



Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Morristown NSW 2264

Coal Unloader - EPA Licence 4297

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

Environmental Monitoring Data

June 2014



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	188	209	153	10	15	6	180	188	173
2 - Jun	204	249	151	10	16	5	182	214	163
3 - Jun	202	229	167	12	21	8	224	235	212
4 - Jun	209	231	170	12	20	8	211	235	189
5 - Jun	197	225	175	12	17	9	198	232	176
6 - Jun	187	204	159	14	18	7	230	268	201
7 - Jun	188	208	170	14	19	10	200	214	185
8 - Jun	203	241	172	14	20	8	189	215	173
9 - Jun	202	237	168	13	19	7	168	206	159
10 - Jun	193	231	151	13	18	8	215	242	195
11 - Jun	172	191	151	14	20	10	211	236	183
12 - Jun	183	232	159	13	20	6	200	232	178
13 - Jun	178	195	154	15	23	9	210	234	193
14 - Jun	192	218	149	11	16	6	212	240	165
15 - Jun	206	241	169	11	16	7	180	201	156
16 - Jun	208	244	179	13	20	7	177	199	162
17 - Jun	194	216	169	14	19	11	215	230	195
18 - Jun	183	201	162	12	18	9	216	243	199
19 - Jun	169	190	149	14	21	9	239	248	224
20 - Jun	171	195	152	11	16	6	241	272	197
21 - Jun	191	212	156	12	17	9	186	196	174
22 - Jun	192	218	159	15	21	10	232	276	177
23 - Jun	188	211	158	12	21	9	195	238	168
24 - Jun	194	222	171	11	16	5	220	249	193
25 - Jun	179	203	154	11	15	7	209	225	200
26 - Jun	171	196	153	11	17	5	217	241	199
27 - Jun	169	190	149	12	21	5	245	262	227
28 - Jun	151	208	120	12	18	7	208	242	170
29 - Jun	179	207	166	12	17	6	190	231	155
30 - Jun	187	202	161	13	19	7	196	236	151

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	217	272	153	17	19	14	202	221	186
2 - Jun	206	238	144	16	20	14	187	204	173
3 - Jun	177	209	152	16	20	13	197	231	178
4 - Jun	185	213	157	17	21	15	215	234	184
5 - Jun	191	231	150	17	20	13	206	238	192
6 - Jun	183	211	158	17	20	14	220	248	206
7 - Jun	178	202	139	16	20	14	194	210	179
8 - Jun	165	188	137	15	19	14	185	215	167
9 - Jun	138	165	122	16	18	14	178	197	168
10 - Jun	152	188	118	16	19	13	177	200	160
11 - Jun	172	224	110	16	20	14	194	205	169
12 - Jun	203	233	150	17	20	14	201	247	168
13 - Jun	185	226	148	17	21	14	253	278	240
14 - Jun	156	169	147	15	19	14	244	269	217
15 - Jun	160	182	141	16	19	13	232	260	200
16 - Jun	180	214	154	17	21	14	214	246	190
17 - Jun	152	179	111	16	19	14	256	290	240
18 - Jun	175	209	142	18	21	14	250	283	222
19 - Jun	165	190	149	18	23	16	276	284	262
20 - Jun	167	199	135	17	20	14	299	323	276
21 - Jun	177	200	147	18	21	16	231	279	207
22 - Jun	181	199	144	18	22	15	262	295	215
23 - Jun	183	213	153	18	22	15	225	275	200
24 - Jun	170	194	139	18	21	14	259	276	239
25 - Jun	163	190	135	17	21	15	243	272	213
26 - Jun	178	223	127	17	22	14	225	250	200
27 - Jun	185	220	159	18	22	15	242	267	225
28 - Jun	165	245	118	16	20	14	233	263	200
29 - Jun	219	283	175	17	21	14	224	268	179
30 - Jun	223	260	179	18	22	15	197	215	179

