



Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Dora Creek NSW 2264

Environmental Monitoring Data

April 2017



Unit 1 Boiler Continuous Emission Monitoring Summary

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

- SOx instrument out of service 10th & 11th.

	NOX			Particulates			SOX		
	ppm (7% O2)			mg/m3			ppm (7% O2)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 - Apr	156	171	132	8	11	6	199	206	174
2 - Apr	169	195	154	7	11	5	169	192	156
3 - Apr	176	193	157	9	14	6	162	190	148
4 - Apr	159	175	150	10	14	8	165	183	140
5 - Apr	156	166	140	10	13	8	173	186	154
6 - Apr	163	191	143	12	14	10	162	191	132
7 - Apr	164	181	156	12	16	10	161	180	139
8 - Apr	162	174	147	13	17	10	147	167	129
9 - Apr	149	160	136	12	17	7	184	201	157
10 - Apr	152	173	116	13	18	10	0	0	0
11 - Apr	142	174	127	14	20	12	0	0	0
12 - Apr	145	169	112	14	19	8	157	175	146
13 - Apr	149	160	116	8	13	5	157	177	145
14 - Apr	149	191	131	8	12	5	138	149	129
15 - Apr	145	169	123	8	14	5	142	156	118
16 - Apr	137	148	120	10	13	6	137	146	126
17 - Apr	153	185	135	9	14	4	132	142	120
18 - Apr	166	188	128	10	17	7	132	161	113
19 - Apr	156	174	121	10	14	8	149	160	135
20 - Apr	153	180	114	10	15	7	145	149	137
21 - Apr	153	170	134	10	15	7	144	161	122
22 - Apr	133	158	120	10	13	8	159	162	151
23 - Apr	136	169	111	11	16	8	156	169	149
24 - Apr	153	177	122	11	15	8	148	151	141
25 - Apr	145	175	127	10	14	8	147	164	132
26 - Apr	147	167	117	10	14	7	160	168	146
27 - Apr	156	172	132	11	15	8	161	174	156
28 - Apr	160	172	137	11	15	9	191	211	170
29 - Apr	159	185	129	11	16	9	168	201	153
30 - Apr	158	186	129	11	15	9	173	191	154

Unit 2 Boiler Continuous Emission Monitoring Summary

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

- Unit out of service 17th - 30th

	NOX			Particulates			SOX		
	ppm (7% O2)			mg/m3			ppm (7% O2)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 - Apr	148	161	126	15	19	13	224	234	202
2 - Apr	151	177	125	15	18	13	197	234	168
3 - Apr	158	178	126	16	19	14	209	229	181
4 - Apr	149	166	135	17	19	14	190	206	159
5 - Apr	149	165	116	17	21	15	204	216	189
6 - Apr	149	165	137	16	21	13	201	215	184
7 - Apr	144	153	136	17	20	14	211	222	196
8 - Apr	130	152	115	15	19	13	218	227	198
9 - Apr	127	153	111	14	18	12	232	245	210
10 - Apr	143	160	117	15	18	13	203	244	175
11 - Apr	143	163	132	14	18	13	212	228	196
12 - Apr	138	155	120	15	24	11	210	228	171
13 - Apr	142	184	124	12	14	10	195	211	164
14 - Apr	143	178	122	11	14	8	166	173	146
15 - Apr	134	162	115	11	13	9	174	189	150
16 - Apr	124	147	101	12	17	10	167	186	154
17 - Apr	0	0	0	0	0	0	0	0	0
18 - Apr	0	0	0	0	0	0	0	0	0
19 - Apr	0	0	0	0	0	0	0	0	0
20 - Apr	0	0	0	0	0	0	0	0	0
21 - Apr	0	0	0	0	0	0	0	0	0
22 - Apr	0	0	0	0	0	0	0	0	0
23 - Apr	0	0	0	0	0	0	0	0	0
24 - Apr	0	0	0	0	0	0	0	0	0
25 - Apr	0	0	0	0	0	0	0	0	0
26 - Apr	0	0	0	0	0	0	0	0	0
27 - Apr	0	0	0	0	0	0	0	0	0
28 - Apr	0	0	0	0	0	0	0	0	0
29 - Apr	0	0	0	0	0	0	0	0	0
30 - Apr	0	0	0	0	0	0	0	0	0

