



Eraring Power Station – EPA Licence 1429

Rocky Point Rd, Morisset NSW 2264

Coal Unloader – EPA Licence 4297

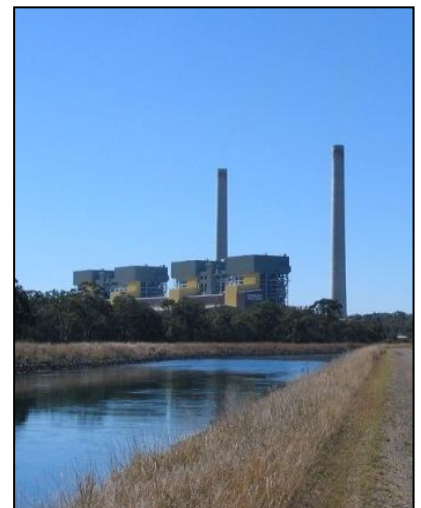
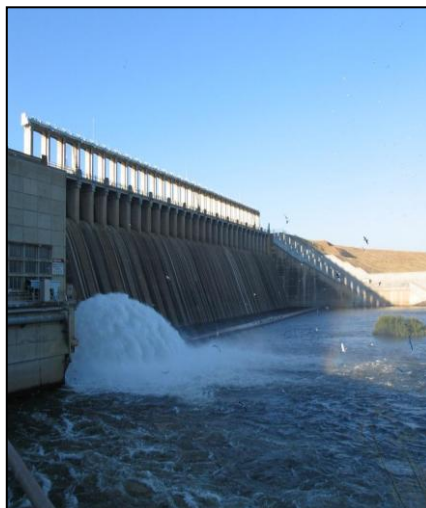
Eraring Coal Delivery Facility, Construction Rd Dora Creek. NSW 2264

Hume Power Station - EPA Licence 10675

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

Environmental Monitoring Data

February 2013



Environmental Monitoring Data

February 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 - February 2013

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	12	14	11	219	244	193	106	118	91
2	13	14	12	198	211	182	116	132	88
3	12	13	11	201	220	184	130	164	106
4	12	12	11	201	219	181	120	142	104
5	12	12	11	191	205	162	128	168	100
6	12	14	11	199	218	163	121	216	90
7	12	13	10	218	242	179	103	161	76
8	12	14	11	220	237	195	143	185	93
9	11	13	11	221	239	207	170	186	153
10	11	13	11	197	209	182	172	187	157
11	9	15	4	182	197	142	165	183	107
12	M	M	M	M	M	M	M	M	M
13	M	M	M	M	M	M	M	M	M
14	10	13	5	165	224	122	106	190	66
15	11	12	10	235	262	208	90	105	78
16	11	12	10	234	263	209	88	93	83
17	11	12	10	231	264	201	92	98	87
18	12	14	11	253	291	214	108	150	84
19	12	13	11	244	264	208	114	136	85
20	13	14	11	250	266	222	138	222	100
21	13	14	11	254	270	238	136	158	119
22	13	14	11	276	319	223	138	159	123
23	13	14	12	285	299	270	151	164	142
24	12	13	11	268	286	250	148	184	114
25	13	14	11	272	295	233	157	202	115
26	12	13	11	267	283	254	150	165	128
27	12	13	11	282	301	262	127	145	100
28	12	14	10	274	293	262	106	114	95

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

February 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 - February 2013

Day	Particula 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	6	9	5	M	M	M	150	192	113
2	5	7	5	M	M	M	120	135	109
3	5	7	5	M	M	M	145	164	118
4	6	8	5	M	M	M	133	152	114
5	6	11	5	M	M	M	133	212	104
6	6	9	5	234	256	M	135	170	105
7	6	9	5	216	228	197	162	186	119
8	7	12	4	223	242	197	153	206	112
9	7	16	5	231	239	222	117	132	104
10	18	34	12	217	237	195	118	151	109
11	21	32	17	211	281	166	134	197	107
12	19	32	9	172	187	161	115	133	97
13	10	13	9	171	192	146	106	142	92
14	9	10	9	182	196	163	114	136	97
15	10	13	9	184	201	163	111	125	99
16	9	10	8	164	183	147	110	128	90
17	10	11	9	159	176	146	123	132	105
18	11	18	9	173	200	153	120	148	92
19	11	12	9	173	185	151	104	123	88
20	11	15	9	177	189	167	112	181	84
21	11	15	9	178	187	157	119	157	88
22	10	14	9	197	227	162	142	166	111
23	10	12	9	217	237	202	177	235	151
24	11	14	9	196	212	177	215	247	159
25	11	14	9	200	219	166	172	246	119
26	9	11	9	198	209	185	149	176	113
27	9	12	8	199	213	181	142	170	113
28	9	10	8	201	234	182	131	158	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

