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Air Quality Management  
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7460

Date:  
03 February 2022

Enquiries:  
021 573 6162

Ref: ANK/2022/02

Dear Ian

## ANKERLIG POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF JANUARY 2022

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 January, 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 January 2022

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Total consumption in Month of January
	Fuel Diesel	Tons/hour/unit	40	11 744 669.82L
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted per unit (MW)	Total production/Power sent out in Month of January
	Energy	MWh	170 MW per hour per unit	36 754.50 MW/h
	Fuel use per hour per unit (L)		Fuel efficiency Litres per MWH	
	Unit 11: 31 598.96 Unit 12: 35 065.93 Unit 21: 33 441.20 Unit 22: 33 277.93 Unit 31: 35 536.40 Unit 32: 35 121.14 Unit 41: 34 563.00 Unit 42: 37 542.91 Unit 43: 30 188.14		Unit 11: 320.23 Unit 12: 324.47 Unit 21: 311.70 Unit 22: 331.31 Unit 31: 326.01 Unit 32: 325.68 Unit 41: 312.32 Unit 42: 316.50 Unit 43: 323.38	

## 2 Abatement Technology

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

Associated Unit	Technology Type	Actual Utilisation (%) for the month of January
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%

\*Unit available but suspected to be faulty as recordings are unusual

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

	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>	2022/01/31 22:00	23	135	0	34
	2022/01/31 21:00	22.8	143	0	33.7
	2022/01/31 20:00	23.7	145	0	33.9
	2022/01/31 19:00	23.6	151	0	33.4
	2022/01/31 18:00	23.2	152	0	33.5
	2022/01/31 17:00	21.6	151	0	32.9
	2022/01/31 16:00	21.7	152	0	33.4
	2022/01/31 15:00	21.9	144	0	33.1
	2022/01/31 14:00	21.4	144	0	33.1
	2022/01/31 13:00	21	142	0	32.9
	2022/01/31 12:00	20.3	148	0	32.3
	2022/01/31 11:00	19.4	148	0	32.6
	2022/01/30 23:00	22.7	135	0	32.7
	2022/01/30 22:00	22.2	142	0	32.3

	2022/01/30 21:00	22	142	0	32.4
	2022/01/30 20:00	21.8	139	0	32.3
	2022/01/30 19:00	22	142	0	32.4
	2022/01/30 18:00	22.9	148	0	32.8
	2022/01/30 17:00	22.8	151	0	32.8
	2022/01/30 16:00	20.9	151	0	31.9
	2022/01/30 15:00	20.5	153	0	32.6
	2022/01/30 14:00	19.8	157	0	31.9
	2022/01/30 13:00	18.6	155	0	32
	2022/01/21 15:00	9.8	161	0	16.4
	2022/01/21 14:00	8.5	152	0	16.2
	2022/01/19 21:00	11.8	121	0	15.4
	2022/01/19 20:00	12	141	0	14.2
	2022/01/19 19:00	10.7	136	0	13.4
	2022/01/19 18:00	8.5	138	0	13.1
	2022/01/19 17:00	6.9	142	0	12.5
	2022/01/19 16:00	6.3	144	0	12.9
<b>Unit 12</b>	2022/01/31 21:00	1.2	121	0	0.1
	2022/01/31 20:00	1.4	123	0	0.1
	2022/01/31 19:00	1.4	132	0	0.1
	2022/01/31 18:00	1.6	138	0	0.1
	2022/01/31 17:00	1.7	138	0	0.1
	2022/01/31 16:00	2	140	0	0.8
	2022/01/31 15:00	2.3	141	0	0.6

	2022/01/31 14:00	3.1	144	0	0.4
	2022/01/31 13:00	2.4	139	0	0.3
	2022/01/31 12:00	2.1	146	0	0.1
<b>Unit 21</b>	2022/01/31 22:00	2.8	5	0	0.1
	2022/01/31 21:00	2.1	5	0	0.1
	2022/01/31 20:00	0.9	5	0	0.1
	2022/01/31 19:00	0.2	7	0	0.1
	2022/01/31 18:00	0.2	8	0	0.3
	2022/01/31 17:00	0.2	8	0	1.1
	2022/01/31 16:00	0.3	7	0	0.6
	2022/01/31 15:00	0.3	5	0	1.3
	2022/01/31 14:00	0.3	11	0	2.9
	2022/01/31 13:00	0.3	11	0	4
	2022/01/31 12:00	0.3	11	0	4
	2022/01/31 11:00	0.3	7	0	0.1
	2022/01/31 10:00	0.3	8	0	0.1
	2022/01/30 23:00	3.7	5	0	0.1
	2022/01/30 22:00	3.1	5	0	0.1
	2022/01/30 21:00	1.7	6	0	0.1
	2022/01/30 20:00	0.3	6	0	0.1
	2022/01/30 19:00	0.1	9	0	0.1
	2022/01/30 18:00	0.1	9	0	0.1
	2022/01/30 17:00	0.1	10	0	0.1
	2022/01/30 16:00	0.1	10	0	0.2