Unit 3 Boiler Continuous Emission Monitoring Summary

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

- Unit out of service 1st - 6th

	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	0	0	0	0	0	0	0	0	0
2 - Jun	0	0	0	0	0	0	0	0	0
3 - Jun	0	0	0	0	0	0	0	0	0
4 - Jun	0	0	0	0	0	0	0	0	0
5 - Jun	0	0	0	0	0	0	0	0	0
6 - Jun	0	0	0	0	0	0	0	0	0
7 - Jun	199	217	155	5	13	3	182	212	129
8 - Jun	215	236	173	4	8	3	175	212	115
9 - Jun	202	218	163	4	6	3	171	201	117
10 - Jun	198	215	180	4	8	2	202	232	169
11 - Jun	181	201	126	5	10	3	195	214	182
12 - Jun	178	193	154	5	7	3	197	283	130
13 - Jun	174	183	161	5	9	3	216	234	183
14 - Jun	196	243	144	5	10	3	220	256	181
15 - Jun	203	223	177	4	8	2	180	197	163
16 - Jun	195	229	175	5	8	3	173	205	162
17 - Jun	180	205	164	5	9	3	209	229	186
18 - Jun	179	203	143	5	9	2	214	240	170
19 - Jun	178	218	158	5	10	3	228	246	200
20 - Jun	175	194	152	4	6	2	227	249	176
21 - Jun	186	221	165	5	9	3	189	201	174
22 - Jun	190	215	166	5	9	3	240	302	148
23 - Jun	189	220	166	5	9	3	182	215	156
24 - Jun	179	199	164	5	9	2	220	245	189
25 - Jun	165	184	154	4	9	2	206	216	179
26 - Jun	201	253	156	5	9	3	219	253	184
27 - Jun	207	233	179	5	9	2	244	274	203
28 - Jun	165	212	136	5	8	1	214	237	192
29 - Jun	221	291	189	5	8	2	208	251	166
30 - Jun	212	237	184	6	9	4	187	206	157

Unit 4 Boiler Continuous Emission Monitoring Summary

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

- Unit out of service 21st - 22nd.

	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	242	257	222	8	11	7	187	202	172
2 - Jun	255	297	221	8	11	6	180	198	170
3 - Jun	235	270	187	7	11	6	219	254	190
4 - Jun	252	293	162	7	10	6	212	228	190
5 - Jun	245	278	179	7	10	7	202	222	188
6 - Jun	176	208	122	7	11	6	223	253	199
7 - Jun	183	204	162	7	10	6	197	230	175
8 - Jun	183	222	144	7	10	6	183	213	164
9 - Jun	168	207	140	7	10	5	175	185	166
10 - Jun	184	204	144	8	13	4	185	208	167
11 - Jun	182	214	132	10	16	8	192	222	168
12 - Jun	196	227	162	12	15	8	190	216	167
13 - Jun	181	200	135	9	11	8	198	215	183
14 - Jun	172	200	119	8	12	8	205	235	166
15 - Jun	187	228	134	9	12	8	184	203	158
16 - Jun	189	243	159	9	11	8	183	216	165
17 - Jun	178	208	125	9	11	7	223	246	200
18 - Jun	174	207	142	8	12	8	204	228	189
19 - Jun	155	190	123	9	12	7	232	249	209
20 - Jun	171	216	136	9	11	7	260	290	199
21 - Jun	0	0	0	0	0	0	0	0	0
22 - Jun	0	0	0	0	0	0	0	0	0
23 - Jun	177	218	146	8	12	7	194	221	173
24 - Jun	174	192	158	8	10	7	203	218	192
25 - Jun	176	202	163	8	10	7	204	217	182
26 - Jun	181	205	156	8	12	7	223	242	208
27 - Jun	187	216	168	9	13	7	232	248	203
28 - Jun	164	212	124	8	11	7	235	281	181
29 - Jun	207	228	195	8	11	7	187	213	164
30 - Jun	212	244	181	9	12	7	185	205	171

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	23/02/2014
Carbon Dioxide (Wet)	10.2	%	-	23/02/2014
Carbon Monoxide	2.9	mg/m3	-	23/02/2014
Chlorine	0.020	mg/m3	300	23/02/2014
Copper	0.0013	mg/m3	-	23/02/2014
Dry Gas Density	0.93	kg/m3	-	23/02/2014
Fluoride As HF - Total	6.4	mg/m3	50	23/02/2014
Hazardous Substances (Metals) - Total	0.07	mg/m3	1.00	23/02/2014
Hydrogen Chloride	3.1	mg/m3	100.0	23/02/2014
Mercury	0.0011	mg/m3	0.200	23/02/2014
Moisture	7.1	%	-	23/02/2014
Particulates - Total	7.3	mg/m3	50	23/02/2014
Stack Gas Molecular Weight	29	kg/k-mole	-	23/02/2014
Temperature	109.0	degC	-	23/02/2014
Velocity	11.8	m/sec	-	23/02/2014
Volatile Organic Compounds (VOC) - Total	4.7	mg/m3	-	23/02/2014
Volumetric Flow Rate (Dry At STP)	283	m3/sec	-	23/02/2014

