



Eraring Power Station – EPA Licence 1429

Environmental Monitoring Data

May 2012



Eraring Power Station - EPA Licence 1429

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

Unit 1 Boiler Continuous Emission Monitoring Summary - May 2012

Day	Particulate mg/m ³			SOx ppm @12% CO ₂			NOx ppm @12% CO ₂		
	24 hr Avg	Max hr avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min HrAvg
1	6	8	3	191	216	152	154	206	122
2	6	9	3	198	233	155	157	206	97
3	6	10	3	212	236	157	159	191	104
4	8	11	5	211	230	164	156	196	106
5	8	13	5	205	219	180	151	187	129
6	6	16	4	171	205	151	126	162	111
7	7	20	4	169	192	124	136	193	114
8	10	15	5	178	198	147	158	196	108
9	11	14	6	181	215	139	167	250	120
10	10	16	7	222	285	126	170	208	116
11	10	14	7	265	312	215	179	216	138
12	12	19	7	278	301	235	172	224	134
13	3	3	<1	238	283	106	207	263	164
14	4	4	<1	248	272	190	198	225	172
15	1	1	<1	236	380	209	212	244	164
16	2	2	1	214	235	180	205	229	148
17	3	3	1	219	495	157	176	251	117
18	1	1	1	218	234	172	190	232	115
19	6	8	1	177	226	111	179	250	147
20	7	9	6	136	155	111	185	255	142
21	7	11	5	150	161	132	214	244	158
22	7	12	5	138	171	102	204	246	161
23	7	9	6	152	203	138	214	240	164
24	7	10	7	150	201	100	218	253	180
25	7	8	6	222	324	66	201	254	158
26	7	8	6	441	484	294	176	235	139
27	7	9	6	415	470	301	172	219	142
28	8	12	6	250	421	169	170	212	136
29	8	10	7	174	198	123	184	207	140
30	8	9	7	247	280	167	190	217	136
31	8	9	7	238	264	167	197	220	152

Notes

No exceedence of licence limits.

Eraring Power Station - EPA Licence 1429

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

Unit 2 Boiler Continuous Emission Monitoring Summary - May 2012

Day	Particulat mg/m ³			SOx ppm @12% CO ₂			NOx ppm @12% CO ₂		
	24 hr Avg	Max hr avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min HrAvg
1	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
2	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
3	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
4	5	18	3	198	239	48	172	189	138
5	4	4	4	239	239	230	189	196	189
6	4	5	4	209	231	183	201	249	171
7	4	4	4	210	234	187	206	287	142
8	4	5	4	213	230	181	265	301	223
9	4	5	4	229	261	177	213	290	133
10	4	4	3	229	243	189	163	205	99
11	4	4	4	232	254	203	157	215	100
12	4	4	4	213	234	183	170	216	156
13	4	4	4	216	229	193	163	186	131
14	4	4	4	210	233	180	170	182	161
15	4	4	4	225	248	181	160	172	146
16	4	4	4	232	275	196	181	200	151
17	4	5	4	216	240	181	167	185	149
18	4	5	4	231	254	195	167	173	153
19	4	5	4	223	244	204	157	173	149
20	4	4	4	230	240	195	167	185	150
21	4	4	4	156	215	124	177	204	136
22	4	4	4	240	244	232	203	219	183
23	4	5	4	219	231	196	185	217	114
24	4	5	4	218	240	190	187	215	171
25	4	4	4	236	253	204	196	253	151
26	4	4	4	231	248	200	191	230	154
27	4	5	4	213	234	182	180	216	152
28	5	9	4	213	257	176	180	209	156
29	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
30	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
31	4	6	3	193	234	90	155	179	104

Notes

No exceedence of licence limits.

