



Eraring energy

Eraring Power Station – EPA Licence 1429

Rocky Point Rd, Morisset NSW 2264

Coal Unloader – EPA Licence 4297

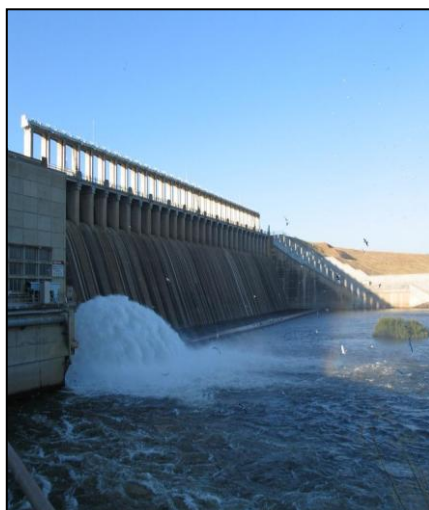
Eraring Coal Delivery Facility, Construction Rd Dora Creek. NSW 2264

Hume Power Station - EPA Licence 10675

Hume Weir on the Murray River near Albury, New South Wales, Australia.

Environmental Monitoring Data

January 2013



Environmental Monitoring Data

January 2013



Eraring energy

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 - January 2013

Day	Particulate m g/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	9	9	7	169	176	159	172	266	156
2	10	11	9	185	208	150	170	287	154
3	11	11	10	177	195	165	193	293	161
4	11	12	10	179	199	155	202	259	175
5	11	12	10	179	202	160	212	288	150
6	11	11	10	166	179	140	212	272	187
7	11	12	9	175	189	147	240	304	181
8	10	12	9	182	195	154	206	265	169
9	10	16	8	196	203	176	201	297	149
10	10	11	10	181	193	165	205	248	128
11	11	12	10	188	200	173	259	418	203
12	11	12	9	184	216	136	221	294	114
13	11	12	10	189	201	172	208	253	117
14	12	13	11	183	198	160	219	264	122
15	11	12	10	198	208	188	212	274	173
16	11	12	10	194	209	166	220	326	173
17	11	12	10	207	217	187	239	486	174
18	11	13	10	219	284	153	208	346	138
19	11	12	10	260	273	243	185	214	91
20	12	13	11	246	259	220	210	226	120
21	11	12	10	247	290	204	191	259	123
22	11	12	10	260	282	240	158	259	123
23	11	12	11	263	315	240	179	341	92
24	12	13	11	219	261	174	154	308	83
25	12	13	10	188	203	156	110	145	75
26	10	11	9	188	209	168	80	87	71
27	11	12	10	179	189	159	81	87	72
28	11	13	10	168	175	149	82	104	72
29	11	12	10	167	178	153	106	131	80
30	11	12	10	182	216	135	117	166	68
31	12	13	10	215	233	172	124	166	75

Notes

M = Instrument maintenance

O/S = Unit Out of Service

No exceedance of licence limits.

*Minimums of zero are due to unit return to service.

Environmental Monitoring Data

January 2013



Eraring energy

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 - January 2013

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	9	6	201	217	178	120	144	101
2	7	10	6	179	206	129	127	156	113
3	8	14	7	189	218	142	141	385	111
4	11	18	7	210	238	176	146	171	125
5	13	26	8	209	241	166	181	265	129
6	10	14	9	121	180	96	160	188	151
7	15	23	9	185	224	104	169	207	130
8	11	26	6	212	243	150	130	165	108
9	7	10	6	203	225	174	127	160	114
10	8	12	6	191	210	145	135	190	124
11	14	23	7	218	244	166	137	195	103
12	12	19	7	233	263	161	125	141	107
13	10	16	8	199	230	141	129	255	111
14	9	15	8	136	171	91	125	188	112
15	9	13	7	172	224	100	126	210	98
16	14	29	8	205	243	120	130	181	85
17	14	23	8	224	262	153	106	165	67
18	20	40	9	228	270	158	104	147	69
19	19	27	14	161	193	126	93	105	74
20	22	36	15	142	178	93	76	110	63
21	22	37	14	110	145	94	123	443	66
22	13	29	8	103	110	M	118	232	80
23	14	20	11	200	409	M	205	667	107
24	13	23	8	100	106	M	148	254	99
25	14	23	11	196	249	M	127	179	96
26	5	10	5	207	234	156	104	118	93
27	5	5	5	156	219	101	107	151	57
28	5	5	5	121	163	90	106	122	88
29	5	5	5	151	182	M	123	269	83
30	5	8	5	146	288	90	140	272	97
31	8	12	5	106	123	M	167	246	101

Notes

M = Instrument maintenance

O/S = Unit Out of Service

No exceedance of licence limits.

