



Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Dora Creek NSW 2264

Environmental Monitoring Data

May 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 -31 May 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 May	-	-	-	-	-	-	-	-	-
2 May	-	-	-	-	-	-	-	-	-
3 May	-	-	-	-	-	-	-	-	-
4 May	-	-	-	-	-	-	-	-	-
5 May	-	-	-	-	-	-	-	-	-
6 May	-	-	-	-	-	-	-	-	-
7 May	-	-	-	-	-	-	-	-	-
8 May	-	-	-	-	-	-	-	-	-
9 May	-	-	-	-	-	-	-	-	-
10 May	-	-	-	-	-	-	-	-	-
11 May	-	-	-	-	-	-	-	-	-
12 May	-	-	-	-	-	-	-	-	-
13 May	-	-	-	-	-	-	-	-	-
14 May	-	-	-	-	-	-	-	-	-
15 May	-	-	-	-	-	-	-	-	-
16 May	-	-	-	-	-	-	-	-	-
17 May	-	-	-	-	-	-	-	-	-
18 May	-	-	-	-	-	-	-	-	-
19 May	-	-	-	-	-	-	-	-	-
20 May	-	-	-	-	-	-	-	-	-
21 May	-	-	-	-	-	-	-	-	-
22 May	-	-	-	-	-	-	-	-	-
23 May	-	-	-	-	-	-	-	-	-
24 May	-	-	-	-	-	-	-	-	-
25 May	-	-	-	-	-	-	-	-	-
26 May	-	-	-	-	-	-	-	-	-
27 May	-	-	-	-	-	-	-	-	-
28 May	-	-	-	-	-	-	-	-	-
29 May	-	-	-	-	-	-	-	-	-
30 May	-	-	-	-	-	-	-	-	-
31 May	-	-	-	-	-	-	-	-	-

Unit 2 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air
Unit out of service 9-10 May 2018
SoX unit out of service 14 May 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 May	164	191	133	19.3	22.6	15.9	240	255	210
2 May	189	223	137	18.4	22.1	15.9	225	245	204
3 May	168	192	139	16.8	20.6	13.9	227	240	205
4 May	167	203	129	15.9	18.5	13.4	229	260	185
5 May	176	206	135	18.8	21.5	15.7	240	259	189
6 May	179	206	156	19.9	24.1	15.8	222	260	206
7 May	161	195	118	19.2	24.6	14.7	209	222	200
8 May	157	183	133	20.4	23.6	17.7	216	222	206
9 May	-	-	-	-	-	-	-	-	-
10 May	-	-	-	-	-	-	-	-	-
11 May	154	183	124	22.1	28.8	14.2	227	243	204
12 May	142	168	104	15.7	18.4	13.7	244	258	230
13 May	154	178	129	15.7	17.3	14.2	229	242	200
14 May	165	203	129	17.4	26.9	13.8	-	-	-
15 May	167	190	129	23.5	29.1	18.9	236	259	204
16 May	170	201	119	21.5	25.9	18.2	238	267	215
17 May	178	211	109	27.2	34.1	19.6	251	272	225
18 May	164	213	117	32.8	42.3	19.5	249	265	223
19 May	162	185	124	18.4	22.5	15.1	247	259	217
20 May	161	184	118	17.2	20.7	13.4	229	251	206
21 May	153	180	131	17.3	22.9	14.4	220	228	212
22 May	150	168	106	17.0	21.0	13.2	205	222	182
23 May	149	161	123	16.1	19.8	12.9	212	244	173
24 May	127	144	101	14.5	17.2	11.5	204	220	192
25 May	149	177	116	14.2	20.2	11.9	196	221	165
26 May	126	156	100	17.1	22.7	10.5	208	222	180
27 May	150	185	112	17.9	33.3	13.8	194	234	171
28 May	151	170	114	17.1	21.7	13.4	209	217	191
29 May	142	162	114	17.7	21.8	14.4	215	234	190
30 May	130	157	106	19.6	30.5	15.4	227	238	209
31 May	148	167	118	19.2	21.7	16.9	205	224	194

