



Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Dora Creek NSW 2264

Environmental Monitoring Data

April 2018



Unit 1 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air
Unit out of service 1 -30 April 2018*

	NOX			Particulates			SOX		
	ppm (7% O ₂)			mg/m ³			ppm (7% O ₂)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 April	-	-	-	-	-	-	-	-	-
2 April	-	-	-	-	-	-	-	-	-
3 April	-	-	-	-	-	-	-	-	-
4 April	-	-	-	-	-	-	-	-	-
5 April	-	-	-	-	-	-	-	-	-
6 April	-	-	-	-	-	-	-	-	-
7 April	-	-	-	-	-	-	-	-	-
8 April	-	-	-	-	-	-	-	-	-
9 April	-	-	-	-	-	-	-	-	-
10 April	-	-	-	-	-	-	-	-	-
11 April	-	-	-	-	-	-	-	-	-
12 April	-	-	-	-	-	-	-	-	-
13 April	-	-	-	-	-	-	-	-	-
14 April	-	-	-	-	-	-	-	-	-
15 April	-	-	-	-	-	-	-	-	-
16 April	-	-	-	-	-	-	-	-	-
17 April	-	-	-	-	-	-	-	-	-
18 April	-	-	-	-	-	-	-	-	-
19 April	-	-	-	-	-	-	-	-	-
20 April	-	-	-	-	-	-	-	-	-
21 April	-	-	-	-	-	-	-	-	-
22 April	-	-	-	-	-	-	-	-	-
23 April	-	-	-	-	-	-	-	-	-
24 April	-	-	-	-	-	-	-	-	-
25 April	-	-	-	-	-	-	-	-	-
26 April	-	-	-	-	-	-	-	-	-
27 April	-	-	-	-	-	-	-	-	-
28 April	-	-	-	-	-	-	-	-	-
29 April	-	-	-	-	-	-	-	-	-
30 April	-	-	-	-	-	-	-	-	-

Unit 2 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air

	NOX			Particulates			SOX		
	ppm (7% O ₂)			mg/m ³			ppm (7% O ₂)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 April	197	257	143	17.3	21.8	13.6	247	270	234
2 April	205	246	142	17.7	23.5	14.0	230	243	219
3 April	212	250	134	17.9	20.8	14.4	235	249	208
4 April	195	223	124	18.8	21.7	14.8	236	257	207
5 April	194	225	131	20.3	25.4	15.4	244	261	215
6 April	189	217	136	14.9	20.3	11.8	241	270	206
7 April	185	216	118	13.8	18.2	11.4	256	286	230
8 April	186	221	145	14.9	25.0	11.1	235	258	200
9 April	197	231	120	13.1	16.7	10.9	249	273	212
10 April	177	209	127	14.9	16.7	12.6	235	252	217
11 April	155	179	110	15.1	23.4	10.7	236	256	206
12 April	148	169	111	16.0	22.3	11.6	244	260	207
13 April	157	177	123	17.4	19.9	15.8	237	251	216
14 April	165	192	111	18.2	24.1	15.8	250	263	229
15 April	162	207	103	18.8	21.0	16.9	259	267	238
16 April	180	215	133	19.4	22.1	16.6	259	268	237
17 April	164	201	119	21.0	22.8	19.1	250	259	222
18 April	154	175	114	21.8	23.2	18.5	242	254	219
19 April	159	173	119	21.3	31.9	17.0	229	237	209
20 April	166	196	109	17.8	23.5	11.4	246	283	201
21 April	176	194	120	16.7	19.4	15.2	243	280	221
22 April	173	197	117	17.0	18.9	15.8	237	252	209
23 April	183	216	140	19.1	30.3	16.1	230	254	186
24 April	176	209	132	16.9	20.0	15.0	216	232	197
25 April	170	186	127	16.4	18.1	15.1	207	233	181
26 April	204	267	119	16.4	19.1	14.9	234	295	191
27 April	183	221	139	17.5	18.5	16.4	215	242	182
28 April	164	198	110	17.2	18.5	15.3	194	210	174
29 April	177	209	158	18.3	19.5	17.1	220	264	168
30 April	190	222	130	17.6	19.5	15.8	194	237	169