February 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 - February 2013

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	18	29	11	199	213	184	146	164	125
2	21	29	13	193	204	177	153	168	131
3	12	13	11	198	210	180	146	202	133
4	12	14	10	192	206	179	169	200	133
5	12	16	10	193	209	174	168	197	130
6	12	15	10	190	206	165	176	200	132
7	11	15	10	200	226	160	166	235	119
8	11	14	10	216	265	181	186	250	139
9	12	15	11	211	224	199	175	197	149
10	14	26	11	198	215	175	186	196	154
11	21	25	17	195	212	173	164	186	142
12	21	29	15	192	205	168	140	154	126
13	14	19	11	188	218	162	163	197	124
14	12	14	10	201	228	168	174	186	166
15	14	19	11	206	227	176	183	198	167
16	13	17	11	189	213	160	163	178	134
17	15	24	9	182	201	165	143	158	124
18	13	15	10	196	224	173	164	228	136
19	13	17	12	194	211	166	148	178	127
20	15	24	12	195	207	173	163	254	127
21	17	25	12	199	215	174	172	217	131
22	16	27	13	213	239	179	154	184	130
23	29	35	23	216	227	200	167	206	138
24	16	27	10	201	231	177	209	246	168
25	14	19	11	202	219	162	208	250	160
26	13	15	12	200	212	184	169	201	151
27	13	16	11	208	224	182	162	193	129
28	15	30	12	204	224	180	128	140	111

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

February 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 - February 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	15	17	14	163	250	113	152	243	110
2	15	15	14	156	202	113	132	176	117
3	15	16	15	149	247	116	150	231	124
4	16	25	15	163	269	132	157	252	135
5	17	24	15	159	259	117	180	248	126
6	16	17	15	163	231	133	147	221	117
7	15	16	15	182	210	133	146	236	111
8	16	18	15	183	246	154	155	236	107
9	16	16	15	177	198	156	140	275	105
10	15	16	15	161	222	122	131	262	112
11	16	22	14	154	223	119	140	269	122
12	16	20	14	163	252	97	137	290	116
13	14	16	13	174	237	136	167	278	145
14	15	15	14	175	198	132	155	273	130
15	15	16	14	177	190	153	163	273	134
16	14	15	14	166	246	125	150	242	123
17	15	17	14	168	260	134	170	259	147
18	15	20	13	170	198	131	173	268	139
19	15	15	14	171	219	130	143	239	117
20	15	17	14	178	222	154	152	241	112
21	16	20	14	185	255	154	155	241	117
22	16	17	15	184	218	167	163	288	124
23	17	20	15	153	205	118	172	301	140
24	19	23	16	162	215	112	193	291	139
25	16	18	15	164	188	141	190	251	132
26	16	29	15	164	220	136	159	291	131
27	16	21	16	179	220	162	171	258	144
28	15	17	14	166	228	129	198	270	163

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 - February 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	Licence Limit	Analysis	Licence Limit	Analysis		Analysis
Total Phosphorus as P	mg/L	Monthly									
Reactive Phosphorus as P - Total	mg/L	Monthly									
Nitrite + Nitrate as N	mg/L	Monthly									
Temperature Average	°C	Continuous		Note 1	30.7		25.9				
Temperature Maximum	°C	Continuous		Note 1	34.6		28.2				
Temperature Minimum	°C	Continuous		Note 1	26.9		23.1				
Total Suspended Solids (TSS)	mg/L	Monthly							3		
Selenium	ug/L	Monthly		2	1		1		8.7		
Copper	ug/L	Monthly		5	2.3		1.9			*	
Iron	ug/L	Monthly		300	38		8.0			*	
Cadmium										*	
Discharge to Outlet Canal	ML/month								318.4		
Maximum Discharge to Outlet Canal	ML/day	Continuous		11000	9526			150	20.0		

