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Date:  
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Enquiries:  
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Ref: ANK/2021/09

Dear Ian

## ANKERLIG POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF AUGUST 2021

This serves as the monthly report required in terms of Section 9 in Ankerlig Power Station's Atmospheric Emission License (WCCT036). The emissions are for the month of August, these being SO<sub>2</sub>, CO<sub>2</sub>, PM and NO<sub>x</sub> (as NO<sub>2</sub>).

### 1 Raw Materials and Products

Table 1. Quantity of Raw Materials and Products used/produced for the month of August 2021

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Total consumption in Month of August
	Fuel Diesel	Tons/hour/unit	40	8 591 791.72L
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted per unit (MW)	Total production/Power sent out in Month of August
	Energy	MWh	170 MW per hour per unit	27 349.03 MW/h
	Fuel use per hour per unit (L)		Fuel efficiency Litres per MWH	
	Unit 11: 34 215.49 Unit 12: 34 071.51 Unit 21: 34 648.43 Unit 22: 37 075 Unit 31: 34 993.53 Unit 32: 31 863.43 Unit 41: 34 574.81 Unit 42: 31 699.80 Unit 43: 35 287.57		Unit 11: 312.17 Unit 12: 322.27 Unit 21: 310.40 Unit 22: 317.08 Unit 31: 318.90 Unit 32: 323.04 Unit 41: 306.11 Unit 42: 314.02 Unit 43: 311.51	

## 2 Abatement Technology

Table 2. Abatement Equipment Control Technology availability for the month of August

Associated Unit	Technology Type	Actual Utilisation (%) for the month of August
Unit 11	Low NOx burners	100%
Unit 12	Low NOx burners	100%
Unit 21	Low NOx burners	100%
Unit 22	Low NOx burners	100%
Unit 31	Low NOx burners	100%
Unit 32	Low NOx burners	100%
Unit 41	Low NOx burners	100%
Unit 42	Low NOx burners	100%
Unit 43	Low NOx burners	100%

Table 3: Tonnages and mg/Nm<sup>3</sup> for the month of August

	Date & time	CO (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	PM (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )
<b>Hourly Licence Limit mg/Nm<sup>3</sup></b>			<b>250</b>	<b>75</b>	<b>3500</b>
<b>Unit 11</b>	2021/08/19 20:00	48.3	146	0	0.1
	2021/08/19 19:00	48.3	150	0	0.1
	2021/08/15 21:00	28.4	157	0	0.1
	2021/08/15 20:00	28.2	157	0	0.1
	2021/08/15 19:00	27.5	158	0	0.1
	2021/08/15 18:00	27.6	158	0	0.1
	2021/08/15 17:00	27.3	157	0	0.1
	2021/08/15 16:00	27.1	157	0	0.1
	2021/08/15 15:00	26.6	157	0	0.1
	2021/08/15 14:00	26.3	155	0	0.1
	2021/08/15 13:00	26.1	156	0	0.1
	2021/08/15 12:00	26.4	157	0	0.1
	2021/08/14 20:00	23	141	0	0.1
	2021/08/14 19:00	22.3	156	0	0.1

	2021/08/14 18:00	22	158	0	0.1
	2021/08/14 17:00	22.9	158	0	0.1
	2021/08/11 20:00	0.2	127	0	64.6
	2021/08/10 21:00	0.2	121	0	63.6
	2021/08/10 20:00	0.2	129	0	61.7
	2021/08/10 19:00	0.2	128	0	62.2
	2021/08/10 18:00	0.2	130	0	62.6
<b>Unit 12</b>	2021/08/19 20:00	1.1	135	0	0.1
	2021/08/19 19:00	0.8	140	0	0.1
	2021/08/15 21:00	0.9	150	0	0.1
	2021/08/15 20:00	0.5	148	0	0.1
	2021/08/15 19:00	0.6	149	0	0.1
	2021/08/15 18:00	0.8	150	0	0.1
	2021/08/14 21:00	1.1	87	0	0.1
	2021/08/14 20:00	0.7	128	0	0.1
	2021/08/14 19:00	0.4	146	0	0.1
	2021/08/14 18:00	0.6	149	0	0.1
	2021/08/10 20:00	2.1	143	0	0.1
<b>Unit 21</b>	2021/08/19 20:00	2.8	148	0	0.2
	2021/08/19 19:00	2.4	152	0	0.1
	2021/08/19 18:00	2.9	156	0	0.1
	2021/08/15 21:00	1.9	160	0	0.6