Unit 3 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air

Unit out of service 14-21 April 2018 and 25-28 April 2018

SOx Unit out of service 30 April 2018

	NOX			Particulates			SOX		
	ppm (7% O ₂)			mg/m ³			ppm (7% O ₂)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 April	174	198	111	11.1	15.2	9.1	236	257	217
2 April	178	201	135	10.6	12.7	9.1	218	237	202
3 April	192	217	136	10.7	12.7	9.0	224	234	217
4 April	133	164	116	10.9	15.9	8.3	231	242	220
5 April	135	141	123	13.8	16.7	12.6	236	248	223
6 April	123	133	110	14.6	17.2	13.1	239	254	228
7 April	122	130	106	15.3	18.2	13.1	248	258	231
8 April	113	132	105	14.8	17.8	12.2	231	250	216
9 April	129	141	113	14.6	17.3	13.2	245	267	219
10 April	123	136	110	15.0	17.9	11.5	232	252	203
11 April	124	132	117	16.2	18.8	12.7	228	235	216
12 April	123	129	113	17.3	20.8	13.2	234	245	222
13 April	130	140	116	19.5	24.1	13.8	232	245	225
14 April	-	-	-	-	-	-	-	-	-
15 April	-	-	-	-	-	-	-	-	-
16 April	-	-	-	-	-	-	-	-	-
17 April	-	-	-	-	-	-	-	-	-
18 April	-	-	-	-	-	-	-	-	-
19 April	-	-	-	-	-	-	-	-	-
20 April	-	-	-	-	-	-	-	-	-
21 April	-	-	-	-	-	-	-	-	-
22 April	142	157	130	6.9	14.6	5.1	227	242	210
23 April	141	171	117	7.4	10.8	5.0	241	263	222
24 April	147	177	110	9.4	13.0	7.2	211	216	205
25 April	-	-	-	-	-	-	-	-	-
26 April	-	-	-	-	-	-	-	-	-
27 April	-	-	-	-	-	-	-	-	-
28 April	-	-	-	-	-	-	-	-	-
29 April	127	150	108	11.5	17.1	9.7	208	230	192
30 April	161	176	131	10.1	11.3	9.2	-	-	-

Unit 4 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air.
SOx Unit out of Service 20- 30 April 2018*

	NOX			Particulates			SOX		
	ppm (7% O ₂)			mg/m ³			ppm (7% O ₂)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 April	160	185	118	21.0	47.4	13.3	244	265	224
2 April	183	204	144	16.9	22.0	12.6	224	235	213
3 April	185	221	150	18.0	20.3	15.9	224	237	214
4 April	178	203	142	18.8	20.6	17.5	228	247	213
5 April	184	196	150	19.3	22.7	16.9	243	258	225
6 April	170	193	142	20.0	25.1	17.3	243	264	212
7 April	164	179	132	20.4	22.7	18.5	250	267	221
8 April	139	188	117	20.2	23.6	16.9	230	254	204
9 April	173	194	145	21.3	25.7	18.7	251	279	222
10 April	147	170	125	23.2	26.0	20.9	235	260	223
11 April	136	148	121	21.0	29.1	17.1	230	247	176
12 April	141	158	105	19.2	21.3	17.6	245	261	229
13 April	155	168	121	23.1	27.7	15.9	237	251	228
14 April	155	169	135	15.6	16.4	14.3	244	252	235
15 April	149	179	109	20.9	42.2	15.4	252	260	240
16 April	159	180	128	16.7	19.5	15.3	254	262	230
17 April	150	164	129	16.3	19.2	15.1	247	255	230
18 April	139	155	118	16.4	18.8	15.5	232	255	206
19 April	121	137	104	16.7	18.2	14.7	209	230	194
20 April	140	176	112	17.1	21.5	15.3	-	-	-
21 April	155	177	132	16.6	17.8	14.8	-	-	-
22 April	155	172	133	15.8	16.8	14.8	-	-	-
23 April	154	173	130	16.0	18.3	14.2	-	-	-
24 April	149	167	128	16.1	17.4	15.2	-	-	-
25 April	151	177	113	17.1	18.8	15.7	-	-	-
26 April	166	195	135	17.2	19.9	16.6	-	-	-
27 April	150	180	114	18.7	20.2	17.1	-	-	-
28 April	160	189	127	19.3	20.7	18.2	-	-	-
29 April	174	212	140	22.9	27.9	19.2	-	-	-
30 April	164	198	124	26.7	32.0	22.7	-	-	-