*Minimums of zero are due to unit return to service.

Environmental Monitoring Data

January 2013



Eraring energy

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 - January 2013

Day	Particulate m g/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	10	13	10	218	233	202	163	174	152
2	14	18	12	229	258	187	164	176	157
3	12	12	11	225	249	213	166	182	157
4	12	14	10	215	229	195	178	189	162
5	11	13	10	M	M	M	M	M	M
6	11	15	11	M	M	M	M	M	M
7	11	14	10	225	234	213	209	238	172
8	10	12	9	226	249	184	201	233	170
9	11	12	11	243	264	220	174	214	147
10	11	11	11	235	251	215	180	204	164
11	11	12	10	252	265	231	199	231	147
12	10	11	9	242	269	185	157	206	115
13	13	25	11	249	264	229	137	146	125
14	15	22	10	238	265	216	141	173	128
15	11	11	10	262	273	249	161	185	133
16	11	14	9	250	269	219	152	179	131
17	13	16	11	261	275	244	160	169	146
18	12	16	10	241	273	210	166	196	131
19	13	23	10	196	202	183	145	159	111
20	21	25	17	191	201	167	133	144	122
21	15	20	11	183	206	143	146	181	126
22	14	17	10	204	226	172	157	183	129
23	14	16	13	206	218	189	159	180	132
24	14	24	12	216	243	197	181	248	142
25	14	18	13	216	228	183	161	205	124
26	13	15	11	219	235	206	144	164	129
27	23	28	12	207	220	196	139	143	132
28	27	36	20	197	206	190	137	151	129
29	19	29	13	196	207	177	162	187	134
30	16	17	14	190	202	168	166	190	137
31	15	17	13	205	238	164	188	245	124

Notes

M = Instrument maintenance

O/S = Unit Out of Service

No exceedance of licence limits.

*Minimums of zero are due to unit return to service.

Environmental Monitoring Data

January 2013



Eraring energy

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 - January 2013

Day	Particulate m g/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	14	15	12	110	110	109	M	M	M
2	15	19	14	98	113	69	M	M	M
3	14	16	14	101	121	80	M	M	M
4	14	16	13	111	140	92	201	327	119
5	15	17	14	M	M	M	M	M	M
6	14	16	13	M	M	M	M	M	M
7	14	15	14	140	177	56	288	343	199
8	14	15	13	113	136	66	218	272	131
9	14	15	14	107	179	62	141	236	49
10	14	15	13	114	151	73	133	184	65
11	14	16	12	103	152	24	110	158	29
12	15	15	13	137	175	85	119	148	87
13	15	16	13	121	155	76	97	115	68
14	14	15	14	111	153	78	91	113	66
15	15	19	14	129	188	78	132	190	67
16	15	19	13	123	178	91	141	188	85
17	15	17	13	132	168	95	132	186	86
18	17	23	14	141	185	85	134	183	63
19	15	16	14	96	122	72	98	118	69
20	16	20	14	109	136	75	88	112	66
21	16	23	14	120	154	72	102	124	68
22	16	21	15	130	213	81	118	174	80
23	16	17	14	122	157	86	94	112	62
24	16	18	14	146	200	75	134	232	59
25	16	23	14	144	189	100	118	174	76
26	15	16	14	139	167	92	93	109	58
27	19	24	16	108	138	81	121	131	83
28	20	24	18	96	124	73	124	134	81
29	19	24	14	104	149	71	119	141	79
30	15	16	15	122	154	89	129	155	69
31	15	16	14	130	161	90	143	180	93

Notes

M = Instrument maintenance

O/S = Unit Out of Service

No exceedance of licence limits.

*Minimums of zero are due to unit return to service.



Eraring Power Station - EPA Licence 1429
 EPA Surface Water Monitoring - 9th January 2013

Eraring Trace Element Analysis	Location:		EPA 1 (EROC)		EPA 8 (ERIC)		EPA 10 (ERAD)		EPA 17 (ERTOE)	
	Analytes	Units	Monitoring Frequency	Licence Limit	Analysis	Analysis	Licence Limit	Analysis	Licence Limit	Analysis
Total Phosphorus as P	mg/L	Monthly					0.362	0.093		
Reactive Phosphorus as P - Total	mg/L	Monthly					0.301	0.032		
Nitrite + Nitrate as N	mg/L	Monthly					0.02	0.074		
Temperature Average	°C	Continuous		Note 1	31.5	26.5				
Temperature Maximum	°C	Continuous		Note 1	34.8	28.9				
Temperature Minimum	°C	Continuous		Note 1	27.7	24.8				
Total Suspended Solids (TSS)	mg/L	Monthly						5		
Discharge to Outlet Canal	ML/month							199.2		
Maximum Discharge to Outlet Canal	ML/day	Continuous		11000	10886		150	18.1		