O/S = Out of Service

Eraring Power Station - EPA Licence 1429

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

Unit 3 Boiler Continuous Emission Monitoring Summary - May 2012

Day	Particulate mg/m ³			SO _x ppm @12% CO ₂			NO _x ppm @12% CO ₂		
	24 hr Avg	Max hr avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min Hr Avg	24 Hr Avg	Max Hr Avg	Min HrAvg
1	7	8	6	227	294	111	163	221	123
2	7	8	6	250	327	119	178	217	126
3	8	8	6	283	439	211	177	229	107
4	10	14	7	238	356	163	169	272	91
5	11	16	8	217	242	198	153	194	128
6	9	14	5	194	215	167	160	181	117
7	5	7	5	194	226	167	154	249	120
8	6	7	4	195	228	152	192	253	130
9	6	7	6	209	247	151	193	231	148
10	7	10	6	219	240	178	184	236	113
11	7	7	6	229	268	195	170	212	105
12	7	8	6	209	246	160	167	212	120
13	7	8	6	211	248	161	168	209	139
14	11	15	7	203	227	161	189	209	162
15	15	24	9	230	260	161	176	195	132
16	7	14	6	234	283	177	174	189	153
17	5	8	5	208	238	141	173	200	113
18	5	6	5	229	285	161	176	234	118
19	5	6	5	221	263	159	147	219	114
20	5	6	4	209	254	157	156	225	114
21	5	5	5	220	267	157	187	217	135
22	5	5	5	229	291	157	195	246	114
23	5	5	5	215	269	148	201	242	140
24	5	5	5	210	264	138	187	211	119
25	5	5	5	226	292	180	209	240	172
26	5	5	5	219	271	141	161	199	122
27	5	5	5	201	257	161	177	207	157
28	5	5	5	209	255	169	197	257	159
29	6	6	5	218	240	155	228	253	157
30	6	6	5	224	254	174	222	249	158
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Notes

No exceedence of licence limits.

No Data for Unit 4 this month due to upgrade outage.

Eraring Power Station - EPA Licence 1429
EPA Surface Water Monitoring - 2nd May 2012

Eraring Trace Element Analysis	Location:		EPA 1 (EROC)		EPA 8 (ERIC)	EPA 10 (ERAD)		EPA 17 (ERTOIE)
	Analytes	Units	Monitoring Frequency	Licence Limit	Analysis	Analysis	Licence Limit	Analysis
Total Phosphorus as P	mg/L	Monthly					0.37	0.39
Reactive Phosphorus as P - Total	mg/L	Monthly					0.33	
Nitrite + Nitrate as N	mg/L	Monthly					0.506	<.002
Temperature Average	°C	Continuous	Note 1	25.38	18.15			
Temperature Maximum	°C	Continuous	Note 1	30.56	20.76			
Temperature Minimum	°C	Continuous	Note 1	19.32	15.84			
Total Suspended Solids (TSS)	mg/L	Monthly					6	
Discharge to Outlet Canal	ML/month						555.91	
Maximum Discharge to Outlet Canal	ML/day	Continuous				150	59.81	

Orange cells above indicate that EPA licence limits apply - Notes on limits given below.

Note 1	The 98.5% percentile limit specified for temperature at EPA point 1 means during normal electricity supply conditions, cooling water may be discharged over 35°C but up to a maximum temperature of 37.5°C for up to 131 hours over the reporting period. An additional 69 hours are allocated under the shortfall of electricity supply conditions as per EPA Licence Conditions.
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Notes

There were no licence exceedences for water monitoring points.
 mg/L = milligrams per litre
 µg/L = micrograms per litre
 ML = megalitre

Eraring Power Station - EPA Licence 1429
 EPA identification no's. 4,5,6 & 7 - Ambient water monitoring Lake Macquarie
 Sampling Results for May 2012