Unit 3 Boiler Continuous Emission Monitoring Summary

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

SoX Unit out of service 2 & 14 May 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 May	157	170	119	11.3	15.4	9.7	232	257	210
2 May	162	186	124	11.3	14.4	9.7	-	-	-
3 May	150	172	116	10.4	12.8	8.7	230	250	202
4 May	142	161	115	9.7	11.9	8.2	222	242	202
5 May	159	186	124	10.6	13.3	8.7	255	276	214
6 May	168	187	123	11.6	15.0	9.9	237	274	210
7 May	168	196	126	11.5	13.2	10.0	215	232	202
8 May	144	177	117	11.1	14.2	8.5	228	238	217
9 May	149	168	121	11.5	15.1	9.0	233	243	225
10 May	154	169	115	12.9	16.1	11.1	226	230	213
11 May	159	178	122	13.6	15.1	11.8	238	263	214
12 May	130	184	115	14.0	19.7	9.3	242	264	223
13 May	168	205	118	13.2	15.8	10.9	231	245	221
14 May	186	202	141	12.9	14.5	10.8	-	-	-
15 May	167	190	122	14.4	17.5	11.8	240	252	226
16 May	156	174	124	16.7	19.2	14.0	248	280	214
17 May	149	159	120	19.0	21.8	16.6	255	267	247
18 May	134	164	110	20.8	30.9	14.8	251	270	231
19 May	142	162	115	12.4	26.1	9.3	251	267	219
20 May	159	167	129	10.8	12.5	8.8	251	272	219
21 May	168	190	128	11.1	13.0	9.3	237	246	229
22 May	171	198	129	11.0	13.1	9.0	229	257	193
23 May	157	183	121	12.9	16.3	10.0	251	281	216
24 May	145	162	120	17.7	36.3	13.1	223	234	208
25 May	168	188	126	15.1	19.1	11.2	219	246	194
26 May	156	181	126	17.4	21.3	13.5	237	250	212
27 May	162	184	122	19.8	24.8	14.6	220	246	197
28 May	156	168	129	22.4	32.4	15.7	231	248	214
29 May	153	175	127	23.1	29.0	15.9	229	257	193
30 May	144	155	123	11.6	27.2	9.6	253	266	237
31 May	166	204	124	10.7	14.3	9.4	237	249	229

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 13 & 14 May 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 May	178	204	158	17.1	30.8	15.0	249	273	220
2 May	199	213	160	17.3	20.6	16.0	257	277	235
3 May	183	208	147	16.7	20.1	14.5	262	280	237
4 May	176	222	144	15.4	16.6	14.0	250	277	206
5 May	187	218	163	16.0	17.3	14.1	262	289	211
6 May	172	210	156	16.4	18.8	14.2	243	280	224
7 May	172	210	150	16.5	21.4	13.6	241	266	224
8 May	163	185	144	16.3	19.8	13.0	246	264	223
9 May	152	176	137	15.8	18.1	13.4	253	273	240
10 May	183	210	152	15.6	17.0	12.8	244	261	232
11 May	174	200	146	15.5	16.6	14.4	238	253	223
12 May	168	199	138	16.3	19.1	15.5	247	276	220
13 May	167	220	131	16.9	18.1	16.0	-	-	-
14 May	195	225	154	16.5	17.8	15.7	-	-	-
15 May	180	201	150	16.6	18.0	15.0	240	265	220
16 May	174	199	149	17.3	19.6	15.9	247	269	217
17 May	190	210	150	18.1	20.3	16.7	251	268	234
18 May	170	200	153	18.5	22.1	16.4	239	277	202
19 May	161	181	144	19.8	22.6	17.1	233	248	205
20 May	170	181	163	19.7	21.6	17.4	220	247	199
21 May	183	209	155	21.6	25.3	18.6	224	247	204
22 May	191	209	169	26.1	31.1	22.2	247	278	220
23 May	183	199	165	28.2	36.8	15.9	259	292	214
24 May	171	186	157	17.2	23.8	15.8	231	246	216
25 May	182	204	155	16.1	19.0	14.8	237	268	199
26 May	198	210	180	17.8	19.9	15.8	252	278	224
27 May	186	211	160	18.5	28.5	16.0	238	271	194
28 May	187	205	154	17.6	21.3	16.0	244	251	234
29 May	181	202	168	17.8	21.7	16.0	250	264	223
30 May	185	218	124	17.5	19.1	16.5	249	267	200
31 May	192	222	151	18.3	20.2	17.1	229	254	174

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	1.8	0.5	2.3
E4	0.6	0.4	1.0
E6	0.8	0.9	1.7
U6	0.4	0.3	0.7

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	20.92					
010cm	20.81	8.32	37.2	66.3	4.67	2.25
050cm	20.88	8.35	37.3	70.2	4.88	
100cm	20.74	8.34	37.3	71.5	4.96	
150cm	20.71	8.35	37.8	70.6	4.80	
200cm	20.72	8.34	37.8	70.3	4.87	
250cm	20.54	8.34	37.9	74.3	4.72	
Bottom	20.40	8.34	37.8	68.5	4.64	