Unit 1 Boiler Emission Test Results

EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.019	mg/m ³	0.2	15/08/2017
Carbon Dioxide (Wet)	12.6	%	-	15/08/2017
Carbon Monoxide	14	ppm	-	15/08/2017
Chlorine	0.083	mg/m ³	200	15/08/2017
Copper	0.0014	mg/m ³	-	15/08/2017
Dry Gas Density	1.35	kg/m ³	-	15/08/2017
Fluoride As HF - Total	8.7	mg/m ³	50	15/08/2017
Hazardous Substances (Metals) - Total	0.030	mg/m ³	1	15/08/2017
Hydrogen Chloride	2.6	mg/m ³	100	15/08/2017
Mercury	<0.000096	mg/m ³	0.2	15/08/2017
Moisture	5.3	%	-	15/08/2017
Particulates - Total	1.9	mg/m ³	50	15/08/2017
Stack Gas Molecular Weight	30.3	kg/k-mole	-	15/08/2017
Temperature	107	degC	-	15/08/2017
Velocity	15	m/sec	-	15/08/2017
Volatile Organic Compounds (VOC) - Total	<0.08	ppm	-	15/08/2017
Volumetric Flow Rate (Dry At STP)	343	m ³ /sec	-	15/08/2017

Unit 2 Boiler Emission Test Results

EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	<0.0002	mg/m ³	0.2	27-28/02/2018
Carbon Dioxide (Wet)	12.9	%	-	27-28/02/2018
Carbon Monoxide	14	ppm	-	27-28/02/2018
Chlorine	0.033	mg/m ³	200	27-28/02/2018
Copper	0.0009	mg/m ³	-	27-28/02/2018
Dry Gas Density	1.4	kg/m ³	-	27-28/02/2018
Fluoride As HF - Total	10.4	mg/m ³	50	27-28/02/2018
Hazardous Substances (Metals) - Total	≤0.0097	mg/m ³	1	27-28/02/2018
Hydrogen Chloride	9.6	mg/m ³	100	27-28/02/2018
Mercury	0.00051	mg/m ³	0.2	27-28/02/2018
Moisture	7.2	%	-	27-28/02/2018
Particulates - Total	3.4	mg/m ³	50	27-28/02/2018
Stack Gas Molecular Weight	30.5	kg/k-mole	-	27-28/02/2018
Temperature	122	degC	-	27-28/02/2018
Velocity	14	m/sec	-	27-28/02/2018
Volatile Organic Compounds (VOC) - Total	<0.06	ppm	-	27-28/02/2018
Volumetric Flow Rate (Dry At STP)	336	m ³ /sec	-	27-28/02/2018

Unit 3 Boiler Emission Test Results

EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.0040	mg/m ³	0.2	02/05/2017
Carbon Dioxide (Wet)	13.1	%	-	02/05/2017
Carbon Monoxide	12	ppm	-	02/05/2017
Chlorine	0.037	mg/m ³	200	02/05/2017
Copper	0.0015	mg/m ³	-	02/05/2017
Dry Gas Density	1.4	kg/m ³	-	02/05/2017
Fluoride As HF - Total	13	mg/m ³	50	02/05/2017
Hazardous Substances (Metals) - Total	0.009	mg/m ³	1	02/05/2017
Hydrogen Chloride	4.0	mg/m ³	100	02/05/2017
Mercury	0.00010	mg/m ³	0.2	02/05/2017
Moisture	5.8	%	-	02/05/2017
Particulates - Total	0.07	mg/m ³	50	02/05/2017
Stack Gas Molecular Weight	30	kg/k-mole	-	02/05/2017
Temperature	118	degC	-	02/05/2017
Velocity	16.0	m/sec	-	02/05/2017
Volatile Organic Compounds (VOC) - Total	0.08	ppm	-	02/05/2017
Volumetric Flow Rate (Dry At STP)	396	m ³ /sec	-	02/05/2017

