

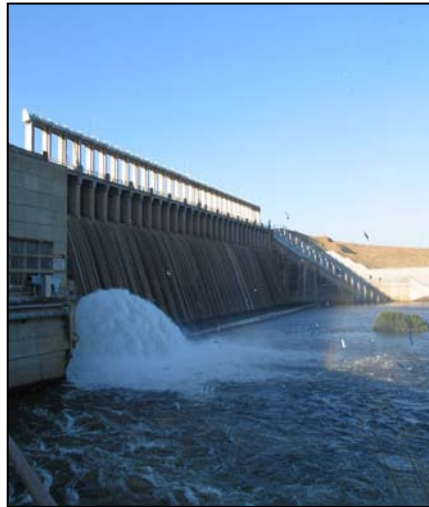


Eraring Power Station – EPA Licence 1429

Hume Power Station - EPA Licence 10675

Environmental Monitoring Data

July 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 - July 2012**

Day	Particulate mg/m <sup>3</sup>			SOx ppm @12% CO <sub>2</sub>			NOx ppm @12% CO <sub>2</sub>		
	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	10	10	9	164	183.811859	127	178	209	123
2	10	11	9	181	206	142	208	260	133
3	10	11	9	194	213	161	203	222	162
4	11	11	10	189	216	164	199	225	151
5	11	11	10	183	198	151	214	247	156
6	11	12	10	176	196	152	217	248	155
7	11	12	9	184	196	156	211	238	160
8	10	11	9	177	189	160	215	270	171
9	11	13	9	189	198	177	204	237	174
10	9	10	9	200	213	185	212	230	185
11	9	9	8	201	250	183	207	262	175
12	10	10	9	193	214	178	219	249	187
13	9	10	8	216	236	189	208	252	173
14	9	10	9	222	228	215	218	244	171
15	10	11	9	219	258	212	205	241	164
16	10	11	9	212	368	181	190	259	168
17	10	13	9	184	205	163	196	238	160
18	10	10	9	205	229	188	178	196	150
19	10	10	9	194	256	182	197	224	175
20	10	12	9	200	314	179	196	225	148
21	10	10	10	183	218	176	218	239	177
22	11	12	10	182	229	175	229	248	205
23	11	11	9	187	214	176	218	248	192
24	11	13	10	195	227	180	225	276	182
25	13	14	12	197	213	185	233	269	179
26	12	14	11	201	215	190	227	255	165
27	12	13	12	214	246	186	228	258	183
28	12	14	11	195	214	183	222	251	157
29	13	13	12	177	180	169	265	296	166
30	13	14	13	179	193	168	255	285	159
31	13	13	12	190	213	183	233	264	186

**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 - July 2012**

Day	Particulat mg/m <sup>3</sup>			SO <sub>x</sub> ppm @12% CO <sub>2</sub>			NO <sub>x</sub> ppm @12% CO <sub>2</sub>		
	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	5	5	5	211	230	198	207	237	146
2	5	5	5	219	234	208	206	232	163
3	5	5	5	226	251	212	195	212	175
4	5	6	5	228	251	214	194	207	157
5	5	5	5	225	236	210	196	217	153
6	5	5	5	219	230	202	192	216	154
7	5	5	4	205	219	183	160	203	142
8	4	5	4	207	218	196	154	171	138
9	5	5	4	209	214	197	177	196	140
10	5	5	5	218	233	202	193	202	184
11	5	5	5	213	231	192	197	216	177
12	5	5	5	196	218	179	197	215	157
13	5	5	5	220	229	211	195	220	161
14	5	5	5	236	262	225	155	200	137
15	5	5	4	215	225	202	174	191	159
16	5	5	5	227	248	208	167	184	152
17	5	5	5	213	246	177	167	181	149
18	5	5	4	217	233	206	158	172	145
19	5	5	4	203	220	189	168	186	157
20	5	5	5	216	241	187	166	191	151
21	5	5	5	192	200	187	186	257	155
22	5	5	5	197	205	190	222	238	213
23	5	5	5	197	206	188	205	229	187
24	5	6	5	205	218	191	188	203	167
25	5	6	5	209	224	191	177	199	152
26	5	5	5	208	224	192	195	236	155
27	5	5	5	236	281	221	199	217	165
28	5	6	5	208	231	191	211	227	183
29	5	5	5	190	200	183	231	247	217
30	5	5	5	193	209	184	212	235	189
31	5	5	5	200	230	181	193	216	170