	2022/01/30 15:00	0.2	12	0	1.5
	2022/01/30 14:00	0.3	11	0	0.7
	2022/01/30 13:00	0.3	9	0	0.2
	2022/01/26 21:00	1.8	8	0	0.1
	2022/01/26 20:00	0.6	7	0	0.4
	2022/01/26 19:00	0.3	8	0	0.4
	2022/01/26 18:00	0.3	8	0	0.4
	2022/01/21 15:00	0.3	14	0	0.1
	2022/01/21 14:00	0.3	12	0	0.1
	2022/01/21 13:00	0.3	10	0	0.1
	2022/01/19 21:00	0.3	9	0	0.1
	2022/01/19 20:00	0.3	12	0	2.5
	2022/01/19 19:00	0.3	12	0	3
	2022/01/19 18:00	0.3	13	0	2.7
	2022/01/19 17:00	0.3	11	0	0.7
	2022/01/19 16:00	0.3	11	0	0.1
	2022/01/19 15:00	0.4	13	0	0.1
<b>Unit 22</b>	2022/01/31 21:00	4.7	82	0.1	0.2
	2022/01/31 20:00	5.7	83	0.1	0.7
	2022/01/31 19:00	8.1	93	0.1	3.3
	2022/01/31 18:00	7.7	96	0.1	3.2
	2022/01/31 17:00	7	96	0.1	2.9
	2022/01/31 16:00	6.6	97	0.1	3.2
	2022/01/31 15:00	9.4	91	0.1	4.4

	2022/01/31 12:00	7.1	93	0.1	2.7
	2022/01/31 11:00	6.8	97	0.1	3.1
	2022/01/30 23:00	0.1	101	0.1	0.1
	2022/01/30 22:00	0.2	105	0.1	0.4
	2022/01/30 21:00	2.7	107	0.1	2.6
	2022/01/30 20:00	4.2	105	0.1	2.8
	2022/01/30 19:00	5.7	106	0.1	0.1
	2022/01/30 18:00	5.2	108	0.1	0.1
	2022/01/30 17:00	5	106	0.1	0.4
	2022/01/30 16:00	4.4	105	0.1	0.2
	2022/01/30 15:00	8	107	0.1	5.9
	2022/01/30 14:00	6.1	107	0.1	4.4
	2022/01/30 13:00	4.1	109	0.1	3.5
<b>Unit 31</b>	2022/01/31 22:00	11.7	137	0.1	1.3
	2022/01/31 21:00	12.4	144	0.1	2.4
	2022/01/31 20:00	12.1	141	0.1	1.5
	2022/01/31 19:00	14.5	142	0.1	4.2
	2022/01/31 18:00	14.4	158	0	4
	2022/01/31 17:00	13.5	156	0.1	3.6
	2022/01/31 16:00	12.3	155	0	2.7
	2022/01/31 15:00	11.5	152	0.2	1.1
	2022/01/31 14:00	11.4	152	0.6	1.7
	2022/01/31 13:00	11.3	150	0.4	1.4
	2022/01/31 12:00	11.5	147	0.1	0.6