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

Environmental Monitoring Data

January 2013



Eraring energy

Eraring Power Station - EPA Licence 1429

EPA identification no's. 4,5,6 & 7 - Ambient water monitoring Lake Macquarie

Sampling Frequency: Monthly

Date	Site	Depth (Metres)	Temp (°C)	pH Units	Salinity (ppt)	DO %	DO mg/L	Secchi (Metres)	Descriptor
7-Jan-13	EPA 4 (LM10)	Air	28.0					1.8	Midway between Cooling Water Canal Inlet and Hungary Point
		0.1	27.9	7.9	43.3	100	6.1		
		0.5	27.9	7.9	43.3	100	6.1		
		1.0	27.9	7.9	43.3	100	6.1		
		1.5	27.9	7.9	43.3	99	6.0		
		2.0	27.9	7.9	43.3	98	6.0		
		2.5	27.8	7.9	43.3	97	5.9		
		3.0	27.8	7.9	43.3	95	5.8		
7-Jan-13	EPA 5 (LM7)	Air	30.1					2.0	Off the Old Wangi Power Station Inlet Canal
		0.1	31.0	7.9	43.4	122	7.1		
		0.5	31.0	7.9	43.5	122	7.0		
		1.0	30.8	7.9	43.4	122	7.1		
		1.5	29.8	7.9	43.3	122	7.2		
		2.0	29.6	7.9	43.4	121	7.2		
		2.5	29.5	7.9	43.4	121	7.2		
		3.0	29.1	7.9	42.7	118	7.1		
		3.5	28.1	7.9	42.8	111	6.8		
		4.0	27.2	7.9	42.6	105	6.6		
		4.5	26.5	7.9	43.0	97	6.0		
		5.0	26.4	7.9	43.1	92	5.7		
7-Jan-13	EPA 6 (LM12)	Air	26.5					3.1	Eraring / Vales Point mixing zone off Fishery Point
		0.1	27.0	7.9	43.2	102	6.3		
		0.5	27.1	7.9	43.2	102	6.3		
		1.0	27.0	7.9	43.2	102	6.3		
		1.5	27.0	7.9	43.2	102	6.3		
		2.0	26.9	7.9	43.1	102	6.3		
		2.5	26.7	7.9	43.1	100	6.2		
		3.0	26.6	7.9	43.1	99	6.2		
		3.5	26.6	7.9	43.2	99	6.2		
		4.0	26.6	7.9	43.1	99	6.2		
		4.5	26.6	7.9	43.1	99	6.2		
		5.0	26.6	7.9	43.1	99	6.2		
		5.5	26.6	7.9	43.1	99	6.2		
		6.0	26.5	7.9	43.0	98	6.1		
6.5	26.3	7.9	43.0	94	5.9				
7.0	26.2	7.9	42.9	88	5.5				
7.5	26.2	7.9	43.1	81	5.1				
7-Jan-13	EPA 7 (LM4)	Air	29.0					4.0	Northern waters of Lake east of Lake Macquarie Yacht Club
		0.1	25.5	7.9	42.5	102	6.5		
		0.5	25.4	7.9	42.5	103	6.5		
		1.0	25.4	8.0	42.5	102	6.5		
		1.5	25.5	8.0	42.4	102	6.5		
		2.0	25.4	7.9	42.5	102	6.5		
		2.5	25.3	8.0	42.5	102	6.5		
		3.0	25.3	8.0	42.4	102	6.5		
		3.5	25.2	8.0	42.4	102	6.5		
		4.0	25.1	8.0	42.4	102	6.5		
		4.5	25.0	8.0	42.5	102	6.5		
		5.0	25.0	8.0	42.5	102	6.5		
		5.5	24.9	8.0	42.5	102	6.5		
		6.0	24.8	8.0	42.4	101	6.5		
		6.5	24.8	8.0	42.4	100	6.5		
		7.0	24.5	8.0	42.3	100	6.5		
		7.5	24.4	8.0	42.3	98	6.4		
8.0	24.1	7.9	42.1	95	6.2				
8.5	23.9	8.0	42.1	93	6.1				
9.0	23.5	7.9	42.3	92	6.1				
9.5	23.5	7.9	42.3	90	6.0				
9.6	23.5	7.9	42.3	88	5.8				

