



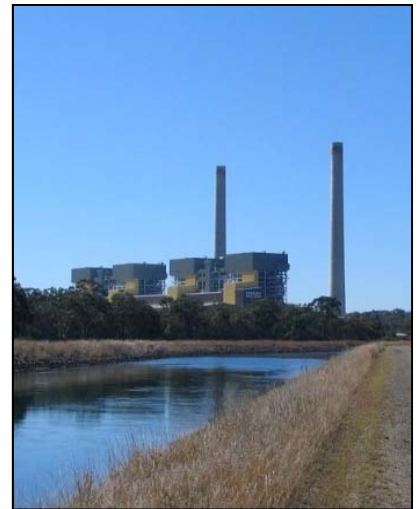
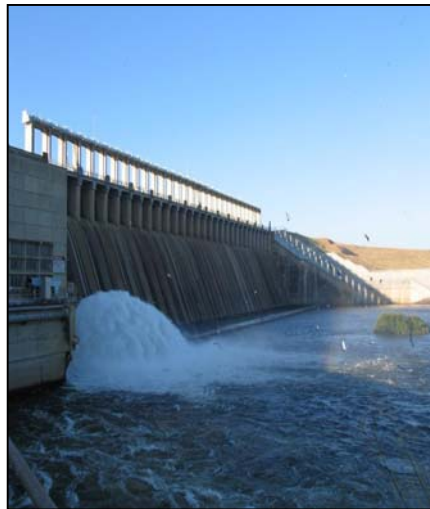
**Eraring** energy

Eraring Power Station – EPA Licence 1429

Coal Unloader – EPA Licence 4297

Environmental Monitoring Data

September 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 - September 2012**

Day	Particulate mg/m3			SOx ppm @12% CO2			NOx ppm @12% CO2		
	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	11	12	11	187	210	168	217	253	164
2	11	11	10	179	188	175	219	262	141
3	11	12	9	160	184	114	194	275	127
4	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
5	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
6	10	10	7	182	207	150	178	278	100
7	10	10	10	201	221	172	208	240	142
8	10	10	10	174	196	160	199	265	150
9	10	11	10	188	195	164	179	218	125
10	11	12	10	165	176	143	211	266	135
11	10	11	10	190	215	154	166	197	136
12	10	11	10	187	201	161	186	226	128
13	10	11	10	196	211	174	206	237	136
14	11	11	10	189	200	173	207	240	139
15	11	11	10	170	183	152	220	265	154
16	11	11	10	159	168	137	232	273	154
17	10	11	10	165	182	136	225	266	151
18	11	12	10	181	202	158	191	240	140
19	10	11	10	191	205	163	150	160	128
20	10	11	10	190	205	174	163	176	143
21	10	11	10	203	216	175	153	162	142
22	10	11	10	172	184	151	167	183	142
23	10	11	10	159	167	138	177	201	142
24	10	11	10	160	164	144	196	219	150
25	10	11	10	184	206	149	160	179	149
26	10	11	10	178	192	166	173	194	133
27	10	11	9	185	195	176	176	206	141
28	9	9	9	195	215	172	165	188	147
29	9	10	9	168	177	158	190	215	156
30	10	11	10	162	166	156	196	222	169
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**Notes**

M = Instrument maintenance

O/S = Unit Out of Service

No exceedance 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 - September 2012**

Day	Particulate mg/m3			SOx ppm @12% CO2			NOx ppm @12% CO2		
	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	10	6	196	228	174	168	178	157
2	7	9	5	183	199	169	177	197	146
3	7	11	5	178	192	161	170	183	146
4	7	11	5	176	194	156	174	185	162
5	7	15	4	207	223	187	159	168	141
6	5	7	4	204	220	186	167	192	152
7	6	9	4	217	233	189	217	249	148
8	5	9	4	183	193	170	176	194	163
9	6	10	4	186	198	173	174	209	155
10	6	10	5	173	192	151	188	201	171
11	6	7	4	195	224	161	160	182	146
12	6	9	4	211	310	176	192	415	158
13	6	9	4	249	284	228	211	240	158
14	6	9	5	235	264	200	203	238	157
15	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
16	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
17	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
18	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
19	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
20	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
21	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
22	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
23	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
24	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
25	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
26	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
27	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
28	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S
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									

**Notes**

No exceedance 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 - September 2012**

