



Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Morisset NSW 2264

Coal Unloader - EPA Licence 4297

Eraring Coal Delivery Facility, Construction Rd, Dora Creek NSW 2264

Environmental Monitoring Data

June 2015



Unit 1 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 11 - Air emissions monitoring, Boiler 1 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 - Jun	174	204	146	19	27	14	161	181	153
2 - Jun	180	240	139	21	33	14	176	185	170
3 - Jun	193	249	153	21	29	12	185	203	168
4 - Jun	195	227	176	14	26	10	184	203	174
5 - Jun	162	186	129	15	34	10	197	212	184
6 - Jun	156	178	134	12	16	8	164	192	152
7 - Jun	138	155	126	13	21	7	160	166	142
8 - Jun	143	189	121	11	16	8	160	169	145
9 - Jun	160	184	134	10	14	8	163	177	149
10 - Jun	145	200	111	13	18	10	170	195	151
11 - Jun	137	171	106	13	18	10	183	198	160
12 - Jun	147	183	134	12	18	9	181	204	156
13 - Jun	159	176	138	12	16	8	162	179	150
14 - Jun	158	175	147	13	19	9	148	165	142
15 - Jun	152	188	106	12	16	9	157	166	145
16 - Jun	128	180	106	11	16	9	172	184	157
17 - Jun	124	155	100	10	16	7	163	175	148
18 - Jun	155	198	116	11	15	9	187	208	164
19 - Jun	174	199	138	15	20	11	184	201	175
20 - Jun	169	212	121	13	19	10	188	208	174
21 - Jun	184	213	164	13	19	9	198	217	179
22 - Jun	181	240	147	13	20	9	189	217	173
23 - Jun	152	178	134	13	26	8	210	231	169
24 - Jun	156	190	126	11	19	9	196	221	181
25 - Jun	162	177	141	11	16	9	200	220	191
26 - Jun	170	182	153	12	17	9	187	203	172
27 - Jun	183	204	168	12	17	8	179	195	119
28 - Jun	201	260	161	12	18	7	222	248	177
29 - Jun	195	226	171	11	16	8	208	239	169
30 - Jun	206	238	170	11	18	7	196	214	180

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% 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 - Jun	180	233	137	11	15	9	149	154	133
2 - Jun	181	211	137	11	17	9	159	167	140
3 - Jun	191	236	129	11	15	8	152	163	133
4 - Jun	172	198	139	12	17	9	155	170	139
5 - Jun	175	204	128	11	16	10	154	170	144
6 - Jun	154	187	131	12	16	9	154	168	138
7 - Jun	148	175	130	14	21	9	139	143	128
8 - Jun	157	198	127	12	15	9	137	141	122
9 - Jun	150	181	128	10	15	8	147	170	122
10 - Jun	131	161	108	13	18	10	152	170	133
11 - Jun	116	128	104	14	21	11	175	192	159
12 - Jun	121	153	102	12	17	9	168	182	142
13 - Jun	144	183	118	13	16	9	151	187	137
14 - Jun	171	195	133	15	20	10	141	150	129
15 - Jun	147	175	126	14	20	11	158	170	145
16 - Jun	146	196	130	13	18	11	169	191	153
17 - Jun	160	210	126	13	19	10	160	176	141
18 - Jun	159	210	123	11	16	9	181	203	160
19 - Jun	152	188	114	12	17	10	169	196	143
20 - Jun	125	138	108	13	16	10	183	198	172
21 - Jun	130	167	104	13	17	10	182	193	172
22 - Jun	127	152	105	13	19	10	174	190	144
23 - Jun	136	180	107	12	19	9	199	219	167
24 - Jun	136	166	117	12	16	10	183	205	162
25 - Jun	126	157	108	13	18	9	187	202	173
26 - Jun	125	143	113	12	16	9	170	183	156
27 - Jun	151	190	122	13	19	8	173	204	149
28 - Jun	149	194	118	12	17	7	174	205	153
29 - Jun	136	162	109	11	14	9	178	195	151
30 - Jun	144	175	112	12	20	9	174	189	159