Unit 4 Boiler Emission Test Results

EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.0028	mg/m ³	0.2	24-25/10/2017
Carbon Dioxide (Wet)	12.3	%	-	24-25/10/2017
Carbon Monoxide	10	ppm	-	24-25/10/2017
Chlorine	0.051	mg/m ³	200	24-25/10/2017
Copper	0.00055	mg/m ³	-	24-25/10/2017
Dry Gas Density	1.36	kg/m ³	-	24-25/10/2017
Fluoride As HF - Total	5.8	mg/m ³	50	24-25/10/2017
Hazardous Substances (Metals) - Total	0.0075	mg/m ³	1	24-25/10/2017
Hydrogen Chloride	1.8	mg/m ³	100	24-25/10/2017
Mercury	0.000091	mg/m ³	0.2	24-25/10/2017
Moisture	5.1	%	-	24-25/10/2017
Particulates - Total	1.2	mg/m ³	50	24-25/10/2017
Stack Gas Molecular Weight	30.4	kg/k-mole	-	24-25/10/2017
Temperature	121	degC	-	24-25/10/2017
Velocity	15.5	m/sec	-	24-25/10/2017
Volatile Organic Compounds (VOC) - Total	<0.07	ppm	-	24-25/10/2017
Volumetric Flow Rate (Dry At STP)	376	m ³ /sec	-	25-25/10/2017

Eraring Depositional Dust Gauges

EPA Identification no. 18, 25, 26 & 27 - Depositional dust monitoring within 1km of the coal handling operations

	Deposited Matter		
	g/m ² /month		
	Ash	Combustible	Insolubles
E2	0.3	0.3	0.6
E4	0.5	0.1	0.6
E6	1.1	0.9	2.0
U6	0.5	<0.1	0.5

Water Quality - Lake Monitoring LM10

EPA Identification no. 4 - The waters of Lake Macquarie located midway between cooling water inlet and Hungary Point

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
Depth/Air	24.80					
010cm	25.76	8.09	36.6	77.2	4.99	1.75
050cm	25.87	8.08	36.5	77.3	4.97	
100cm	25.90	8.09	36.5	72.6	4.70	
150cm	25.91	8.12	36.6	76.1	4.83	
200cm	25.92	8.16	36.6	72.9	4.67	
250cm	25.92	8.18	36.6	71.5	4.57	
300cm	25.92	8.17	36.6	73.7	4.73	
Bottom	25.93	8.18	37.2	66.2	4.07	

Water Quality - Lake Monitoring LM12

EPA Identification no. 6 - The waters of Lake Macquarie located at the Eraring/Vales Point mixing zone off Fishery Point

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
Depth/Air	23.17					
010cm	25.30	8.09	37.6	75.0	5.04	2.25
050cm	25.49	8.11	37.6	76.1	4.90	
100cm	25.57	8.17	37.6	77.1	4.94	
150cm	25.58	8.18	37.6	77.4	4.96	
200cm	25.59	8.20	37.6	78.1	5.00	
250cm	25.59	8.20	37.6	76.5	4.91	
300cm	25.61	8.21	37.6	76.3	4.88	
350cm	25.60	8.21	37.6	73.9	4.77	
400cm	25.60	8.21	37.6	74.3	4.74	
450cm	25.59	8.22	37.6	74.8	4.82	
500cm	25.59	8.21	37.6	76.1	4.88	
550cm	25.59	8.22	37.6	74.4	4.79	
600cm	25.60	8.19	37.6	73.5	4.67	
650cm	25.59	8.21	37.6	71.8	4.60	
700cm	25.59	8.21	37.6	71.3	4.58	
750 cm	25.59	8.17	37.6	66.6	4.16	
Bottom	25.59	8.10	37.9	49.6	3.02	

Water Quality - Lake Monitoring LM4

EPA Identification no. 7 - The northern waters of Lake Macquarie east off Lake Macquarie Yacht Club