	2021/08/15 20:00	2.5	159	0	2.7
	2021/08/15 19:00	2.2	161	0	2.3
	2021/08/15 18:00	1.8	160	0	1.2
	2021/08/15 17:00	1.9	157	0	0.9
	2021/08/15 16:00	1.4	154	0	1.2
	2021/08/15 15:00	1.4	154	0	0.5
	2021/08/15 14:00	1.5	154	0	0.2
	2021/08/15 13:00	1.5	154	0	0.3
	2021/08/15 12:00	1.9	157	0	0.1
	2021/08/14 21:00	1.3	123	0	0.5
	2021/08/14 20:00	1.6	144	0	1
	2021/08/14 19:00	1.2	155	0	0.4
	2021/08/14 18:00	1.1	156	0	0.1
	2021/08/14 17:00	1.1	157	0	0.1
	2021/08/11 20:00	2.6	149	0	0.2
	2021/08/10 21:00	1.4	142	0	0.2
	2021/08/10 20:00	2.9	148	0	0.2
	2021/08/10 19:00	2.7	147	0	0.2
<b>Unit 22</b>	2021/08/19 20:00	3	114	0.1	2.8
	2021/08/19 19:00	1.6	119	0.1	2.5
	2021/08/15 21:00	2.7	115	0.1	3.4
	2021/08/15 20:00	2.7	116	0.1	3.2
	2021/08/15 19:00	2.5	118	0.1	2.8
	2021/08/15 18:00	2.9	120	0.1	2.6

	2021/08/15 17:00	3	120	0.1	2.5
	2021/08/15 16:00	2.9	122	0.1	2.2
	2021/08/15 15:00	0.6	120	0.1	0.2
	2021/08/15 14:00	0.4	121	0.1	0.2
	2021/08/15 13:00	1.1	125	0.1	1.1
	2021/08/14 20:00	3.1	122	0.1	2.2
	2021/08/14 19:00	0.6	122	0.1	1.6
	2021/08/14 18:00	0.9	126	0.1	2.2
	2021/08/10 20:00	2.5	119	0.1	2.5
<b>Unit 31</b>	2021/08/19 20:00	4.8	109	0	0.7
	2021/08/19 19:00	4.3	108	0	1
	2021/08/19 18:00	4.4	121	0	0.7
	2021/08/15 21:00	5	139	0	0.3
	2021/08/15 20:00	5.1	160	0	0.4
	2021/08/15 19:00	5.3	165	0	0.7
	2021/08/15 18:00	5.5	164	0	1
	2021/08/15 17:00	5.5	162	0	0.9
	2021/08/15 16:00	5.5	161	0	0.7
	2021/08/15 15:00	4.6	157	0.1	0.2
	2021/08/15 14:00	4.4	154	0	0.2
	2021/08/15 13:00	4.5	154	0	0.3
	2021/08/15 12:00	4.6	156	0	0.3
	2021/08/15 11:00	5	157	0	1.5
	2021/08/14 21:00	5.8	102	0	2.2

	2021/08/14 20:00	5.6	142	0	1.8
	2021/08/14 19:00	4.8	164	0	1
	2021/08/14 18:00	4.7	163	0	1
	2021/08/14 17:00	4.6	162	0	1.1
	2021/08/11 21:00	5	144	0	1.8
	2021/08/11 20:00	5.4	148	0	3.5
	2021/08/10 21:00	4.9	115	0	1.9
	2021/08/10 20:00	5.7	114	0	4.3
	2021/08/10 19:00	4.3	110	0	2.9
	2021/08/10 18:00	4.7	122	0	3.4
<b>Unit 32</b>	2021/08/19 20:00	7.1	177	0	0
	2021/08/19 19:00	7.4	179	0	0
	2021/08/15 21:00	7.2	167	0	0.8
	2021/08/15 20:00	7.4	190	0	0
	2021/08/15 19:00	7.6	191	0	0
	2021/08/14 20:00	6.7	168	0	0
	2021/08/14 19:00	6.6	183	0	0
	2021/08/14 18:00	7	180	0	0
<b>Unit 41</b>	2021/08/19 20:00	4.2	168	0	0.1
	2021/08/19 19:00	4.1	174	0.1	0
	2021/08/15 21:00	4.9	177	0	0
	2021/08/15 20:00	4.8	186	0.1	0
	2021/08/15 19:00	4.7	187	0.1	0
	2021/08/15 18:00	4.8	186	0.1	0
	2021/08/15 17:00	4.8	184	0.1	0.2
	2021/08/15 16:00	5.1	183	0.1	0.7