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	18.85					
010cm	20.63	8.36	38.3	62.5	4.56	3.25
050cm	20.88	8.35	38.2	71.0	4.90	
100cm	20.98	8.35	38.1	70.6	4.84	
150cm	21.01	8.36	38.1	71.5	4.48	
200cm	20.93	8.36	38.1	71.6	4.54	
250cm	20.90	8.37	38.1	72.7	4.89	
300cm	20.88	8.37	38.1	70.1	4.79	
350cm	20.89	8.36	38.1	69.9	4.82	
400cm	20.88	8.37	38.1	69.1	4.77	
450cm	20.88	8.36	38.2	69.9	4.82	
500cm	20.87	8.35	38.1	69.9	4.85	
550cm	20.87	8.36	38.2	69.5	4.78	
600cm	20.86	8.36	38.2	67.7	4.70	
650cm	20.87	8.37	38.2	68.6	4.70	
700cm	20.87	8.38	38.2	68.9	4.72	
750 cm	20.87	8.39	38.2	69.9	4.84	
Bottom	20.85	8.39	38.2	56.2	3.87	

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	15.06					
010cm	19.84	8.23	37.0	75.9	5.21	3.75
050cm	19.92	8.24	37.0	76.9	5.52	
100cm	19.96	8.24	37.0	75.2	5.47	
150cm	20.07	8.25	36.9	76.7	5.41	
200cm	20.10	8.25	36.9	78.8	5.52	
250cm	20.05	8.25	36.9	77.9	5.42	
300cm	20.12	8.25	36.9	78.1	5.50	
350cm	20.10	8.25	36.9	78.4	5.48	
400cm	20.07	8.26	36.9	78.2	5.47	
450cm	20.10	8.26	36.9	78.0	5.45	
500cm	20.13	8.26	36.8	77.8	5.83	
550cm	20.12	8.26	36.9	76.7	5.72	
600cm	20.10	8.26	36.8	74.3	5.23	
650cm	20.10	8.26	36.8	75.6	5.34	
700cm	20.11	8.27	36.8	75.9	5.20	
750cm	20.12	8.27	36.8	75.2	5.01	
800cm	20.10	8.27	36.9	72.6	4.93	
850cm	20.10	8.28	36.8	71.7	4.82	
900cm	20.13	8.28	36.8	71.7	4.83	
950cm	20.12	8.28	36.8	72.8	4.84	
Bottom	20.06	8.29	36.9	63.6	4.80	

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	20.86					
010cm	20.07	8.25	38.3	82.3	5.54	3.25
050cm	24.45	8.25	38.1	85.6	5.57	
100cm	24.44	8.26	38.1	85.2	5.51	
150cm	24.43	8.26	38.0	87.8	5.74	
200cm	24.44	8.26	38.0	86.0	5.60	
250cm	24.45	8.25	38.0	87.2	5.68	
300cm	24.44	8.26	38.0	85.0	5.50	
350cm	24.05	8.25	37.9	86.3	5.65	
400cm	23.55	8.27	38.1	79.0	5.29	
450cm	22.56	8.29	37.7	75.5	5.09	
500cm	22.18	8.29	37.8	73.0	4.92	
550cm	22.10	8.29	37.8	71.5	4.86	
600cm	22.02	8.29	37.8	71.4	4.85	
Bottom	22.00	8.29	37.8	62.2	4.20	

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	0.06	ug/L	-	03/05/2018
Copper	1.1	ug/L	-	03/05/2018
Iron	<2	ug/L	-	03/05/2018
Lead	<0.1	ug/L	-	03/05/2018
Manganese	32.4	ug/L	-	03/05/2018
Nitrite and Nitrate as N	1970	ug/L	-	03/05/2018
Phosphorus Reactive as P - Total	686	ug/L	-	03/05/2018
Phosphorus as P - Total	703	ug/L	-	03/05/2018
Selenium	18.7	ug/L	-	03/05/2018
Suspended Solids (SS)	19000	ug/L	-	03/05/2018
Zinc	<1	ug/L	-	03/05/2018
pH	8.20		-	03/05/2018

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	0.5	ug/L	-	03/05/2018
Iron	<5	ug/L	-	03/05/2018
Selenium	<1	ug/L	-	03/05/2018
Temperature – Average	19.0	deg C	-	May 2018
Temperature – Minimum	17.0	deg C	-	May 2018
Temperature - Maximum	22.1	deg C	-	May 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	1.1	ug/L	5	03/05/2018
Iron	12	ug/L	300	03/05/2018
Selenium	1	ug/L	2	03/05/2018
Temperature – Average	26.8	deg C	37.5	May 2018
Temperature – Minimum	22.3	deg C	37.5	May 2018
Temperature - Maximum	31.9	deg C	37.5	May 2018
Maximum Daily Discharge from Ash Dam	10.56	ML	150	May 2018
Monthly Discharge from Ash Dam	70.5	ML	-	May 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	216	ug/L	-	03/05/2018
Phosphorus as P – Total	<5	ug/L	-	03/05/2018
pH	6.84		-	03/05/2018