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 - Jun	217	273	179	14	24	10	171	185	166
2 - Jun	191	239	62	15	19	11	183	193	172
3 - Jun	196	223	127	14	20	10	180	193	160
4 - Jun	187	218	123	16	23	11	175	189	163
5 - Jun	197	226	142	15	20	11	183	202	167
6 - Jun	173	201	128	14	18	8	167	187	155
7 - Jun	158	172	136	14	18	11	157	160	150
8 - Jun	164	178	145	13	16	10	158	159	155
9 - Jun	192	240	136	12	18	9	165	174	154
10 - Jun	188	255	127	15	21	10	175	198	164
11 - Jun	163	184	133	15	19	12	200	212	156
12 - Jun	165	178	131	14	18	12	199	222	181
13 - Jun	169	192	134	14	17	11	179	199	165
14 - Jun	168	188	148	14	17	11	160	171	156
15 - Jun	164	187	138	14	18	11	173	187	164
16 - Jun	153	196	116	14	18	11	194	222	172
17 - Jun	154	176	129	13	17	10	180	192	170
18 - Jun	142	182	117	14	17	11	201	212	183
19 - Jun	159	180	131	16	22	12	192	213	166
20 - Jun	160	186	142	19	26	13	188	195	181
21 - Jun	166	234	133	19	28	14	200	216	183
22 - Jun	171	207	156	21	27	15	191	207	185
23 - Jun	162	180	144	21	33	14	216	227	182
24 - Jun	147	176	131	21	29	16	200	233	175
25 - Jun	136	160	112	16	29	11	201	214	190
26 - Jun	143	155	122	15	18	11	181	199	165
27 - Jun	145	178	127	16	20	11	189	211	161
28 - Jun	154	195	122	14	19	11	194	212	157
29 - Jun	157	178	123	13	15	3	185	197	178
30 - Jun	160	188	122	6	10	2	175	182	167

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 - Jun	203	257	162	4	10	3	156	167	141
2 - Jun	196	234	164	5	10	3	168	182	153
3 - Jun	197	217	168	5	9	3	171	183	158
4 - Jun	186	206	162	5	9	2	167	181	150
5 - Jun	188	211	157	5	9	3	174	188	164
6 - Jun	173	195	139	4	9	2	160	175	137
7 - Jun	157	171	133	4	6	3	155	163	145
8 - Jun	157	175	134	3	7	2	154	160	146
9 - Jun	177	232	152	4	10	2	163	178	152
10 - Jun	191	232	152	5	10	3	170	185	154
11 - Jun	159	173	144	4	9	3	184	206	167
12 - Jun	162	178	136	4	8	3	184	201	165
13 - Jun	161	180	145	4	9	2	167	187	155
14 - Jun	218	253	181	4	8	2	147	154	135
15 - Jun	201	223	184	4	9	2	160	168	147
16 - Jun	195	233	155	4	10	3	170	190	151
17 - Jun	193	228	172	4	9	2	181	197	169
18 - Jun	196	217	177	4	9	3	198	212	184
19 - Jun	187	217	168	5	10	3	178	199	163
20 - Jun	179	223	148	5	11	3	178	194	164
21 - Jun	175	220	141	6	12	3	182	199	171
22 - Jun	173	205	154	6	13	4	193	202	181
23 - Jun	165	198	133	7	13	4	206	238	181
24 - Jun	155	181	138	7	13	4	189	220	164
25 - Jun	158	204	138	8	13	5	191	208	178
26 - Jun	170	223	146	7	13	5	175	192	152
27 - Jun	188	222	152	8	14	5	179	205	158
28 - Jun	174	207	153	8	14	5	167	179	149
29 - Jun	176	205	154	8	14	5	185	199	153
30 - Jun	175	210	150	10	15	7	173	190	158

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	0.0019	mg/m3	0.20	07/02/2015
Carbon Dioxide (Wet)	8.0	%	-	07/02/2015
Carbon Monoxide	15.0	mg/m3	-	07/02/2015
Chlorine	1.00	mg/m3	300	07/02/2015
Copper	0.0019	mg/m3	-	07/02/2015
Dry Gas Density	1.4	kg/m3	-	07/02/2015
Fluoride As HF - Total	10.0	mg/m3	50	07/02/2015
Hazardous Substances (Metals) - Total	0.027	mg/m3	1.00	07/02/2015
Hydrogen Chloride	2.0	mg/m3	100.0	07/02/2015
Mercury	0.0013	mg/m3	0.200	07/02/2015
Moisture	6.0	%	-	07/02/2015
Particulates - Total	19.0	mg/m3	50	07/02/2015
Stack Gas Molecular Weight	30	kg/k-mole	-	07/02/2015
Temperature	114.3	degC	-	07/02/2015
Velocity	12.0	m/sec	-	07/02/2015
Volatile Organic Compounds (VOC) - Total	0.07	mg/m3	-	07/02/2015
Volumetric Flow Rate (Dry At STP)	301	m3/sec	-	07/02/2015