Unit 3 Boiler Continuous Emission Monitoring Summary

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

	NOX			Particulates			SOX		
	ppm (7% O2)			mg/m3			ppm (7% O2)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 - Apr	165	199	141	25	29	21	221	237	216
2 - Apr	163	206	121	24	31	15	198	226	170
3 - Apr	167	195	123	26	32	17	208	223	172
4 - Apr	155	194	128	29	33	16	199	210	187
5 - Apr	161	180	119	28	38	20	196	214	179
6 - Apr	157	179	117	29	33	26	186	202	159
7 - Apr	157	184	123	29	46	8	165	182	150
8 - Apr	161	187	142	19	22	7	157	174	150
9 - Apr	136	174	115	18	21	7	187	209	146
10 - Apr	160	207	113	18	23	16	191	217	164
11 - Apr	151	182	108	18	21	16	194	210	131
12 - Apr	122	139	105	18	23	7	171	186	102
13 - Apr	137	176	111	19	30	7	181	193	127
14 - Apr	137	179	118	18	21	6	159	177	129
15 - Apr	134	157	118	18	22	15	157	175	116
16 - Apr	131	149	114	18	21	15	156	171	128
17 - Apr	152	188	129	17	20	15	152	160	130
18 - Apr	170	196	122	17	20	14	154	165	127
19 - Apr	161	180	123	17	21	7	173	181	163
20 - Apr	163	183	147	17	22	8	167	172	163
21 - Apr	165	187	153	17	21	7	159	170	150
22 - Apr	133	147	122	18	21	16	173	184	166
23 - Apr	134	169	104	18	21	16	171	180	159
24 - Apr	152	184	123	17	22	7	166	172	156
25 - Apr	143	166	129	17	21	8	168	183	158
26 - Apr	146	162	111	17	20	15	183	191	167
27 - Apr	147	168	131	18	21	17	180	186	172
28 - Apr	160	174	137	17	21	12	209	234	188
29 - Apr	159	174	141	17	22	15	189	215	177
30 - Apr	159	176	124	17	21	8	194	202	182

Unit 4 Boiler Continuous Emission Monitoring Summary

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

	NOX			Particulates			SOX		
	ppm (7% O2)			mg/m3			ppm (7% O2)		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 - Apr	142	154	119	12	17	9	215	224	204
2 - Apr	142	171	101	13	19	9	205	225	174
3 - Apr	156	185	104	13	19	8	192	215	173
4 - Apr	149	175	107	13	17	10	176	192	155
5 - Apr	149	164	113	16	19	13	197	209	179
6 - Apr	150	173	108	20	23	16	198	210	181
7 - Apr	142	167	112	24	34	20	208	219	192
8 - Apr	133	147	121	19	26	14	200	216	180
9 - Apr	126	154	115	19	30	11	214	228	194
10 - Apr	131	150	116	22	32	14	205	225	178
11 - Apr	142	172	117	21	31	9	212	226	188
12 - Apr	125	154	105	10	11	9	199	211	192
13 - Apr	134	150	122	9	11	9	186	195	166
14 - Apr	133	146	123	10	13	8	155	168	141
15 - Apr	127	147	116	9	11	8	148	160	131
16 - Apr	132	168	100	16	18	15	145	149	132
17 - Apr	146	168	123	16	18	15	147	154	133
18 - Apr	170	195	129	11	14	8	153	166	137
19 - Apr	175	205	141	9	10	9	172	180	163
20 - Apr	183	200	152	10	12	9	164	170	159
21 - Apr	175	199	143	10	11	9	161	170	157
22 - Apr	154	190	128	15	17	15	177	183	171
23 - Apr	168	207	148	15	17	14	171	180	160
24 - Apr	140	155	127	9	10	8	170	178	160
25 - Apr	141	164	119	9	10	8	160	176	153
26 - Apr	148	171	109	14	15	13	175	181	162
27 - Apr	169	187	144	9	11	8	183	198	172
28 - Apr	165	175	142	9	11	8	218	241	188
29 - Apr	176	198	143	9	11	8	199	233	170
30 - Apr	156	193	139	9	9	9	192	217	164