Environmental Monitoring Data

January 2013



Eraring energy

Eraring Power Station – EPA Licence 1429

EPA Identification no. 15 & 16

Dora Creek

Eraring Power Station - Monthly Ambient Site Report				
EPA Licence 1429 Clause M2.1				
Summary of Ambient Monitoring Results - Monitoring Point 16 - Dora Creek Ambient				
1/12/2012 to 31/12/2012				
	Monitoring Point 16 - Dora Creek Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	2.2	2.6	4.5	5.2
Maximum 1 hour Average	1.3	1.9	2.7	3.5
Maximum 24 hour Average	0.3	0.7	0.7	1.2
90th Percentile	0.1	0.9	0.5	1.4
Geometric Mean	0.7	0.4	0.7	0.5
Geometric Standard Deviation	2.3	1.8	2.3	2.1
Availability (%)	94	95	95	95

Marks Point

Eraring Power Station - Monthly Ambient Site Report				
EPA Licence 1429 Clause M2.1				
Summary of Ambient Monitoring Results - Monitoring Point 15 - Marks Point Ambient				
1/12/2012 to 31/12/2012				
	Monitoring Point 15 - Marks Point Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	1.8	2.5	4.1	5.6
Maximum 1 hour Average	0.9	1.6	2.2	3.6
Maximum 24 hour Average	0.1	0.7	0.3	0.8
90th Percentile	0.1	0.6	0.1	0.8
Geometric Mean	0.1	0.3	0.2	0.3
Geometric Standard Deviation	5.4	1.7	5.3	1.9
Availability (%)	94	97	97	97

Fluoride Report

Monitoring Location	Dora Creek / EPA Monitoring Point 17								
Reporting Month	October			November			December		
Sampling Period	3/10/2012 to 31/10/2012			31/10/2012 to 29/11/2012			29/11/2012 to 3/01/2013		
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)	Gaseous Fluoride (ug/m ³)	Particulate Fluoride (ug/m ³)	Total Fluoride (ug/m ³)
Week 1 Results	<0.1 (0.04)	<0.1 (0.00)	<0.1 (0.04)	<0.1 (0.06)	<0.1 (0.01)	<0.1 (0.07)	<0.1 (0.04)	<0.1 (0.00)	<0.1 (0.04)
Week 2 Results	<0.1 (0.06)	<0.1 (0.00)	<0.1 (0.06)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.01)	<0.1 (0.02)	<0.1 (0.00)	<0.1 (0.02)
Week 3 Results	<0.1 (0.05)	<0.1 (0.01)	<0.1 (0.06)	<0.1 (0.01)	<0.1 (0.01)	<0.1 (0.02)	<0.1 (0.05)	<0.1 (0.00)	<0.1 (0.05)
Week 4 Results	<0.1 (0.05)	<0.1 (0.00)	<0.1 (0.06)	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.00)
Week 5 Results							<0.1 (0.04)	<0.1 (0.00)	<0.1 (0.04)
% Data Availability	100%			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. EN1204307			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. EN1204581			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. EN1300044		

Eraring Power Station – EPA Licence 1429

EPA Identification no. 15 & 16

Particulate Monitoring January 2013

Eraring Coal Unloader Dust Gauge Report:

MONTH: *December 2012* **Date on:** *16/11/2012* **Date off:** *18/12/2012*

<i>Gauge Number</i>	<i>Insolubles</i>	<i>Ash</i>	<i>*Combustible</i>	<i>Comments</i>
U1	2.0	1.1	0.9	
U2	1.0	0.5	0.5	
U3	0.6	0.4	0.2	
U4	2.2	1.5	0.7	
U5	1.3	0.7	0.6	
U6	1.7	0.8	0.9	

All measurements are expressed as g/m2/month

() Calculated Result*

Samples collected and analysed in accordance with AS 3580.10.1 (2003)

Eraring Dust Gauge Report: Monitoring Point 18 Clause M2.1

MONTH: *December 2012*

Date on: *16/11/2012* **Date off:** *18/12/2012*

<i>Gauge Number</i>	<i>Insolubles</i>	<i>Ash</i>	<i>*Combustible</i>	<i>Comments</i>
E1	2.2	1.2	1.0	
E2	0.1	0.1	<0.1	
E3	2.7	2.0	0.7	
E4	0.6	0.4	0.2	
E5	0.5	0.2	0.3	
E6	0.8	0.6	0.2	

All measurements are expressed as g/m2/month

() Calculated Result*

**Hume Power Station - EPA Licence 10675
Monitoring/Discharge Points 1 & 2 - January 2013**

EPA 1 (Power Station Drain)		January	Sampled	22/01/2013
	Units	Monitoring Frequency	Licence Limit	Analysis
Oil and Grease	mg/L	Monthly	10	<5

EPA 2 (Switchyard Drain)		January	Sampled	22/01/2013
	Units	Monitoring Frequency	Licence Limit	Analysis
Oil and Grease	mg/L	Special Frequency	10	<5
TSS (wet)	mg/L	Special Frequency	50	14

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.