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	0.00010	mg/m3	0.20	24/08/2014
Carbon Dioxide (Wet)	7.6	%	-	24/08/2014
Carbon Monoxide	128	mg/m3	-	24/08/2014
Chlorine	1.9	mg/m3	300	24/08/2014
Copper	0.0010	mg/m3	-	24/08/2014
Dry Gas Density	1.4	kg/m3	-	24/08/2014
Fluoride As HF - Total	7.5	mg/m3	50	24/08/2014
Hazardous Substances (Metals) - Total	0.015	mg/m3	1.00	24/08/2014
Hydrogen Chloride	1.9	mg/m3	100.0	24/08/2014
Mercury	0.00000	mg/m3	0.200	24/08/2014
Moisture	4.9	%	-	24/08/2014
Particulates - Total	14.0	mg/m3	50	24/08/2014
Stack Gas Molecular Weight	30	kg/k-mole	-	24/08/2014
Temperature	113.0	degC	-	24/08/2014
Velocity	10.5	m/sec	-	24/08/2014
Volatile Organic Compounds (VOC) - Total	0.07	mg/m3	-	24/08/2014
Volumetric Flow Rate (Dry At STP)	239	m3/sec	-	24/08/2014

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	0.0005	mg/m3	0.20	03/05/2015
Carbon Dioxide (Wet)	7.8	%	-	03/05/2015
Carbon Monoxide	30	mg/m3	-	03/05/2015
Chlorine	0.036	mg/m3	200	03/05/2015
Copper	0.0012	mg/m3	-	03/05/2015
Dry Gas Density	1.4	kg/m3	-	03/05/2015
Fluoride As HF - Total	5.4	mg/m3	50	03/05/2015
Hazardous Substances (Metals) - Total	0.0020	mg/m3	1.00	03/05/2015
Hydrogen Chloride	3.9	mg/m3	100.0	03/05/2015
Mercury	0.0003	mg/m3	0.200	03/05/2015
Moisture	6.0	%	-	03/05/2015
Particulates - Total	18.0	mg/m3	50	03/05/2015
Stack Gas Molecular Weight	30	kg/k-mole	-	03/05/2015
Temperature	113.8	degC	-	03/05/2015
Velocity	11.0	m/sec	-	03/05/2015
Volatile Organic Compounds (VOC) - Total	0.65	mg/m3	-	03/05/2015
Volumetric Flow Rate (Dry At STP)	254	m3/sec	-	03/05/2015

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	0.0015	mg/m3	0.20	01/11/2014
Carbon Dioxide (Wet)	12.3	%	-	01/11/2014
Carbon Monoxide	17.0	mg/m3	-	01/11/2014
Chlorine	1.00	mg/m3	200	01/11/2014
Copper	0.0001	mg/m3	-	01/11/2014
Dry Gas Density	1.4	kg/m3	-	01/11/2014
Fluoride As HF - Total	9.0	mg/m3	50	01/11/2014
Hazardous Substances (Metals) - Total	0.0040	mg/m3	1.00	01/11/2014
Hydrogen Chloride	1.3	mg/m3	100.0	01/11/2014
Mercury	0.0003	mg/m3	0.200	01/11/2014
Moisture	2.9	%	-	01/11/2014
Particulates - Total	17.0	mg/m3	50	01/11/2014
Stack Gas Molecular Weight	30	kg/k-mole	-	01/11/2014
Temperature	111.4	degC	-	01/11/2014
Velocity	14.0	m/sec	-	01/11/2014
Volatile Organic Compounds (VOC) - Total	0.24	mg/m3	-	01/11/2014
Volumetric Flow Rate (Dry At STP)	318	m3/sec	-	01/11/2014

Eraring Coal Unloader Dust Gauges

EPA Identification no. 18 - Depositional dust monitoring within 1 km of the coal handling operations

	Deposited Matter		
	g/m2/month		
	Ash	Combustible	Insolubles
U1	2.30	0.90	3.20
U2	2.80	0.30	3.10
U3	0.40	0.10	0.50
U4	1.80	0.40	2.20
U5	0.60	0.20	0.80
U6	0.50	0.10	0.60

Eraring Due Diligence Dust Gauges

EPA Identification no. 18 - Depositional dust monitoring within 1 km of the coal handling operations

	Deposited Matter		
	g/m2/month		
	Ash	Combustible	Insolubles
E1	0.40	0.10	0.40
E2	1.00	0.60	1.60
E3	0.50	0.40	0.90
E4	0.90	0.60	1.50
E5	13.70	2.60	16.30
E6	0.90	0.20	1.10

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	15.89					
010cm	16.04	8.27	31.00	110.80	8.76	2.75
050cm	15.89	8.28	31.10	86.70	6.89	
100cm	15.70	8.30	31.20	89.10	7.09	
150cm	15.65	8.32	31.30	84.80	6.77	
200cm	15.59	8.36	31.30	84.50	6.75	
250cm	15.57	8.38	31.40	88.20	7.03	
Bottom	15.54	8.39	31.90	88.90	7.07	