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	0.0011	mg/m3	0.20	06/05/2013
Carbon Dioxide (Wet)	10.4	%	-	06/05/2013
Carbon Monoxide	0.90	mg/m3	-	06/05/2013
Chlorine	0.28	mg/m3	300	06/05/2013
Copper	0.0011	mg/m3	-	06/05/2013
Dry Gas Density	0.93	kg/m3	-	06/05/2013
Fluoride As HF - Total	6.4	mg/m3	50	06/05/2013
Hazardous Substances (Metals) - Total	0.025	mg/m3	1.00	06/05/2013
Hydrogen Chloride	3.2	mg/m3	100.0	06/05/2013
Mercury	0.0022	mg/m3	0.200	06/05/2013
Moisture	7.5	%	-	06/05/2013
Particulates - Total	3.8	mg/m3	50	06/05/2013
Stack Gas Molecular Weight	29	kg/k-mole	-	06/05/2013
Temperature	108.0	degC	-	06/05/2013
Velocity	12.2	m/sec	-	06/05/2013
Volatile Organic Compounds (VOC) - Total	5.4	mg/m3	-	06/05/2013
Volumetric Flow Rate (Dry At STP)	293	m3/sec	-	06/05/2013

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	0.0011	mg/m3	0.20	05/08/2013
Carbon Dioxide (Wet)	10.3	%	-	05/08/2013
Carbon Monoxide	9.9	mg/m3	-	05/08/2013
Chlorine	0.30	mg/m3	200	05/08/2013
Copper	0.0011	mg/m3	-	05/08/2013
Dry Gas Density	0.94	kg/m3	-	05/08/2013
Fluoride As HF - Total	9.6	mg/m3	50	05/08/2013
Hazardous Substances (Metals) - Total	0.06	mg/m3	1.00	05/08/2013
Hydrogen Chloride	4.1	mg/m3	100.0	05/08/2013
Mercury	0.0007	mg/m3	0.200	05/08/2013
Moisture	6.7	%	-	05/08/2013
Particulates - Total	15.0	mg/m3	50	05/08/2013
Stack Gas Molecular Weight	29	kg/k-mole	-	05/08/2013
Temperature	103.0	degC	-	05/08/2013
Velocity	11.1	m/sec	-	05/08/2013
Volatile Organic Compounds (VOC) - Total	5.7	mg/m3	-	05/08/2013
Volumetric Flow Rate (Dry At STP)	270	m3/sec	-	05/08/2013

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	0.0010	mg/m3	0.20	13/10/2013
Carbon Dioxide (Wet)	9.4	%	-	13/10/2013
Carbon Monoxide	9.3	mg/m3	-	13/10/2013
Chlorine	0.040	mg/m3	200	13/10/2013
Copper	0.0010	mg/m3	-	13/10/2013
Dry Gas Density	0.94	kg/m3	-	13/10/2013
Fluoride As HF - Total	7.5	mg/m3	50	13/10/2013
Hazardous Substances (Metals) - Total	0.027	mg/m3	1.00	13/10/2013
Hydrogen Chloride	2.8	mg/m3	100.0	13/10/2013
Mercury	0.0022	mg/m3	0.200	13/10/2013
Moisture	6.5	%	-	13/10/2013
Particulates - Total	7.9	mg/m3	50	13/10/2013
Stack Gas Molecular Weight	29	kg/k-mole	-	13/10/2013
Temperature	104.0	degC	-	13/10/2013
Velocity	15.4	m/sec	-	13/10/2013
Volatile Organic Compounds (VOC) - Total	4.7	mg/m3	-	13/10/2013
Volumetric Flow Rate (Dry At STP)	375	m3/sec	-	13/10/2013

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	0.10	0.10	0.20
U2	0.10	0.20	0.30
U3	0.10	0.20	0.30
U4	1.50	1.20	2.70
U5	0.20	0.30	0.50
U6	0.90	0.80	1.70

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	0.30	0.70
E2	0.20	0.50	0.70
E3	0.10	0.30	0.40
E4	1.50	0.40	1.90
E5	0.30	0.40	0.70
E6	0.10	0.10	0.10