**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 - July 2012**

Day	Particulate mg/m <sup>3</sup>			SO <sub>x</sub> ppm @12% CO <sub>2</sub>			NO <sub>x</sub> ppm @12% CO <sub>2</sub>		
	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	10	13	9	198	256	142	203	275	155
2	13	18	10	210	259	136	237	264	185
3	18	21	16	218	233	194	246	283	194
4	13	24	9	213	244	188	266	293	209
5	10	15	9	209	228	161	253	281	193
6	10	12	9	197	241	161	265	307	189
7	10	12	10	193	224	161	252	282	193
8	11	15	10	180	210	149	251	303	195
9	7	18	4	202	345	108	168	208	107
10									
11	7	9	5	194	202	107	165	198	141
12	8	12	7	177	229	153	176	191	150
13	9	10	8	199	226	177	200	227	154
14	9	10	8	189	221	153	247	298	175
15	10	11	8	185	221	141	250	303	180
16	11	12	9	193	211	149	259	280	210
17	10	14	6	192	215	150	280	344	209
18	7	12	6	209	236	171	265	306	188
19	11	14	10	195	216	170	301	321	238
20	12	14	10	198	225	178	294	344	202
21	11	14	10	187	195	180	271	310	238
22	10	13	6	189	195	175	275	296	253
23	6	6	6	183	202	168	289	319	244
24	12	15	6	196	210	172	270	328	194
25	12	14	11	220	495	154	250	329	174
26	12	14	11	212	242	182	245	272	180
27	12	15	10	232	258	200	221	236	175
28	12	14	10	215	241	201	225	246	183
29	11	13	10	192	213	160	254	282	166
30	11	13	10	195	223	174	256	273	228
31	11	13	10	207	229	160	250	278	165

**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 - 3rd July 2012**

Eraring Trace Element Analysis	Location:		EPA 1 (EROC)		EPA 8 (ERIC)	EPA 10 (ERAD)		EPA 17 (ERTO)
	Analytes	Units	Monitoring Frequency	Licence Limit	Analysis	Analysis	Licence Limit	Analysis
Selenium	µg/L	Quarterly	2	<1	<1			
Iron	µg/L	Quarterly	300	31	<5		39	10000
Manganese	µg/L	Quarterly					443	1290
Selenium	µg/L	Quarterly					13	<2
Cadmium	µg/L	Quarterly					<0.1	<0.2
Copper	µg/L	Quarterly	5	1.1	1.5		2.7	1
Lead	µg/L	Quarterly					0.23	<0.2
Zinc	µg/L	Quarterly					20	12
Total Phosphorus as P	mg/L	Monthly					0.4	0.39
Reactive Phosphorus as P - Total	mg/L	Monthly					0.32	
Nitrite + Nitrate as N	mg/L	Monthly					0.818	<0.002
pH	Units	Quarterly					8.8	6.7
Temperature Average	°C	Continuous	Note 1	23.4	14.6			
Temperature Maximum	°C	Continuous	Note 1	25.5	15.8			
Temperature Minimum	°C	Continuous	Note 1	19.0	13.6			
Total Suspended Solids (TSS)	mg/L	Monthly					<2	
Discharge to Outlet Canal	ML/month							
Maximum Discharge to Outlet Canal	ML/day	Continuous					150	