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	14.66					
010cm	16.39	8.25	31.20	120.10	9.41	4.25
050cm	16.47	8.28	31.20	125.90	9.89	
100cm	16.42	8.30	31.10	130.40	10.26	
150cm	16.29	8.33	31.10	135.20	10.66	
200cm	16.21	8.33	31.10	138.80	10.95	
250cm	16.04	8.33	31.10	143.80	11.39	
300cm	15.95	8.36	31.10	147.30	11.68	
350cm	15.92	8.38	31.20	150.90	11.92	
400cm	15.90	8.38	31.20	155.00	12.33	
450cm	15.90	8.39	31.20	159.00	12.62	
500cm	15.87	8.38	31.20	162.90	12.93	
550cm	15.85	8.40	31.30	165.90	13.17	
600cm	16.36	8.35	31.90	167.10	13.09	
650cm	16.52	8.30	32.00	169.10	13.14	
700cm	17.05	8.27	32.80	170.90	13.10	
Bottom	17.06	8.25	33.40	80.10	5.83	

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	8.87					
010cm	14.58	8.06	33.10	92.00	7.45	3.75
050cm	14.79	8.15	33.00	97.10	7.79	
100cm	14.89	8.20	33.00	98.90	7.91	
150cm	14.83	8.24	33.00	97.30	7.84	
200cm	14.91	8.24	33.00	100.60	8.04	
250cm	14.96	8.28	32.90	102.00	8.13	
300cm	14.91	8.31	33.00	100.20	7.97	
350cm	14.95	8.33	32.90	101.20	8.08	
400cm	14.97	8.31	33.00	100.20	7.96	
450cm	14.93	8.34	32.90	99.60	7.99	
500cm	14.97	8.34	33.00	97.70	7.82	
550cm	14.98	8.34	33.00	98.50	7.85	
600cm	15.10	8.36	33.00	100.10	7.98	
650cm	16.00	8.34	33.80	96.80	7.55	
700cm	16.12	8.32	33.90	96.30	7.47	
750cm	16.44	8.34	34.20	98.70	7.61	
800cm	16.71	8.33	34.60	96.10	7.35	
850cm	16.96	8.32	35.20	96.10	7.23	
900cm	16.99	8.37	35.50	96.50	7.27	
Bottom	17.20	8.36	35.90	95.60	7.16	

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	14.81					
010cm	19.08	8.16	31.70	114.20	8.51	2.75
050cm	19.02	8.19	31.70	113.70	8.48	
100cm	18.59	8.23	31.60	119.30	9.04	
150cm	18.32	8.26	31.70	122.50	9.24	
200cm	18.13	8.26	31.60	123.00	9.20	
250cm	17.93	8.28	31.70	116.40	8.89	
300cm	17.89	8.29	31.70	113.60	8.64	
350cm	17.84	8.27	31.80	112.10	8.47	
400cm	17.17	8.28	31.80	105.80	8.02	
450cm	17.63	8.30	31.80	105.70	8.09	
500cm	17.51	8.31	31.80	102.90	7.95	
550cm	16.90	8.32	31.80	95.60	7.36	
Bottom	16.94	8.27	30.10	80.20	6.16	

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	0.08	ug/L	-	02/06/2015
Iron	6.0	ug/L	-	02/06/2015
Lead	0.10	ug/L	-	02/06/2015
Manganese	24.2	ug/L	-	02/06/2015
Nitrite and Nitrate as N	458	ug/L	-	02/06/2015
Phosphorus Reactive as P - Total	213	ug/L	-	02/06/2015
Phosphorus as P - Total	224	ug/L	-	02/06/2015
Selenium	11.8	ug/L	-	02/06/2015
Suspended Solids (SS)	9.0	mg/L	-	02/06/2015
Zinc	7.0	ug/L	-	02/06/2015
pH	8.6	-	-	02/06/2015

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	1.00	ug/L	-	02/06/2015
Iron	5.0	ug/L	-	02/06/2015
Selenium	1.00	ug/L	-	02/06/2015
Temperature - Average	15.6	deg C	-	Jun 2015
Temperature - Minimum	14.4	deg C	-	Jun 2015
Temperature - Maximum	16.7	deg C	-	Jun 2015

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	1.00	ug/L	5	02/06/2015
Iron	10.0	ug/L	300	02/06/2015
Selenium	1.00	ug/L	2	02/06/2015
Temperature - Average	23.1	deg C	35	Jun 2015
Temperature - Minimum	19.3	deg C	35	Jun 2015
Temperature - Maximum	27.4	deg C	35	Jun 2015
Maximum Daily Discharge from Ash Dam	18.2	ML	150000	Jun 2015
Monthly Discharge from Ash Dam	430	ML	-	Jun 2015

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	2.0	ug/L	-	02/06/2015
Phosphorus as P - Total	270	ug/L	-	02/06/2015
pH	6.6	-	-	02/06/2015