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	0.0012	mg/m3	0.20	16/08/2016
Carbon Dioxide (Wet)	12.9	%	-	16/08/2016
Carbon Monoxide	2.0	mg/m3	-	16/08/2016
Chlorine	0.24	mg/m3	300	16/08/2016
Copper	0.0023	mg/m3	-	16/08/2016
Dry Gas Density	1.4	kg/m3	-	16/08/2016
Fluoride As HF - Total	8.7	mg/m3	50	16/08/2016
Hazardous Substances (Metals) - Total	0.018	mg/m3	1.00	16/08/2016
Hydrogen Chloride	1.3	mg/m3	100.0	16/08/2016
Mercury	0.00010	mg/m3	0.200	16/08/2016
Moisture	5.0	%	-	16/08/2016
Particulates - Total	1.6	mg/m3	50	16/08/2016
Stack Gas Molecular Weight	30	kg/k-mole	-	16/08/2016
Temperature	106.6	degC	-	16/08/2016
Velocity	13.0	m/sec	-	16/08/2016
Volatile Organic Compounds (VOC) - Total	0.53	mg/m3	-	16/08/2016
Volumetric Flow Rate (Dry At STP)	324	m3/sec	-	16/08/2016

Unit 2 Boiler Emission Test Results

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

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<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.0050	mg/m3	0.20	20/12/2016
Carbon Dioxide (Wet)	11.9	%	-	20/12/2016
Carbon Monoxide	3.0	mg/m3	-	20/12/2016
Chlorine	0.61	mg/m3	300	20/12/2016
Copper	0.0020	mg/m3	-	20/12/2016
Dry Gas Density	1.4	kg/m3	-	20/12/2016
Fluoride As HF - Total	7.5	mg/m3	50	20/12/2016
Hazardous Substances (Metals) - Total	0.009	mg/m3	1.00	20/12/2016
Hydrogen Chloride	0.23	mg/m3	100.0	20/12/2016
Mercury	0.0003	mg/m3	0.200	20/12/2016
Moisture	4.0	%	-	20/12/2016
Particulates - Total	15.0	mg/m3	50	20/12/2016
Stack Gas Molecular Weight	30	kg/k-mole	-	20/12/2016
Temperature	110.0	degC	-	20/12/2016
Velocity	12.0	m/sec	-	20/12/2016
Volatile Organic Compounds (VOC) - Total	0.07	mg/m3	-	20/12/2016
Volumetric Flow Rate (Dry At STP)	299	m3/sec	-	20/12/2016

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	0.05	mg/m3	0.20	22/08/2015
Carbon Dioxide (Wet)	11.8	%	-	22/08/2015
Carbon Monoxide	1.00	mg/m3	-	22/08/2015
Chlorine	0.76	mg/m3	200	22/08/2015
Copper	0.010	mg/m3	-	22/08/2015
Dry Gas Density	1.4	kg/m3	-	22/08/2015
Fluoride As HF - Total	11.8	mg/m3	50	22/08/2015
Hazardous Substances (Metals) - Total	0.07	mg/m3	1.00	22/08/2015
Hydrogen Chloride	0.53	mg/m3	100.0	22/08/2015
Mercury	0.0003	mg/m3	0.200	22/08/2015
Moisture	3.2	%	-	22/08/2015
Particulates - Total	2.1	mg/m3	50	22/08/2015
Stack Gas Molecular Weight	30	kg/k-mole	-	22/08/2015
Temperature	117.0	degC	-	22/08/2015
Velocity	10.3	m/sec	-	22/08/2015
Volatile Organic Compounds (VOC) - Total	0.76	mg/m3	-	22/08/2015
Volumetric Flow Rate (Dry At STP)	236	m3/sec	-	22/08/2015