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	19.20					
010cm	19.10	8.31	35.27	91.10	6.82	2.50
050cm	19.11	8.31	35.26	91.20	6.83	
100cm	19.11	8.32	35.26	91.20	6.83	
150cm	18.84	8.32	35.22	92.40	6.95	
200cm	18.58	8.32	35.13	93.20	7.05	
250cm	18.55	8.31	35.10	93.50	7.08	
Bottom	18.55	8.31	35.12	93.60	7.08	

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	19.10					
010cm	19.51	8.25	34.99	95.00	7.07	5.50
050cm	19.51	8.25	35.00	95.20	7.08	
100cm	19.51	8.25	35.00	95.20	7.09	
150cm	19.51	8.25	35.00	94.70	7.05	
200cm	19.51	8.25	34.99	94.90	7.06	
250cm	19.51	8.25	35.00	94.80	7.06	
300cm	19.50	8.22	34.99	94.80	7.05	
350cm	19.51	8.25	35.00	94.80	7.05	
400cm	19.48	8.26	35.00	94.70	7.05	
450cm	19.42	8.26	35.00	94.90	7.07	
500cm	19.37	8.26	35.06	94.90	7.08	
550cm	19.35	8.26	35.47	94.40	7.03	
600cm	20.24	8.26	35.73	85.80	6.21	
650cm	20.41	8.24	35.73	80.20	5.85	
Bottom	20.45	8.24	35.69	75.70	5.52	

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	19.80					
010cm	18.56	8.41	35.33	98.50	7.45	6.00
050cm	18.55	8.41	35.34	98.50	7.45	
100cm	18.54	8.41	35.33	98.50	7.45	
150cm	18.54	8.41	35.34	98.60	7.46	
200cm	18.54	8.41	35.34	98.60	7.45	
250cm	18.53	8.39	35.34	98.60	7.46	
300cm	18.53	8.41	35.34	98.50	7.45	
350cm	18.53	8.41	35.34	98.50	7.45	
400cm	18.53	8.41	35.35	98.60	7.46	
450cm	18.53	8.41	35.36	98.60	7.45	
500cm	18.53	8.41	35.35	98.40	7.44	
550cm	18.56	8.41	35.43	97.80	7.39	
600cm	18.57	8.41	35.42	97.20	7.34	
650cm	18.60	8.42	35.49	96.80	7.31	
700cm	18.63	8.40	35.51	96.20	7.25	
750cm	18.65	8.40	35.49	95.60	7.21	
800cm	18.75	8.39	35.57	93.60	7.04	
850cm	18.54	8.37	35.85	88.60	6.68	
Bottom	18.03	8.35	36.13	93.80	7.13	

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	19.30					
010cm	23.08	8.28	35.50	113.40	7.89	3.50
050cm	23.08	8.28	35.50	113.40	7.89	
100cm	23.05	8.29	35.51	113.40	7.90	
150cm	23.01	8.29	35.49	113.90	7.94	
200cm	22.77	8.29	35.50	113.60	7.95	
250cm	21.98	8.29	34.91	110.80	7.89	
300cm	20.55	8.31	35.75	96.80	7.04	
350cm	20.44	8.30	35.74	88.20	6.43	
400cm	20.32	8.33	35.77	87.20	6.37	
450cm	20.27	8.33	35.79	86.70	6.33	
500cm	20.33	8.30	35.85	83.70	6.10	
550cm	20.36	8.29	35.84	79.20	5.77	
600cm	20.36	8.29	35.83	76.90	5.60	
Bottom	20.37	8.24	35.75	43.90	3.20	

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>
Nitrite and Nitrate as N	32	ug/L	-	05/06/2014
Phosphorus Reactive as P - Total	310	ug/L	-	05/06/2014
Phosphorus as P - Total	358	ug/L	-	05/06/2014
Suspended Solids (SS)	5.0	mg/L	-	05/06/2014
pH	9.2		-	05/06/2014

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>
Temperature - Average	17.1	deg C	-	Jun 2014
Temperature - Minimum	14.2	deg C	-	Jun 2014
Temperature - Maximum	19.5	deg C	-	Jun 2014

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>
Temperature - Average	25.3	deg C	35	Jun 2014
Temperature - Minimum	18.4	deg C	35	Jun 2014
Temperature - Maximum	29.7	deg C	35	Jun 2014
Maximum Daily Discharge from Ash Dam	24.4	ML	150000	Jun 2014
Monthly Discharge from Ash Dam	221	ML	-	Jun 2014

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	72	ug/L	-	05/06/2014
Phosphorus as P - Total	111	ug/L	-	05/06/2014
pH	6.9		-	05/06/2014