	GWh	684	64
	Ash	Tons	160 000	19
	RE PM	kg/MWh	0.29	0.30

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.665
Sulphur Content	%	<= 1.2	0.557
Ash Content	%	<= 33	21.507

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-2021	Technology Type	Utilisation Nov-2021
Unit 1	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 2	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 3	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 4	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 5	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 6	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 7	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 8	Electro Static Precipitators (ESP)	Unit Off-line	SO ₃ Plant Utilisation	Unit Off-line
Unit 9	Electro Static Precipitators (ESP)	99.7%	SO ₃ 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 ₂	NO	CO ₂	O ₂	Temp
East						
West	100.0	94.5	98.1	96.2	96.0	99.8

6 EMISSION PERFORMANCE

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

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	19.2	493.9	561.9	102 624
SUM	19.2	493.9	561.9	102 624

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
East	0	0	0	0	0	
West	27	0	0	0	0	46.5
SUM	27	0	0	0	0	

Table 6.3: Operating days in compliance to SO_x AEL Limit - November 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
East	0	0	0	0	0	
West	29	0	0	0	0	1 018.1
SUM	29	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - November 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
East	0	0	0	0	0	
West	26	0	0	3	3	1 153.4
SUM	26	0	0	3	3	

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 2021

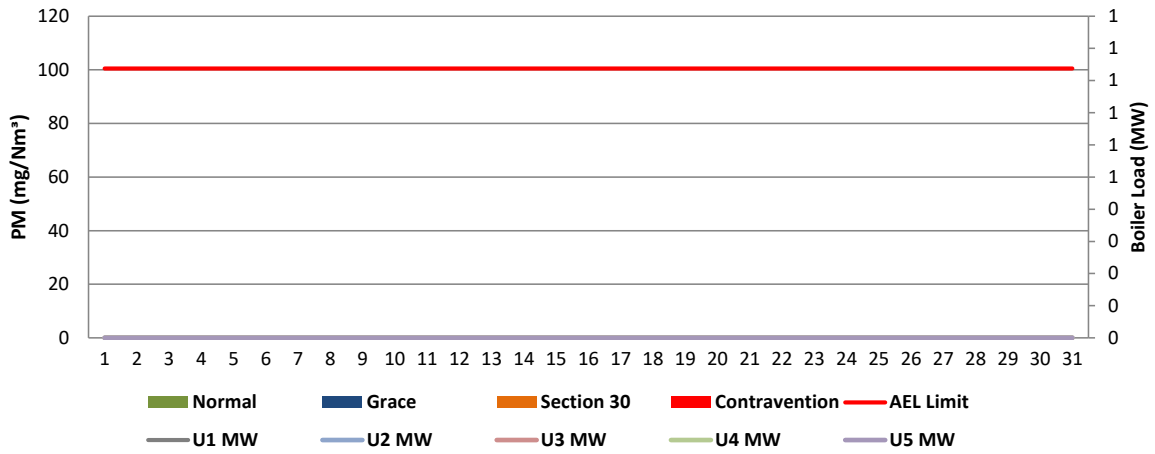


Figure 2: Komati West Stack PM Emissions - November 2021

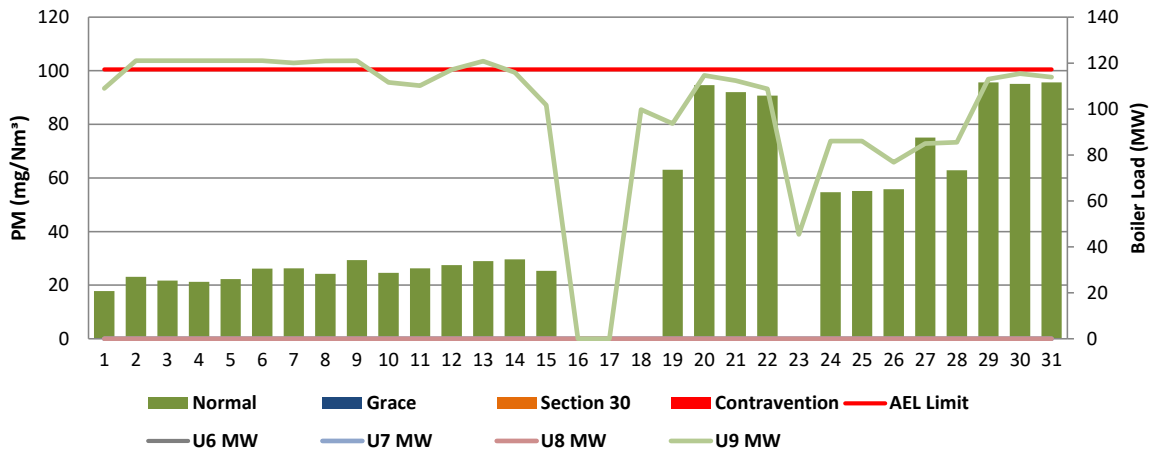


Figure 3: Komati East Stack SOx Emissions - November 2021

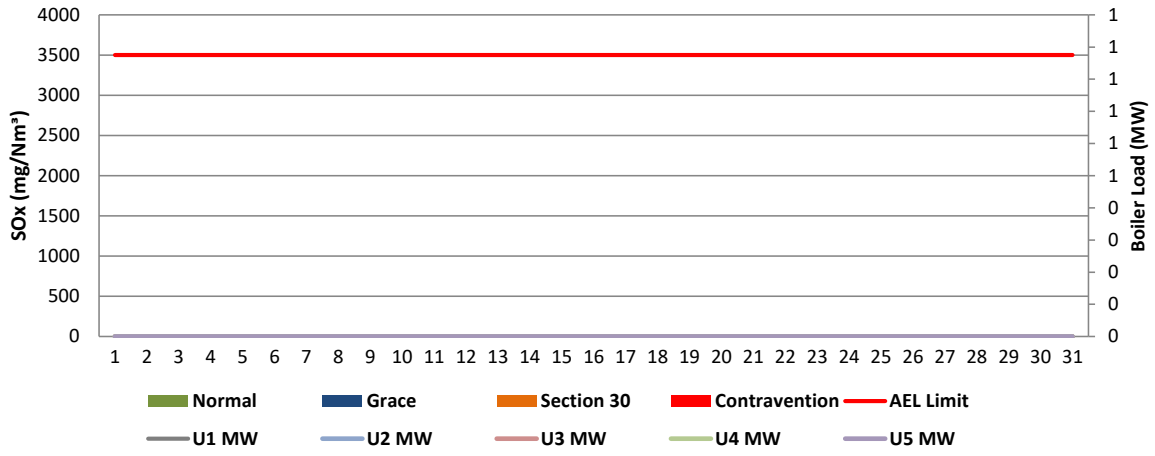


Figure 4: Komati West Stack SOx Emissions - November 2021

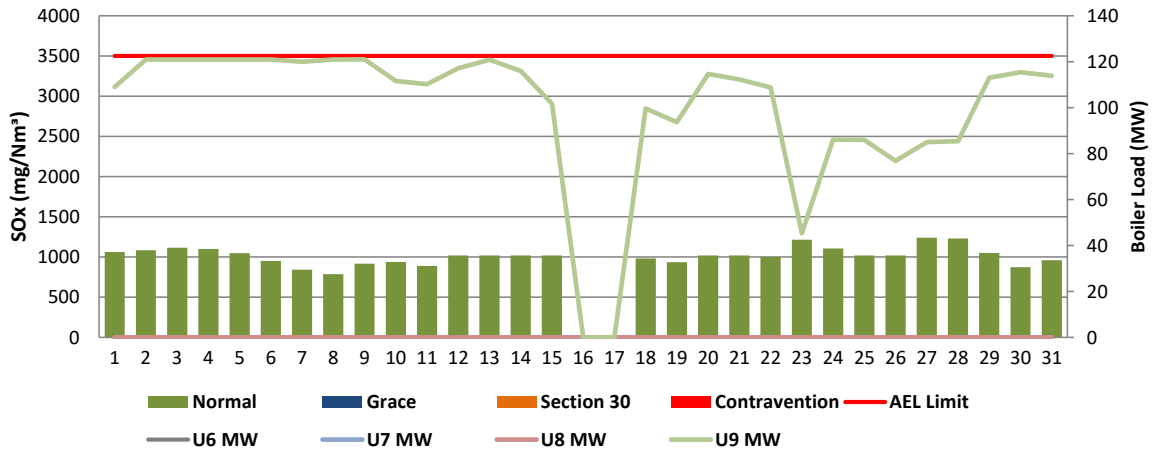


Figure 5: Komati East Stack NOx Emissions - November 2021

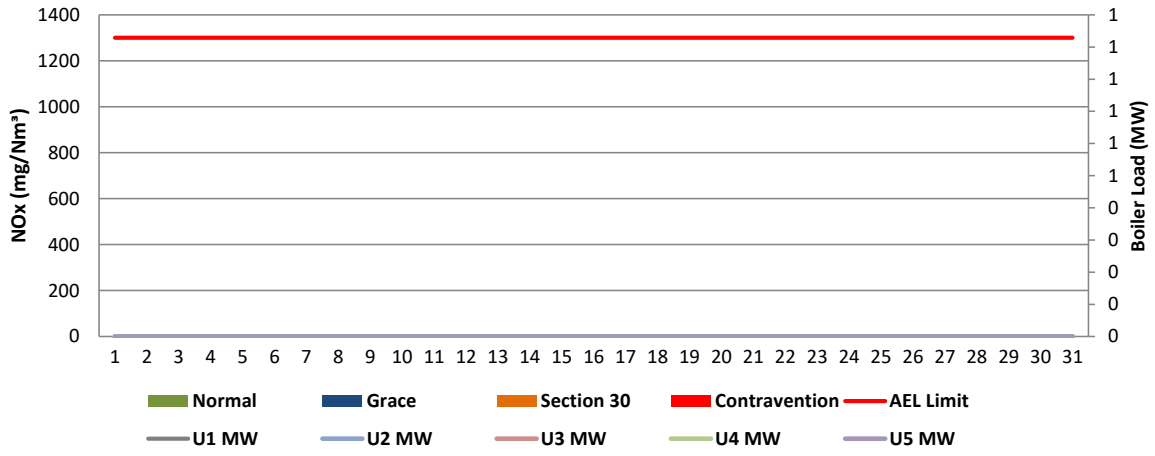
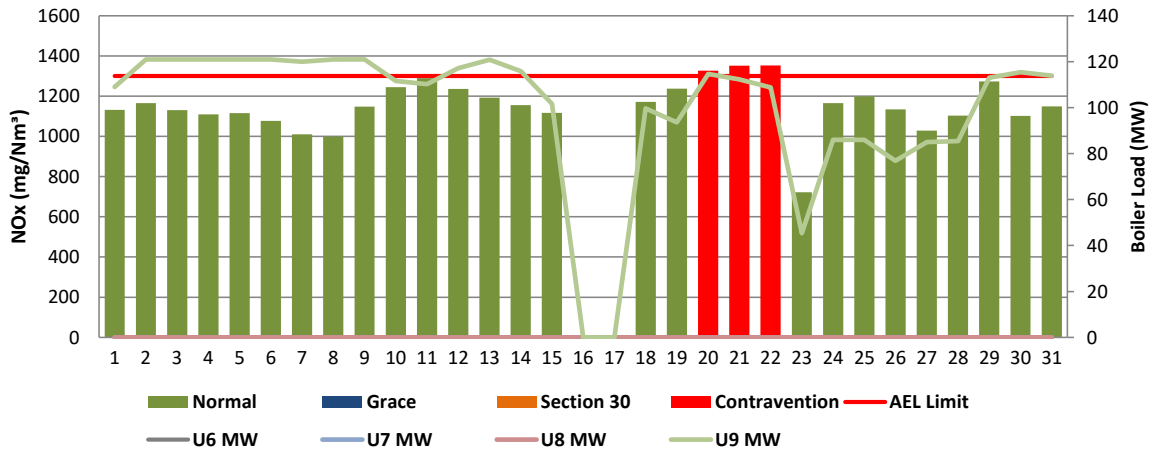


Figure 6: Komati West Stack NOx Emissions - November 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 6.1. PM Start-up information for the month of November-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>11:20 PM</i>	<i>2021/11/15</i>	<i>4:10 PM</i>	<i>2021/11/22</i>	<i>BO previously</i>	<i>BO previously</i>		