Day	Particulate mg/m3			SOx ppm @12% CO2			NOx ppm @12% CO2		
	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	7	7	190	215	173	265	471
2	7	7	7	176	196	148	240	382	161
3	7	7	6	181	209	130	214	357	154
4	7	7	6	193	211	171	210	235	175
5	7	7	6	221	239	197	204	220	161
6	7	7	7	230	255	197	227	269	163
7	7	7	7	234	262	208	246	266	210
8	7	7	7	193	205	165	244	280	212
9	7	7	6	206	235	162	220	241	196
10	7	7	6	186	203	146	257	303	191
11	7	7	6	214	243	168	221	251	190
12	7	7	7	213	236	168	236	277	209
13	8	19	7	229	270	200	254	311	186
14	8	17	7	229	274	196	231	262	188
15	7	7	7	205	231	163	247	292	170
16	7	8	7	187	202	144	292	314	233
17	8	8	7	195	224	158	270	318	176
18	7	8	7	206	242	153	216	275	173
19	7	8	6	161	235	160	164	238	179
20	7	8	7	212	240	141	209	236	171
21	8	8	8	233	265	183	207	237	198
22	7	8	7	205	236	170	203	220	168
23	7	8	7	186	217	126	218	259	172
24	7	8	7	195	208	174	231	269	198
25	7	8	7	197	229	149	206	238	180
26	7	8	7	205	224	173	227	292	204
27	7	8	7	212	254	148	216	250	179
28	8	8	8	245	264	213	196	236	169
29	7	8	7	204	223	184	233	262	182
30	8	13	5	189	278	142	245	486	189
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**Notes**

No exceedance of licence limits.

Eraring Power Station - EPA Licence 1429

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

### **Unit 4 Boiler Continuous Emission Monitoring Summary - September 2012**

#### **Notes**

No exceedance of licence limits.

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

**Eraring Power Station - EPA Licence 1429**

**EPA Surface Water Monitoring - 5<sup>th</sup> September 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					0.36	0.41
Reactive Phosphorus as P - Total	mg/L	Monthly					0.29	
Nitrite + Nitrate as N	mg/L	Monthly					1.75	0.053
Temperature Average	°C	Continuous	Note 1	25.0	18.2			
Temperature Maximum	°C	Continuous	Note 1	29.0	21.0			
Temperature Minimum	°C	Continuous	Note 1	19.3	14.9			
Total Suspended Solids (TSS)	mg/L	Monthly					4	
Discharge to Outlet Canal	ML/month						250	
Maximum Discharge to Outlet Canal	ML/day	Continuous				150	22	

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.

Notes

There were no licence exceedances 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 September 2012

Sampling Frequency: Monthly

Date	Site	Depth (Metres)	Temp (°C)	pH Units	Salinity (ppt)	DO %	DO mg/L	Secchi (Metres)	Descriptor
3-Sep-12	EPA 4 (LM10)	Air	16.0					2.5	Midway between Cooling Water Canal Inlet and Hungary Point
		0.1	16.7	8.1	38.4	98.1	7		
		0.5	16.7	8.1	38.4	97.9	7		
		1.0	16.6	8.1	38.4	97.8	7		
		1.5	16.4	8.1	38.5	97.6	7		
		2.0	16.0	8.1	38.4	97.4	8		
		2.5	16.0	8.1	38.4	97.6	8		
		2.9	16.0	8.1	38.5	98.4	8		
		3-Sep-12	EPA 5 (LM7)	Air	17.0				
0.1	20.4			8.1	38.7	118.9	8		
0.5	20.4			8.1	38.5	118.4	8		
1.0	19.6			8.1	38.7	116.9	8		
1.5	19.4			8.1	38.6	116.3	8		
2.0	19.2			8.1	38.6	116.4	8		
2.5	19.1			8.1	38.4	116.0	8		
3.0	18.6			8.1	38.5	114.4	8		
3.5	17.5			8.1	38.2	109.9	8		
4.0	16.6			8.1	38.5	100.4	8		
4.5	16.6			8.1	38.7	95.8	7		
5.0	16.6			8.1	38.7	95.3	7		
5.5	16.6			8.1	38.7	94.7	7		
6.0	16.6	8.0	38.6	92.2	7				
3-Sep-12	EPA 6 (LM12)	Air	15.0					3.5	Eraring / Vales Point mixing zone off Fishery Point
		0.1	17.9	8.1	38.1	99.1	7		
		0.5	17.6	8.1	38.0	98.7	7		
		1.0	17.2	8.1	38.1	98.5	7		
		1.5	17.1	8.1	38.0	98.4	7		
		2.0	16.7	8.1	38.2	97.9	7		
		2.5	16.6	8.1	38.1	98.0	7		
		3.0	16.4	8.1	38.2	98.3	8		
		3.5	16.4	8.1	38.2	98.1	8		
		4.0	16.4	8.1	38.3	98.1	8		
		4.5	16.3	8.1	38.3	98.0	8		
		5.0	16.3	8.1	38.2	97.7	8		
		5.5	16.3	8.1	38.5	96.1	7		
		6.0	16.3	8.1	38.5	96.6	7		
		7.5	16.3	8.1	38.6	96.3	7		
3-Sep-12	EPA 7 (LM4)	Air	15.0					6.0	Northern waters of Lake east of Lake Macquarie Yacht Club
		0.1	15.9	8.1	39.1	100.2	8		
		0.5	15.8	8.1	39.1	100.2	8		
		1.0	15.8	8.1	39.1	100.3	8		
		1.5	15.7	8.1	39.1	100.3	8		
		2.0	15.7	8.1	39.1	100.3	8		
		2.5	15.7	8.1	39.2	100.3	8		
		3.0	15.6	8.1	39.1	100.5	8		
		3.5	15.6	8.1	39.2	100.3	8		
		4.0	15.6	8.1	39.2	100.1	8		
		4.5	15.6	8.1	39.2	100.1	8		
		5.0	15.6	8.2	39.2	100.1	8		
		5.5	15.6	8.2	39.2	100.1	8		
		6.0	15.6	8.2	39.2	100.0	8		
		6.5	15.6	8.2	39.2	99.8	8		
		7.0	15.6	8.2	39.2	99.9	8		
		7.5	15.6	8.2	39.2	99.6	8		
		8.0	15.6	8.2	39.3	99.5	8		
		8.5	15.8	8.1	39.8	99.4	8		
9.0	16.3	8.1	39.7	96.8	7				
9.5	16.3	8.1	39.7	95.9	7				
9.7	16.3	8.1	39.7	95.9	7				