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	0.0006	mg/m3	0.20	31/10/2015
Carbon Dioxide (Wet)	10.2	%	-	31/10/2015
Carbon Monoxide	0.11	mg/m3	-	31/10/2015
Chlorine	0.86	mg/m3	200	31/10/2015
Copper	0.0004	mg/m3	-	31/10/2015
Dry Gas Density	1.3	kg/m3	-	31/10/2015
Fluoride As HF - Total	3.3	mg/m3	50	31/10/2015
Hazardous Substances (Metals) - Total	0.07	mg/m3	1.00	31/10/2015
Hydrogen Chloride	0.30	mg/m3	100.0	31/10/2015
Mercury	0.0011	mg/m3	0.200	31/10/2015
Moisture	5.4	%	-	31/10/2015
Particulates - Total	0.22	mg/m3	50	31/10/2015
Stack Gas Molecular Weight	30	kg/k-mole	-	31/10/2015
Temperature	112.5	degC	-	31/10/2015
Velocity	11.5	m/sec	-	31/10/2015
Volatile Organic Compounds (VOC) - Total	0.86	mg/m3	-	31/10/2015
Volumetric Flow Rate (Dry At STP)	258	m3/sec	-	31/10/2015

Eraring Depositional Dust Gauges

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

	Deposited Matter		
	g/m2/month		
	Ash	Combustible	Insolubles
E2	0.30	0.10	0.40
E4	0.20	0.10	0.30
E6	1.00	0.60	1.60
U6	0.30	0.10	0.40

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	23.18					
010cm	22.91	7.65	32.90	99.70	6.79	2.50
050cm	23.03	7.64	33.10	88.70	6.14	
100cm	23.06	7.63	33.20	80.10	5.49	
150cm	22.97	7.64	33.20	77.90	5.36	
200cm	22.82	7.66	33.20	74.90	5.18	
250cm	22.80	7.66	33.30	74.90	5.13	
Bottom	22.81	7.67	33.20	59.30	3.94	

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	20.26					
010cm	22.79	7.71	32.30	79.30	5.58	2.75
050cm	22.79	7.70	32.20	87.70	6.09	
100cm	22.85	7.68	32.50	80.70	5.59	
150cm	22.82	7.69	32.60	79.80	5.61	
200cm	22.73	7.70	32.80	81.90	5.61	
250cm	22.68	7.70	32.90	74.00	5.18	
300cm	22.73	7.72	33.00	77.50	5.43	
350cm	22.71	7.72	33.10	75.90	5.28	
400cm	22.70	7.72	33.10	76.40	5.33	
450cm	22.72	7.72	33.20	84.70	5.84	
500cm	22.92	7.72	33.30	77.10	5.02	
550cm	22.96	7.72	33.30	68.50	4.73	
600cm	23.14	7.71	33.50	62.90	4.33	
650cm	23.20	7.70	33.60	67.60	4.61	
700cm	23.23	7.72	33.60	64.30	4.43	
Bottom	23.22	7.72	33.00	57.30	3.81	