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
Depth/Air	25.12					
010cm	23.91	8.16	36.6	86.8	5.75	2.25
050cm	24.01	8.15	36.7	86.0	5.72	
100cm	24.01	8.14	36.7	86.0	5.70	
150cm	24.02	8.14	36.7	85.2	5.63	
200cm	24.02	8.14	36.7	80.5	5.34	
250cm	24.02	8.14	36.7	82.6	5.46	
300cm	24.02	8.14	36.7	83.1	5.50	
350cm	24.02	8.14	36.7	82.4	5.45	
400cm	24.02	8.14	36.7	82.0	5.23	
450cm	24.03	8.13	36.7	80.8	5.34	
500cm	24.03	8.13	36.7	79.2	5.23	
550cm	24.03	8.14	36.7	78.1	5.14	
600cm	24.03	8.14	36.7	77.4	5.13	
650cm	24.04	8.12	36.7	77.8	5.15	
700cm	24.06	8.12	36.7	76.7	5.09	
750cm	24.05	8.12	36.7	76.1	5.06	
800cm	24.03	8.11	36.8	72.9	4.73	
850cm	24.05	8.10	36.7	73.3	4.86	
900cm	24.06	8.09	36.7	72.3	4.83	
950cm	24.06	8.10	36.9	67.1	4.48	
Bottom	24.09	8.07	36.9	64.7	4.28	

Water Quality - Lake Monitoring LM7

EPA Identification no. 5 - The waters of Lake Macquarie located off old Wangi power station inlet point in Myuna Bay

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
Depth/Air	22.97					
010cm	27.80	8.13	37.3	95.4	5.34	2.25
050cm	27.93	8.12	37.2	91.7	5.69	
100cm	27.98	8.15	37.3	90.8	5.63	
150cm	27.69	8.17	37.3	90.9	5.66	
200cm	27.66	8.18	37.3	89.0	5.54	
250cm	27.37	8.18	37.3	88.9	5.54	
300cm	27.35	8.20	37.3	87.4	5.47	
350cm	27.29	8.20	37.3	86.6	5.39	
400cm	27.17	8.17	37.3	86.1	5.41	
450cm	27.11	8.18	37.3	85.6	5.38	
500cm	27.11	8.17	37.4	84.0	5.27	
550cm	27.07	8.19	37.3	81.5	5.12	
600cm	26.51	8.15	37.4	76.8	4.90	
Bottom	26.80	8.17	37.4	71.8	4.37	

Eraring Ash Dam Effluent Quality Monitoring

EPA Identification no. 10 - Discharge point below siphon pond weir at Ash Dam

<u>Name</u>		<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.05	ug/L	-	05/04/2018
Copper	0.8	ug/L	-	05/04/2018
Iron	4	ug/L	-	05/04/2018
Lead	<0.1	ug/L	-	05/04/2018
Manganese	23.5	ug/L	-	05/04/2018
Nitrite and Nitrate as N	1970	ug/L	-	05/04/2018
Phosphorus Reactive as P - Total	588	ug/L	-	05/04/2018
Phosphorus as P - Total	587	ug/L	-	05/04/2018
Selenium	31.4	ug/L	-	05/04/2018
Suspended Solids (SS)	1000	ug/L	-	05/04/2018
Zinc	2	ug/L	-	05/04/2018
pH	8.10		-	05/04/2018

Eraring Cooling Water Inlet Canal

EPA Identification no. 8 - Inlet canal of the cooling water intake from Lake Macquarie

<u>Name</u>		<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Copper	0.8	ug/L	-	05/04/2018
Iron	6	ug/L	-	05/04/2018
Selenium	<1	ug/L	-	05/04/2018
Temperature – Average	24.3	deg C	-	April 2018
Temperature – Minimum	20.5	deg C	-	April 2018
Temperature - Maximum	27.0	deg C	-	April 2018

Eraring Cooling Water Outlet Canal

EPA Identification no. 1 - Cooling water outlet canal to Myuna Bay

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Copper	1.3	ug/L	5	05/04/2018
Iron	40	ug/L	300	05/04/2018
Selenium	<1	ug/L	2	05/04/2018
Temperature – Average	30.4	deg C	37.5	April 2018
Temperature – Minimum	25.9	deg C	37.5	April 2018
Temperature - Maximum	34.4	deg C	37.5	April 2018
Maximum Daily Discharge from Ash Dam	15.74	ML	150	April 2018
Monthly Discharge from Ash Dam	256.5	ML	-	April 2018

Emergency Discharge – Toe Drain Pond

EPA Identification no. 17 - Emergency discharge to toe drain collection pond

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Nitrite and Nitrate as N	36	ug/L	-	05/04/2018
Phosphorus as P – Total	14	ug/L	-	05/04/2018
pH	6.49		-	05/04/2018