Sampling Frequency: Monthly

Date	Site	Depth (Metres)	Temp (°C)	pH Units	Salinity (ppt)	DO %	DO mg/L	Secchi (Metres)	Descriptor
1-May-12	EPA 4 (LM10)	Air	23.3					3.5	Midway between Cooling Water
		0.1	19.8	8.1	33.9	98	7.3		
		0.5	19.8	8.1	33.9	98	7.3		
		1.0	19.9	8.1	33.9	98	7.3		
		1.5	19.8	8.1	33.9	99	7.3		
		2.0	19.8	8.1	33.8	98	7.3		
		2.5	19.8	8.1	33.8	98	7.3		
		3.0	19.3	8.1	34.0	97	7.2		
		3.1	19.3	8.1	34.1	95	7.1		
1-May-12	EPA 5 (LM7)	Air	25.3					4.5	Off the Old Wangi Power Station Inlet Canal
		0.1	21.7	8.1	33.9	111	7.9		
		0.5	21.7	8.1	33.9	111	7.9		
		1.0	21.7	8.1	33.9	111	7.9		
		1.5	21.4	8.1	33.6	111	7.9		
		2.0	20.9	8.1	33.9	109	7.9		
		2.5	20.3	8.1	34.0	99	7.2		
		3.0	20.3	8.1	34.2	98	7.2		
		3.5	20.4	8.1	34.8	92	6.7		
		4.0	20.5	8.0	34.9	84	6.1		
		4.5	20.7	8.0	35.4	76	5.4		
		5.0	21.0	7.9	35.6	61	4.4		
		5.5	21.1	7.9	35.9	53	3.8		
6.0	21.1	7.9	36.2	48	3.4				
6.2	21.3	7.9	36.0	38	2.7				
1-May-12	EPA 6 (LM12)	Air	22.3					4.5	Eraring / Vales Point mixing zone off Fishery Point
		0.1	19.8	8.1	33.7	98	7.2		
		0.5	19.8	8.1	33.7	98	7.2		
		1.0	19.8	8.1	33.7	98	7.2		
		1.5	19.8	8.1	33.7	98	7.2		
		2.0	19.8	8.1	33.7	98	7.2		
		2.5	19.8	8.1	33.7	98	7.2		
		3.0	19.7	8.1	33.7	97	7.2		
		3.5	19.7	8.1	33.6	97	7.2		
		4.0	19.6	8.1	33.7	97	7.2		
		4.5	20.4	8.1	35.4	95	6.9		
		5.0	20.8	8.0	35.4	81	5.8		
		5.5	20.9	8.0	35.6	76	5.4		
		6.0	21.1	8.0	35.9	66	4.7		
6.5	21.2	8.0	36.0	61	4.4				
7.0	21.2	8.0	36.1	59	4.2				
7.5	21.3	7.9	36.1	49	3.5				
1-May-12	EPA 7 (LM4)	Air	22.3					4.5	Northern waters of Lake east of Lake Macquarie Yacht Club
		0.1	19.5	8.0	35.0	98	7.2		
		0.5	19.5	8.0	35.0	98	7.2		
		1.0	19.5	8.1	35.0	98	7.2		
		1.5	19.5	8.1	35.0	98	7.2		
		2.0	19.5	8.1	35.0	98	7.2		
		2.5	19.5	8.1	35.0	98	7.2		
		3.0	19.5	8.1	34.9	98	7.2		
		3.5	19.3	8.1	35.0	97	7.2		
		4.0	19.3	8.1	35.0	97	7.2		
		4.5	19.3	8.1	35.0	96	7.1		
		5.0	19.3	8.1	35.0	95	7.1		
		5.5	19.3	8.1	35.1	94	7.0		
		6.0	19.4	8.1	35.1	94	7.0		
		6.5	19.4	8.1	35.1	93	6.9		
7.0	19.4	8.1	35.1	93	6.9				
7.5	19.5	8.1	35.3	93	6.8				
8.0	19.6	8.1	35.4	93	6.8				
8.5	20.1	8.1	35.4	92	6.7				
9.0	19.7	8.1	35.5	93	6.8				
9.5	20.5	8.2	36.8	95	6.8				

Ering Power Station - EPA Licence 1429
 EPA Identification no. 15 & 16
 Ambient Air Monitoring May 2012

Summary of Ambient Monitoring Results - Monitoring Point 15 - Marks Point Ambient				
1/05/2012 to 31/05/2012				
	Monitoring Point 15 - Marks Point Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	3.9	3.7	16.1	19.5
Maximum 1 hour Average	2.5	3.6	10.9	13.8
Maximum 24 hour Average	0.3	1.8	2.1	3.7
90th Percentile	0.2	1.9	1.0	2.8
Geometric Mean	0.1	0.7	0.3	0.8
Geometric Standard Deviation	2.9	2.1	5.1	2.5
Availability (%)	96	96	96	96

Summary of Ambient Monitoring Results - Monitoring Point 16 - Dora Creek Ambient				
1/05/2012 to 31/05/2012				
	Monitoring Point 16 - Dora Creek Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	5.4	2.8	14.9	16.4
Maximum 1 hour Average	4.2	2.4	13.1	14.6
Maximum 24 hour Average	0.7	1.1	4.5	5.5
90th Percentile	0.1	1.1	3.2	4.0
Geometric Mean	0.5	0.6	0.8	1.1
Geometric Standard Deviation	2.7	1.8	3.2	2.8
Availability (%)	94	95	95	95