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	18.04					
010cm	20.52	7.39	29.40	112.00	8.26	2.75
050cm	20.75	7.37	31.20	98.90	7.07	
100cm	21.51	7.39	32.90	92.80	6.62	
150cm	21.63	7.38	33.30	92.40	6.50	
200cm	21.72	7.39	33.60	98.10	6.86	
250cm	21.81	7.41	33.60	98.90	6.84	
300cm	21.83	7.42	33.60	99.80	7.02	
350cm	21.77	7.45	33.60	98.50	6.88	
400cm	21.76	7.45	33.60	91.50	6.52	
450cm	21.76	7.48	33.60	94.70	6.66	
500cm	21.77	7.48	33.60	92.80	6.46	
550cm	21.79	7.47	33.70	96.50	6.83	
600cm	21.89	7.49	33.70	98.30	6.82	
650cm	21.91	7.49	33.70	93.40	6.49	
700cm	21.87	7.49	33.70	94.60	6.68	
750cm	21.83	7.54	33.70	88.30	6.20	
800cm	21.85	7.51	33.70	94.60	6.59	
850cm	21.87	7.51	33.70	93.80	6.63	
900cm	21.86	7.51	33.70	95.20	6.69	
950cm	21.88	7.52	33.70	91.60	6.41	
Bottom	21.85	7.53	33.70	75.30	5.25	

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	23.56					
010cm	25.84	7.56	33.30	127.00	8.32	2.25
050cm	26.21	7.55	33.30	124.00	8.05	
100cm	26.33	7.57	33.20	119.50	7.81	
150cm	26.12	7.58	33.20	114.40	7.48	
200cm	26.00	7.57	33.30	111.70	7.29	
250cm	24.64	5.58	33.50	92.70	6.30	
300cm	24.33	7.57	33.50	84.50	5.67	
350cm	23.86	7.56	33.50	79.80	5.40	
400cm	23.79	7.60	33.50	79.50	5.40	
450cm	23.75	7.59	33.50	75.70	5.12	
500cm	23.73	7.59	33.60	76.00	5.06	
550cm	23.69	7.60	33.60	71.40	4.84	
Bottom	23.68	7.58	33.60	57.50	3.85	

Eraring Ash Dam Effluent Quality Monitoring

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

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.050	ug/L	-	03/04/2017
Copper	0.70	ug/L	-	03/04/2017
Lead	0.10	ug/L	-	03/04/2017
Nitrite and Nitrate as N	857	ug/L	-	03/04/2017
Phosphorus Reactive as P - Total	253	ug/L	-	03/04/2017
Phosphorus as P - Total	265	ug/L	-	03/04/2017
Selenium	21.0	ug/L	-	03/04/2017
Suspended Solids (SS)	6,000	ug/L	-	03/04/2017
Zinc	1.00	ug/L	-	03/04/2017
pH	9.0	-	-	03/04/2017

Eraring Cooling Water Inlet Canal

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

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Copper	1.10	ug/L	-	03/04/2017
Iron	7.0	ug/L	-	03/04/2017
Selenium	1.00	ug/L	-	03/04/2017
Temperature - Average	22.4	deg C	-	Apr 2017
Temperature - Minimum	18.5	deg C	-	Apr 2017
Temperature - Maximum	25.0	deg C	-	Apr 2017

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	1.40	ug/L	5	03/04/2017
Iron	15.0	ug/L	300	03/04/2017
Selenium	1.00	ug/L	2	03/04/2017
Temperature - Average	29.7	deg C	35	Apr 2017
Temperature - Minimum	24.9	deg C	35	Apr 2017
Temperature - Maximum	33.3	deg C	35	Apr 2017
Maximum Daily Discharge from Ash Dam	30.5	ML	150	Apr 2017
Monthly Discharge from Ash Dam	330	ML	-	Apr 2017

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>
Cadmium	0.050	ug/L	-	03/04/2017
Copper	0.50	ug/L	-	03/04/2017
Lead	0.10	ug/L	-	03/04/2017
Manganese	870	ug/L	-	03/04/2017
Nitrite and Nitrate as N	332	ug/L	-	03/04/2017
Phosphorus as P - Total	22.0	ug/L	-	03/04/2017
Selenium	0.50	ug/L	-	03/04/2017
Zinc	2.0	ug/L	-	03/04/2017
pH	6.8	-	-	03/04/2017