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

ug/L = micrograms per litre

ML = megalitre

* Sampled Quarterly

Environmental Monitoring Data

February 2013



Eraring energy

Eraring Power Station - EPA Licence 1429

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

Sampling Results for February 2013

Sampling Frequency: Monthly

Date	Site	Depth (Metres)	Temp (°C)	pH Units	Salinity (ppt)	DO %	DO mg/L	Secchi (Metres)	Descriptor
8-Feb-13	EPA 4 (LM10)	Air	26.1					2.7	Midway between Cooling Water Canal Inlet and Hungary Point
		0.1	26.9	8.0	37.6	103	6.6		
		0.5	26.8	8.0	37.6	103	6.6		
		1.0	26.5	8.0	37.5	104	6.7		
		1.5	26.2	8.0	37.5	105	6.8		
		2.0	26.1	8.0	37.5	104	6.8		
		2.5	26.1	8.0	37.5	104	6.7		
		2.9	26.1	8.0	37.5	104	6.7		
8-Feb-13	EPA 5 (LM7)	Air	26.9					2.6	Off the Old Wangi Power Station Inlet Canal
		0.1	30.0	7.9	37.6	126	7.7		
		0.5	30.0	7.9	37.6	126	7.7		
		1.0	28.0	8.0	37.7	125	7.9		
		1.5	27.6	8.0	37.7	124	7.8		
		2.0	27.5	8.0	37.6	124	7.8		
		2.5	27.3	8.0	37.6	120	7.6		
		3.0	26.1	8.0	38.0	109	7.0		
		3.5	26.1	8.0	38.0	110	7.1		
		4.0	25.5	7.9	38.2	106	6.9		
		4.5	25.1	7.8	38.4	88	5.8		
		5.0	24.9	7.8	38.4	81	5.3		
		5.5	24.3	7.8	38.7	69	4.6		
		6.0	24.3	7.8	38.7	67	4.4		
		6.1	24.3	7.7	38.5	65	4.3		
8-Feb-13	EPA 6 (LM12)	Air	24.5					4.4	Eraring / Vales Point mixing zone off Fishing Point
		0.1	25.8	8.0	37.7	108	7.0		
		0.5	25.7	8.0	37.7	107	7.0		
		1.0	25.6	8.0	37.7	107	7.0		
		1.5	25.5	8.0	37.6	107	7.0		
		2.0	25.4	8.0	37.7	107	7.0		
		2.5	25.4	8.0	37.7	107	7.0		
		3.0	25.4	8.0	37.7	107	7.0		
		3.5	25.4	8.0	37.7	107	7.0		
		4.0	25.4	8.0	37.7	107	7.0		
		4.5	25.4	8.0	37.7	107	7.0		
		5.0	25.4	8.0	37.7	106	6.9		
		5.5	25.3	8.0	37.7	105	6.9		
		6.0	25.3	8.0	38.0	105	6.9		
		6.5	24.9	7.9	38.4	94	6.2		
		7.0	24.4	7.8	38.9	65	4.3		
		7.6	24.4	7.8	38.7	61	4.0		
8-Feb-13	EPA 7 (LM4)	Air	22.5					4.0	Northern waters of Lake east of Lake Macquarie Yacht Club
		0.1	24.3	8.1	36.8	105	7.0		
		0.5	24.3	8.1	36.8	105	7.1		
		1.0	24.3	8.1	36.8	105	7.1		
		1.5	24.3	8.1	36.8	105	7.1		
		2.0	24.3	8.1	37.0	105	7.1		
		2.5	24.3	8.1	37.0	105	7.0		
		3.0	24.1	8.1	37.1	104	7.0		
		3.5	23.9	8.1	37.2	101	6.8		
		4.0	23.6	8.1	37.4	100	6.8		
		4.5	23.6	8.0	37.5	98	6.6		
		5.0	23.5	8.0	37.5	97	6.6		
		5.5	23.1	8.0	38.2	96	6.5		
		6.0	23.2	8.0	38.3	94	6.4		
		6.5	23.1	8.0	38.4	91	6.2		
		7.0	22.9	8.0	38.5	91	6.2		
		7.5	22.4	8.0	38.8	91	6.2		
		8.0	22.3	8.1	39.0	94	6.4		
		8.5	22.1	8.1	39.1	96	6.6		