Draught Group (DG) Shut Down (SD)	<i>8:20 AM</i>	<i>2021/11/17</i>	<i>6:55 PM</i>	<i>2021/11/22</i>	<i>n/a</i>	<i>n/a</i>		
BO to DG SD (duration)	<i>01:09:00</i>	DD:HH:MM	<i>00:02:45</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM
Fires in time	<i>7:20 PM</i>	<i>2021/11/17</i>	<i>8:10 PM</i>	<i>2021/11/22</i>	<i>4:00 PM</i>	<i>2021/11/26</i>		
Synch. to Grid (or BC)	<i>3:05 AM</i>	<i>2021/11/18</i>	<i>4:00 AM</i>	<i>2021/11/23</i>	<i>8:40 PM</i>	<i>2021/11/26</i>		
Fires in to BC (duration)	<i>00:07:45</i>	DD:HH:MM	<i>00:07:50</i>	DD:HH:MM	<i>00:04:40</i>	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>12:00 AM</i>	<i>2021/11/19</i>	<i>12:00 AM</i>	<i>2021/11/24</i>	<i>not > limit</i>	<i>not > limit</i>		
Emissions below limit from BC (duration)	<i>00:20:55</i>	DD:HH:MM	<i>00:20:00</i>	DD:HH:MM	<i>n/a</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 November-2021 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

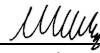
20-22/11/2021 - NOx exceedances experienced. Gross airflow problems were suspected. No abatement technology.
19/11/2021 - No spare Sulphur Pump (SO3 injection not possible)


 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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