Summary of Fluoride Monitoring for Dora Creek Ambient

Reporting Month	April			May		
Sampling Period	28/03/2012	to	1/05/2012	1/05/2012	to	30/05/2012
Parameter	Gaseous Fluoride (ug/m ³)	Particulate Fluoride (ug/m ³)	Total Fluoride (ug/m ³)	Gaseous Fluoride (ug/m ³)	Particulate Fluoride (ug/m ³)	Total Fluoride (ug/m ³)
Week 1 Results	<0.1 (0.10)	<0.1 (0.01)	0.10	<0.1 (0.02)	<0.1 (0.00)	<0.1 (0.02)
Week 2 Results	<0.1 (0.03)	<0.1 (0.00)	<0.1 (0.03)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.02)
Week 3 Results	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.05)	<0.1 (0.00)	<0.1 (0.05)
Week 4 Results	<0.1 (0.00)	<0.1 (0.03)	<0.1 (0.03)	<0.1 (0.04)	<0.1 (0.00)	<0.1 (0.04)
Week 5 Results	<0.1 (0.00)	<0.1 (0.04)	<0.1 (0.04)			
% Data Availability	100%			100%		
Remarks	Data are reported as per AS3580.13.2, with a lowest reportable value of <0.1 ug/m ³ , exact figures appearing in brackets. Samples analysed by Australian Laboratory Services, Report No. EN1201669			Data are reported as per AS3580.13.2, with a lowest reportable value of <0.1 ug/m ³ , exact figures appearing in brackets. Samples analysed by Australian Laboratory Services, Report No. EN1202098		

Eraring Power Station - EPA Licence 1429
EPA Identification no. 18
Particulates - Deposited Matter

May 2012

<i>Gauge Number</i>	<i>Insolubles</i>	<i>Ash</i>	<i>*Combustible</i>
E1	1.0	0.7	0.3
E2	0.5	0.2	0.3
E3	1.3	0.3	1.0
E4	0.6	0.2	0.4
E5	6.4	5.8	0.6
E6	0.3	<0.1	0.3

*All measurements are expressed as g/m2/month
(* Calculated Result*

Earing Power Station - Monthly Ambient Site Report

Climatic Results for Monitoring Point 16 - Dora Creek Ambient Air

1/05/2012 to 31/05/2012

Date	Wind Speed (m/s)	Wind Direction (deg)	Rainfall (mm)	Temperature 1.2m (°C)	Temperature 10m (°C)	Solar Rad (w/m ²)	Sigma Theta (deg)
1/05/2012	0.6	1	0.3	15.0	14.6	154	26
2/05/2012	0.4	98	0.0	15.6	15.4	155	23
3/05/2012	0.2	19	2.5	16.2	15.9	100	27
4/05/2012	0.2	91	0.0	14.4	14.4	140	26
5/05/2012	0.9	244	0.3	13.7	14.2	113	24
6/05/2012	0.6	316	0.0	12.4	12.2	158	26
7/05/2012	0.4	296	0.0	11.5	11.6	92	22
8/05/2012	0.5	299	0.3	13.0	12.8	151	29
9/05/2012	0.6	345	0.0	14.6	14.2	147	23
10/05/2012	0.1	61	0.0	16.0	16.0	147	20
11/05/2012	0.6	339	0.3	16.8	16.9	125	25
12/05/2012	0.4	244	0.0	13.2	13.4	147	25
13/05/2012	2.0	286	0.0	11.7	12.7	142	25
14/05/2012	0.9	254	0.0	9.9	10.9	146	22
15/05/2012	0.7	272	0.0	10.5	10.9	145	24
16/05/2012	0.5	262	0.0	11.6	12.2	103	22
17/05/2012	0.2	34	0.0	11.3	11.2	122	20
18/05/2012	0.2	68	0.0	11.6	11.5	130	23
19/05/2012	0.4	308	0.3	10.9	10.8	127	22
20/05/2012	0.3	196	0.0	11.5	11.3	89	23
21/05/2012	0.4	357	0.3	12.5	12.3	117	25
22/05/2012	0.9	296	0.0	11.6	11.5	139	22
23/05/2012	0.7	326	0.0	10.9	10.8	139	22
24/05/2012	0.4	309	3.0	10.7	10.4	31	29
25/05/2012	1.3	340	0.3	14.2	14.0	62	32
26/05/2012	1.9	303	0.0	11.9	12.2	130	28
27/05/2012	0.6	244	5.1	10.7	10.6	123	26
28/05/2012	1.3	221	0.5	13.8	13.4	131	26
29/05/2012	0.8	242	6.4	13.9	13.3	57	28
30/05/2012	0.6	214	1.3	13.6	13.4	82	23
31/05/2012	0.2	254	0.0	13.2	13.0	65	25