Environmental Monitoring Data

February 2013



Eraring energy

Eraring Power Station – EPA Licence 1429

EPA Identification no. 15 & 16

4.1 Summary

4.1.1 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				
1/01/2013 to 31/01/2013				
	Monitoring Point 16 - Dora Creek Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	6.2	2.9	6.1	9.0
Maximum 1 hour Average	3.3	1.9	3.3	4.3
Maximum 24 hour Average	0.3	0.6	0.7	1.3
90th Percentile	0.1	0.8	0.8	1.6
Geometric Mean	0.7	0.4	0.7	0.5
Geometric Standard Deviation	2.2	1.7	2.2	2.1
Availability (%)	94	96	96	96

4.1.2 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				
1/01/2013 to 31/01/2013				
	Monitoring Point 15 - Marks Point Ambient			
	SO ₂ (pphm)	NO ₂ (pphm)	NO (pphm)	NO _x (pphm)
Maximum 10 minute Average	4.2	2.8	9.1	10.4
Maximum 1 hour Average	2.5	1.7	6.9	8.2
Maximum 24 hour Average	0.3	0.7	0.6	1.0
90th Percentile	0.1	0.6	0.1	0.8
Geometric Mean	0.2	0.3	0.1	0.3
Geometric Standard Deviation	6.7	1.7	5.4	1.9
Availability (%)	96	97	97	97

4.5 Fluoride Report

Monitoring Location	Dora Creek / EPA Monitoring Point 17								
Reporting Month	January			February			March		
Sampling Period	3/01/2013 to 31/01/2013			to			to		
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 (0.05)	<0.1 (0.00)	<0.1 (0.05)						
Week 2 Results	<0.1 (0.02)	<0.1 (0.00)	<0.1 (0.02)						
Week 3 Results	<0.1 (0.00)	<0.1 (0.00)	<0.1 (0.00)						
Week 4 Results	<0.1 (0.00)	<0.1 (0.01)	<0.1 (0.01)						
Week 5 Results									
% Data Availability	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. EN1300407			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.			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.		

Environmental Monitoring Data

February 2013



Eraring energy

Eraring Power Station – EPA Licence 1429

EPA Identification no. 15 & 16

Particulate Monitoring January 2013

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

MONTH: *January 2013*

Date on: *18/12/2012* **Date off:** *18/01/2013*

<i>Gauge Number</i>	<i>Insolubles</i>	<i>Ash</i>	<i>*Combustible</i>	<i>Comments</i>
E1	0.9	0.4	0.5	
E2	0.7	0.4	0.3	
E3	1.6	1.0	0.6	
E4	1.5	0.9	0.6	
E5	0.9	0.4	0.5	
E6	1.0	0.4	0.6	

All measurements are expressed as g/m2/month

() Calculated Result*

This data will be kept in a database maintained by Aurecon for future reference as required.

If further information is required could you please contact the project

6

Eraring Coal Unloader Dust Gauge Report:

MONTH: *January 2013* **Date on:** *18/12/2012* **Date off:** *18/01/2013*

<i>Gauge Number</i>	<i>Insolubles</i>	<i>Ash</i>	<i>*Combustible</i>	<i>Comments</i>
U1	4.1	0.7	3.4	
U2	1.7	0.5	1.2	
U3	0.8	0.4	0.4	
U4	1.3	0.9	0.4	
U5	1.1	0.4	0.7	
U6	1.6	0.9	0.7	

All measurements are expressed as g/m2/month

() Calculated Result*

This data will be kept in a database maintained by Aurecon for future reference as required.

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

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

EPA 1 (Power Station Drain)		February	Sampled	26/02/2013
	Units	Monitoring Frequency	Licence Limit	Analysis
Oil and Grease	mg/L	Monthly	10	<5

EPA 2 (Switchyard Drain)				
	Units	Monitoring Frequency	Licence Limit	Analysis
Oil and Grease	mg/L	Special Frequency	10	*
TSS (wet)	mg/L	Special Frequency	50	*

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.