	2021/08/15 15:00	4.9	179	0	0.6
	2021/08/15 14:00	5	178	0.1	0.2
	2021/08/15 13:00	4.9	178	0.1	0
	2021/08/14 21:00	3.7	112	0.1	0
	2021/08/14 20:00	3.7	161	0.1	0.1
	2021/08/14 19:00	3.6	181	0	0
	2021/08/14 18:00	4	182	0.1	0
	2021/08/14 17:00	3.5	182	0	0
	2021/08/10 21:00	3.4	149	0.1	0
	2021/08/10 20:00	3.6	155	0.1	0.2
	2021/08/10 19:00	3.5	153	0.1	0.6
	2021/08/10 18:00	3.3	160	0.1	0
	2021/08/19 20:00	4.2	168	0	0.1
<b>Unit 42</b>	2021/08/19 20:00	1.1	171	0.1	0.6
	2021/08/19 19:00	9.5	187	0.1	9.8
	2021/08/15 21:00	0.3	189	0.1	0.5
	2021/08/15 20:00	1.2	188	0.1	0.6
<b>Unit 43</b>	2021/08/19 20:00	2.6	151	0	2.8
	2021/08/19 19:00	2.8	152	0	0.8
	2021/08/19 18:00	2.5	166	0	0.5
	2021/08/15 21:00	1.8	156	0	0.4
	2021/08/15 20:00	1.8	155	0	0.3
	2021/08/15 19:00	1.9	155	0	0.4

	2021/08/15 18:00	1.9	156	0	0.3
	2021/08/15 17:00	2.7	152	0	1.5
	2021/08/15 16:00	3	148	0	2.2
	2021/08/15 15:00	3.3	153	0	2.4
	2021/08/15 14:00	3.1	156	0	2.2
	2021/08/15 13:00	1.5	154	0	1.2
	2021/08/15 12:00	1.8	103	0	0.2
	2021/08/15 11:00	1.2	150	0	0.1
	2021/08/14 21:00	0.8	148	0	0.5
	2021/08/14 20:00	0.9	147	0	0.6
	2021/08/14 19:00	1.2	151	0	1.2
	2021/08/14 18:00	2	141	0	0
	2021/08/14 17:00	2.7	143	0	0.8
	2021/08/11 21:00	2.2	153	0	0
	2021/08/11 20:00	1.5	151	0	0
	2021/08/10 21:00	2.3	145	0	1.3
	2021/08/10 20:00	3	149	0	2.1
	2021/08/10 19:00	2.6	151	0	2.8
	2021/08/10 18:00	2.8	152	0	0.8
	2021/08/19 20:00	2.5	166	0	0.5
<b>Total Emission mass (Tons)</b>		5.001	32.601	0	0.75

**COMMENT:** All pollutants measured were within allowed limits and no non-conformances were registered for the month under review.

Table 4: Each unit and respective days operating under normal operation (Please note the units rarely run for the entire day)



Unit	Hours operating under normal operation	Test-run hours	Total
11	21	14	35
12	11	10	21
21	23	15	38
22	15	9	24
31	25	14	39
32	8	7	15
41	20	8	28
42	4	5	9
43	25	14	39
<i>Total</i>	152	96	248

### 3 Monitoring Equipment: Continuous Emission Monitoring System (CEMS) availability

Table 5

Associated Unit	Technology Type	Actual Utilisation (%) for the month of August
<i>Unit 11</i>	CEMS	100%
<i>Unit 12</i>	CEMS	100%
<i>Unit 21</i>	CEMS	100%
<i>Unit 22</i>	CEMS	100%
<i>Unit 31</i>	CEMS	100%
<i>Unit 32</i>	CEMS	100%
<i>Unit 41</i>	CEMS	100%
<i>Unit 42</i>	CEMS	100%
<i>Unit 43</i>	CEMS	100%

### 4 Monitoring Equipment Calibration

Continuous Emission Monitoring System (CEMS) is always online unless a fault is reported. The system auto calibrates every four (4) hours and raises an alarm if auto calibration is out of spec. Onsite technicians calibrate the system with calibration gas annually.

### 5 Ambient Monitoring Station

The station has had the PM analyser installed and unfortunately due to weather related damages it had to be uninstalled. The analyser must still be repaired.

### 6 Load Factor: 2.78%

### 7 Leak Detection and Repair programme

No leaks were reported during Aug 2021

### 8 Complaints Register

Table 6. Complaints for the month of Aug 2021

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modelling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
<i>None</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>

### 9 General

The rest of the information demonstrating compliance with the emission license conditions is supplied in the annual emission reports sent to your office.

Trusting the above meets the reporting requirements specified within the stations' Atmospheric Emission License.

Do not hesitate to contact Maureen Dlulisa on 021 573 6162 for any related queries.

Yours sincerely

  
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*Pamela Mrubata*

**ANKERLIG POWER STATION**