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

Summary of Ambient Monitoring Results - Monitoring Point 15 - Marks Point Ambient				
1/08/2012 to 31/08/2012				
	Monitoring Point 15 - Marks Point Ambient			
	SO <sub>2</sub> (pphm)	NO <sub>2</sub> (pphm)	NO (pphm)	NO <sub>x</sub> (pphm)
Maximum 10 minute Average	3.8	3.6	14.9	17.9
Maximum 1 hour Average	1.5	3.3	6.1	8.6
Maximum 24 hour Average	0.2	1.3	1.1	2.1
90th Percentile	0.3	1.7	0.5	2.1
Geometric Mean	0.1	0.6	0.2	0.6
Geometric Standard Deviation	4.2	2.2	5.3	2.5
Availability (%)	98	99	99	99

Summary of Ambient Monitoring Results - Monitoring Point 16 - Dora Creek Ambient				
1/08/2012 to 31/08/2012				
	Monitoring Point 16 - Dora Creek Ambient			
	SO <sub>2</sub> (pphm)	NO <sub>2</sub> (pphm)	NO (pphm)	NO <sub>x</sub> (pphm)
Maximum 10 minute Average	2.5	2.8	15.4	16.7
Maximum 1 hour Average	1.3	2.4	10.5	11.5
Maximum 24 hour Average	0.2	1.2	2.4	3.6
90th Percentile	0.1	1.3	2.6	3.5
Geometric Mean	0.5	0.5	0.8	0.7
Geometric Standard Deviation	2.7	2.1	2.8	3.0
Availability (%)	94	96	96	96

Summary of Fluoride Monitoring for Dora Creek Ambient

Monitoring Location	Dora Creek / EPA Monitoring Point 17								
Reporting Month	July			August			September		
Sampling Period	27/06/2012 to 1/08/2012		1/08/2012 to 29/08/2012		to				
Parameter	Gaseous Fluoride (ug/m <sup>3</sup> )	Particulate Fluoride (ug/m <sup>3</sup> )	Total Fluoride (ug/m <sup>3</sup> )	Gaseous Fluoride (ug/m <sup>3</sup> )	Particulate Fluoride (ug/m <sup>3</sup> )	Total Fluoride (ug/m <sup>3</sup> )	Gaseous Fluoride (ug/m <sup>3</sup> )	Particulate Fluoride (ug/m <sup>3</sup> )	Total Fluoride (ug/m <sup>3</sup> )
Week 1 Results	<0.1 (0.02)	<0.1 (0.00)	<0.1 (0.02)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)	Data for September pending		
Week 2 Results	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.00)			
Week 3 Results	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)			
Week 4 Results	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.01)			
Week 5 Results	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.01)						
% Data Availability	100%			100%					
Remarks	Data are reported as per AS3580.13.2, with a lowest reportable value of <0.1 ug/m <sup>3</sup> , exact figures appearing in brackets. Samples analysed by Australian Laboratory Services, Report No. EN1202872			Data are reported as per AS3580.13.2, with a lowest reportable value of <0.1 ug/m <sup>3</sup> , exact figures appearing in brackets. Samples analysed by Australian Laboratory Services, Report No. EN1203332			Data are reported as per AS3580.13.2, with a lowest reportable value of <0.1 ug/m <sup>3</sup> , exact figures appearing in brackets. Samples analysed by Australian Laboratory Services, Report No.		