	2022/01/06 21:00	6	127	0	0.7
	2022/01/06 20:00	6.5	121	0	1.3
	2022/01/06 19:00	6.6	120	0	1.8
	2022/01/06 18:00	6.4	118	0	1.8
	2022/01/06 17:00	6.3	120	0	1.5
<b>Unit 32</b>	2022/01/31 23:00	10.7	118	0	0
	2022/01/31 22:00	10.3	171	0	0
	2022/01/31 21:00	10.5	173	0	0.2
	2022/01/31 20:00	10.4	169	0	0.1
	2022/01/31 19:00	10.6	166	0	0.1
	2022/01/31 18:00	10.7	178	0	0.1
	2022/01/31 17:00	10.6	180	0	0.3
	2022/01/31 16:00	10.1	181	0	0
	2022/01/31 15:00	9.9	179	0	0
	2022/01/31 14:00	9.6	178	0	0
	2022/01/31 13:00	9.5	174	0	0.1
	2022/01/31 12:00	11.2	167	0	0
	2022/01/31 11:00	10.9	166	0	0
	2022/01/31 10:00	10.1	166	0	0
	2022/01/30 23:00	7.9	168	0	0
	2022/01/30 22:00	7.7	174	0	0
	2022/01/30 21:00	8.2	170	0	0
	2022/01/30 20:00	8.8	170	0	0.1
	2022/01/30 19:00	8.6	170	0	0
	2022/01/30 18:00	8.7	169	0	0.2
	2022/01/30 17:00	8.7	173	0	0.2
	2022/01/30 16:00	8.6	169	0	1.7
	2022/01/30 15:00	8.1	171	0	1.6
	2022/01/30 14:00	7.8	171	0	0.8
	2022/01/30 13:00	7.4	169	0	0.4
	2022/01/30 12:00	7.8	171	0	0
	2022/01/26 21:00	6.7	141	0	0
	2022/01/26 20:00	8	153	0	0
	2022/01/26 19:00	7.7	143	0	0
	2022/01/26 18:00	8	153	0	0
	2022/01/21 22:00	7.6	145	0	0
	2022/01/21 21:00	8.2	154	0	0.3
	2022/01/21 20:00	8.4	162	0	0
	2022/01/21 19:00	8	157	0	0
	2022/01/21 18:00	7.8	162	0	0
	2022/01/21 17:00	8	165	0	0.1
	2022/01/21 16:00	8	180	0	3.4
	2022/01/21 15:00	7.5	178	0	1.8

	2022/01/21 14:00	6.8	169	0	0.1
	2022/01/21 13:00	6.5	159	0	0.1
	2022/01/21 12:00	6.7	170	0	0.2
	2022/01/19 21:00	5.6	135	0	0
	2022/01/19 20:00	5.8	170	0	0
	2022/01/19 19:00	5.5	143	0	0
	2022/01/19 18:00	5.7	143	0	0.2
	2022/01/19 17:00	5.7	138	0	0.1
	2022/01/19 16:00	6.1	137	0	0
	2022/01/19 15:00	5.9	159	0	0
	2022/01/15 21:00	5.8	141	0	0
	2022/01/15 20:00	5.8	142	0	0
	2022/01/15 19:00	5.7	146	0	0
	2022/01/15 18:00	5.9	141	0	0
	2022/01/15 17:00	6	156	0	0

<b>Unit 41</b>	2022/01/31 23:00	10.2	122	0.1	0
	2022/01/31 22:00	9.7	168	0.1	0
	2022/01/31 21:00	9.6	169	0.1	0
	2022/01/31 20:00	9.6	169	0.1	0.5
	2022/01/31 19:00	9.1	159	0.1	1
	2022/01/31 18:00	9	175	0.1	1.2
	2022/01/31 17:00	8.9	177	0.1	1.7
	2022/01/31 16:00	8.9	180	0.1	0.7
	2022/01/31 15:00	8.9	172	0.1	1.3
	2022/01/31 14:00	9	173	0.5	1
	2022/01/31 13:00	8.9	172	0.2	0.9
	2022/01/31 12:00	9.4	175	0.1	0.5
	2022/01/31 11:00	9.2	172	0.1	0.3
	2022/01/30 23:00	7.1	166	0.1	0
	2022/01/30 22:00	7.3	171	0.1	0
	2022/01/30 21:00	7.6	171	0.1	0.1



	2022/01/30 20:00	8.1	169	0.1	0.2
	2022/01/30 19:00	8.7	169	0	0
	2022/01/30 18:00	8.5	170	0.1	0.3
	2022/01/30 17:00	8.4	174	0.1	0.4
	2022/01/30 16:00	8.2	178	0.1	0.9
	2022/01/30 15:00	7.9	178	0.1	3.3
	2022/01/30 14:00	7.7	178	0.6	3.1
	2022/01/30 13:00	7.2	176	0.3	2
	2022/01/30 12:00	6.9	176	0.1	0.2
	2022/01/26 21:00	7	140	0.1	0.1
	2022/01/26 20:00	7.3	160	0.1	0.4
	2022/01/26 19:00	7.6	151	0	0.9
	2022/01/26 18:00	7.4	162	0.1	0.4
	2022/01/21 22:00	8.1	143	0	0
	2022/01/21 21:00	8.5	154	0.1	0.3
	2022/01/21 20:00	9.1	163	0	0.4
	2022/01/21 19:00	9.4	156	0	0.2
	2022/01/21 18:00	9.1	157	0.1	0.4
	2022/01/21 17:00	8.7	163	0	0.8
	2022/01/21 16:00	8	185	0.1	0.6
	2022/01/21 15:00	7.3	179	0.1	0.9
	2022/01/21 14:00	7.1	173	0.5	1
	2022/01/21 13:00	6.9	164	0.5	1
	2022/01/21 12:00	6.8	171	0.1	0.3
	2022/01/19 21:00	5.9	144	0.1	0
	2022/01/19 20:00	5.8	172	0	0.2