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 July 2012

Sampling Frequency: Monthly

Date	Site	Depth (Metres)	Temp (°C)	pH Units	Salinity (ppt)	DO %	DO mg/L	Secchi (Metres)	Descriptor
6-Jul-12	EPA 4 (LM10)	Air	12.9					2.9	Midway between Cooling Water Canal Inlet and Hungary Point
		0.1	13.2	8.0	36.6	96	7.8		
		0.5	13.2	8.0	36.6	96	7.8		
		1.0	13.2	8.0	36.6	96	7.8		
		1.5	13.2	8.0	36.6	96	7.8		
		2.0	13.3	8.0	36.7	96	7.7		
		2.5	13.5	8.0	36.9	95	7.6		
		3.0	13.6	8.0	36.9	91	7.3		
		3.4	13.6	8.0	36.9	90	7.2		
6-Jul-12	EPA 5 (LM7)	Air	14.5					2.5	Off the Old Wangi Power Station Inlet Canal
		0.1	16.8	8.0	36.7	110	8.3		
		0.5	16.8	8.0	36.7	111	8.4		
		1.0	16.8	8.0	36.7	110	8.3		
		1.5	16.8	8.0	36.7	110	8.3		
		2.0	16.8	8.0	36.7	110	8.3		
		2.5	15.9	7.9	36.1	109	8.3		
		3.0	16.0	7.9	36.1	108	8.3		
		3.5	16.1	7.9	36.2	108	8.3		
		4.0	16.2	7.9	36.3	109	8.2		
		4.5	16.4	7.9	36.4	107	8.2		
		5.0	16.6	7.9	36.4	106	8.2		
		5.5	16.8	7.9	36.5	98	8.1		
5.9	17.0	7.9	36.5	90	8.0				
6-Jul-12	EPA 6 (LM12)	Air	12.6					3.0	Eraring / Vales Point mixing zone off Fishery Point
		0.1	13.6	8.0	36.7	96	7.7		
		0.5	13.6	8.0	36.7	96	7.7		
		1.0	13.6	8.0	36.7	96	7.7		
		1.5	13.7	8.0	36.7	96	7.7		
		2.0	13.7	8.0	36.7	96	7.7		
		2.5	13.8	8.0	36.8	95	7.6		
		3.0	13.8	8.0	36.9	95	7.6		
		3.5	13.9	8.0	37.0	95	7.6		
		4.0	13.9	8.0	37.1	96	7.4		
		4.5	14.0	8.0	37.3	96	7.2		
		5.0	14.2	8.0	37.5	95	7.3		
		5.5	14.3	8.0	37.9	94	7.4		
		6.0	14.4	8.0	37.9	87	6.8		
6.5	14.5	8.0	37.9	90	7.0				
7.0	14.3	8.0	37.9	94	7.4				
7.5	14.4	8.0	37.9	87	6.8				
8.0	14.5	8.0	37.9	90	7.0				
6-Jul-12	EPA 7 (LM4)	Air	12.5					3.5	Northern waters of Lake east of Lake Macquarie Yacht Club
		0.1	13.0	7.9	37.5	100	8.0		
		0.5	13.0	8.0	37.5	100	8.0		
		1.0	13.0	8.0	37.5	99	8.0		
		1.5	13.0	8.0	37.5	99	8.0		
		2.0	12.9	8.0	37.5	99	8.0		
		2.5	13.0	8.0	37.5	99	8.0		
		3.0	13.0	8.0	37.5	99	8.0		
		3.5	13.0	8.0	37.5	99	8.0		
		4.0	13.0	8.0	37.5	99	8.0		
		4.5	13.0	8.0	37.5	99	8.0		
		5.0	13.0	8.0	37.5	99	8.0		
		5.5	13.1	8.0	37.5	99	8.0		
		6.0	13.1	8.0	37.5	99	8.0		
		6.5	13.1	8.0	37.5	99	8.0		
7.0	13.2	8.0	37.5	99	8.0				
7.5	13.3	8.0	37.5	99	8.0				
8.0	13.3	8.0	37.5	99	8.0				
8.5	13.4	8.0	37.5	99	8.0				
9.0	13.4	8.0	37.5	99	8.0				

**Hume Power Station - EPA Licence 10675**  
**Monitoring/Discharge Points 1 & 2 - April to July 2012**

EPA 1 (Power Station Drain)	April		Sampled 20/02/2012		EPA 2 (Switchyard Drain)			Sampled 20/02/2012	
	Units	Monitoring Frequency	Licence Limit	Analysis		Units	Monitoring Frequency	Licence Limit	Analysis
Oil and Grease	mg/L	Monthly	10	1.9	Oil and Grease	mg/L	Special Frequency	10	<0.1
					TSS (wet)	mg/L	Special Frequency	50	7.1

EPA 1 (Power Station Drain)	Units	May	Sampled 24/05/2012		EPA 2 (Switchyard Drain)			Sampled	
		Monitoring Frequency	Licence Limit	Analysis		Licence Limit	Analysis		
Oil and Grease	mg/L	Monthly	10	7.3	Oil and Grease	mg/L	Special Frequency	10	No discharge
					TSS (wet)	mg/L	Special Frequency	50	No discharge

EPA 1 (Power Station Drain)	Units	June	Sampled 22/06/2012		EPA 2 (Switchyard Drain)			Sampled 22/06/2012	
		Monitoring Frequency	Licence Limit	Analysis		Licence Limit	Analysis		
Oil and Grease	mg/L	Monthly	10	7.1	Oil and Grease	mg/L	Special Frequency	10	6.9
					TSS (wet)	mg/L	Special Frequency	50	0.20

EPA 1 (Power Station Drain)	Units	July	Sampled 17/07/2012		EPA 2 (Switchyard Drain)			Sampled 17/07/2012	
		Monitoring Frequency	Licence Limit	Analysis		Licence Limit	Analysis		
Oil and Grease	mg/L	Monthly	10	9.5	Oil and Grease	mg/L	Special Frequency	10	4.2
					TSS (wet)	mg/L	Special Frequency	50	0.30

TSS =Total Suspended Solids

There were no licence exceedences for monitoring points.

mg/L = milligrams per litre

Special Frequency - sampling and analysis prior to any discharge taking place.