	2022/01/19 19:00	6	145	0.1	0.7
	2022/01/19 18:00	6.1	148	0.1	0.8
	2022/01/19 17:00	6	142	0.1	0.9
	2022/01/19 16:00	5.8	145	0	0.5
	2022/01/19 15:00	6.1	164	0.2	0
	2022/01/15 21:00	7.2	139	0.1	0.7
	2022/01/15 20:00	7	138	0.1	0.7
	2022/01/15 19:00	7.2	145	0.1	1.5
	2022/01/15 18:00	7.4	141	0	1.1
	2022/01/15 17:00	7.2	159	0.1	0.3
<b>Unit 42</b>	2022/01/31 23:00	4.7	135	0.1	1.4
	2022/01/31 22:00	5.8	167	0.1	3.2
	2022/01/31 21:00	5.9	166	0	3.9
	2022/01/31 20:00	4.9	166	0.1	2.9
	2022/01/31 19:00	4.2	151	0	1.6
	2022/01/31 18:00	4.2	175	0.1	1.8
	2022/01/31 17:00	3.9	174	0.1	1.8
	2022/01/31 16:00	3.2	173	0.1	1.2
	2022/01/31 15:00	10.5	182	0.2	11.5
	2022/01/31 14:00	8.6	178	0.9	9
	2022/01/31 13:00	6.6	172	0.3	6.1
	2022/01/31 12:00	4.3	168	0.1	2.9
	2022/01/31 11:00	0.3	161	0.1	0.5
	2022/01/31 10:00	1.3	164	0.1	0.8

	2022/01/30 23:00	2.2	165	0.1	0.6
	2022/01/30 22:00	3.4	171	0.1	1.4
	2022/01/30 21:00	3.9	171	0	2.1
	2022/01/30 20:00	3.3	167	0.1	1.5
	2022/01/30 19:00	5.8	178	0	3.2
	2022/01/30 18:00	2.9	173	0.1	0.7
	2022/01/30 17:00	1.1	173	0.1	0.5
	2022/01/30 16:00	2.9	179	0.1	0.6
	2022/01/30 15:00	4.9	184	0.2	3
	2022/01/30 14:00	3.2	181	0.7	1
	2022/01/30 13:00	1.9	174	0.4	0.5
<b>Unit 43</b>	2022/01/31 22:00	1.7	131	0.2	0.1
	2022/01/31 21:00	2.2	138	0.2	0.4
	2022/01/31 20:00	2.3	140	0.2	0.6
	2022/01/31 19:00	2.6	156	0.2	0.6
	2022/01/31 18:00	2.8	159	0.2	0.4
	2022/01/31 17:00	2.7	156	0.2	0.3
	2022/01/31 16:00	2.5	155	0.2	0.2
	2022/01/31 15:00	2.1	151	0.4	0.3
	2022/01/31 14:00	1.9	149	0.7	0.3
	2022/01/31 13:00	2	147	0.4	0.3
	2022/01/31 12:00	2	145	0.2	0.2
<b>Total Emission mass</b>		1.934	35.007	0.005	1.132

(Tons)					
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**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	31	20	51
12	10	4	14
21	38	16	54
22	20	7	27
31	16	7	23
32	53	13	66
41	52	13	65
42	25	4	29
43	11	6	17
<i>Total</i>	256	90	346

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

Table 5

Associated Unit	Technology Type	Actual Utilisation (%) for the month of January
<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: 3.72%

### 7 Leak Detection and Repair programme

No leaks were reported during January 2022

### 8 Complaints Register

Table 6. Complaints for the month of January 2022

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions	Dispersion modelling of	Measures implemented to	Date by which measure will
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		<b>associated with the incident</b>	<b>pollutants where applicable</b>	<b>prevent reoccurrence</b>	<b>be implemented</b>
<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



*Pamela Mrubata*

**ANKERLIG POWER STATION**