APPENDIX NO. 7

Emissions Test Data Summary

The following appendix contains the day to day emissions data summary for each of the various test series. This data was used to generate all the emission figures shown in Section 7.0 of this report. In addition, a summary of all the coal analyses obtained throughout the project are included. The tables presented in this appendix are:

- TABLE 1. Daily Log of B&W Reburn Test Results - "T" Series
- TABLE 2. Daily Log of Reburn Test Results - "A" Series
- TABLE 3. Daily Log of Reburn Test Results - "P"/"F" Series
- TABLE 4. Coal Analyses for WP&L Nelson Dewey #2
- TABLE 5. Daily Log of Reburn Test Results - "W" Series

PARAMETRIC/OPTIMIZATION TESTING (LAMAR COAL FIRING)

TABLE 1. DAILY LOG OF B&W REBURN TEST RESULTS – "T" PHASE

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm @3%O2	B&W NOX #/MKB	B&W BASE % NOX RED.	B&W O2 (%)	B&W CO ppm @3%O2	B&W ESP %UBC	B&W HOP %UBC	PLANT %UBC	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF. (%)
11/21	A	BASELINE W/NO REB,NO GR FAN	110	1.09	1.09	602	0.82	–	3.47	126	–	–	–	–	–	–
11/25	B	BASELINE W/NO REB,NO GR FAN	110	1.10	1.10	583	0.79	–	3.51	72	–	–	–	–	–	–
2/13	2	BASELINE W/NO REB,W/NO GR FAN	110	1.11	1.11	602	0.82	–	3.64	43	–	–	13.91	–	–	–
2/19	21	BASELINE W/NO REB,NO GR FAN	110	1.13	1.13	587	0.80	–	3.50	63	–	–	24.89	–	–	–
2/21	26	12.2 T/HR REBURN,W/NO GR FAN	110	1.08	0.97	362	0.49	40.6	2.73	77	25.43	21.51	24.70	3.21	–	–
2/21	27	12.2 T/HR REBURN,W/GR TO BRNS	110	1.09	0.89	291	0.39	52.2	2.83	102	27.54	21.51	24.70	4.04	–	–
2/12	1	14 T/HR REBURN,W/GR TO BRNS	110	1.20	0.96	300	0.41	50.7	3.00	152	5.81	–	11.79	–	–	–
2/13	4	13.7 T/HR REBURN,W/GR TO BRNS	110	1.13	0.89	268	0.36	56.0	3.36	123	22.85	–	–	2.62	–	–
2/15	8	14 T/HR REBURN,W/REB TO BRNS	110	1.13	0.90	301	0.41	50.6	3.05	117	–	–	–	–	–	–
2/15	10	14 T/HR REBURN,W/GR TO BRNS	110	1.12	0.90	294	0.40	51.7	2.94	114	–	–	–	–	–	–
2/17	16	14.5 T/HR REBURN,W/GR TO BRNS	110	1.11	0.86	263	0.36	56.8	2.99	117	–	–	–	–	–	–
2/17	17	14.5 T/HR REBURN,W/GR TO BRNS	110	1.10	0.87	265	0.36	56.5	3.01	92	24.43	–	–	3.49	0.048	98.6
2/18	19	14 T/HR REBURN,W/GR TO BRNS	110	1.10	0.87	272	0.37	55.3	3.01	88	–	–	–	–	–	–
2/18	20	14 T/HR REBURN,W/GR TO BRNS	110	1.10	0.86	270	0.37	55.7	3.00	77	–	–	–	–	–	–
2/19	23	14 T/HR REBURN,W/GR TO BRNS	110	1.10	0.86	260	0.35	57.3	2.83	85	31.92	–	–	–	–	–
3/5	50	14 T/HR REBURN,W/GR TO BRN	110	1.08	0.85	244	0.33	60.0	3.02	167	11.13	–	24.34	–	–	–
2/13	3	13.7 T/HR REBURN,W/NO GR TO BRN	110	1.11	0.94	325	0.44	46.6	3.19	151	10.74	–	–	4.38	–	–
2/14	5	14.1 T/HR REB,W/NO GR TO BRNS	110	1.10	0.88	278	0.38	54.4	3.15	149	–	–	12.33	–	–	–
2/14	6	14 T/HR REBURN,W/NO GR TO BRNS	111	1.11	0.88	295	0.40	51.6	3.09	141	–	–	–	–	–	–
2/15	7	14 T/HR REBURN,NO GR TO BRNS	110	1.11	0.87	297	0.40	51.2	3.13	83	–	–	16.35	–	–	–
2/15	9	14 T/HR REBURN,W/ NO GR TO BRNS	110	1.10	0.89	284	0.38	53.4	2.75	129	–	–	–	–	–	–
2/17	15	14.5 T/HR REB,W/NO GR TO BRNS	110	1.13	0.89	297	0.40	51.2	3.04	91	–	–	42.32	–	–	–
2/18	18	14 T/HR REBURN,W/NO GR TO BRNS	110	1.10	0.91	284	0.39	53.4	3.00	91	–	–	25.95	–	–	–
2/19	22	14 T/HR REBURN,W/NO GR FAN	110	1.08	0.92	294	0.40	51.7	2.75	71	29.88	–	–	3.91	0.034	99.1
2/20	24	14 T/HR REBURN,W/NO GR FAN	110	1.10	0.93	298	0.40	51.0	2.84	71	–	–	–	–	–	–
2/20	25	16 T/HR REBURN,W/NO GR FAN	111	1.12	0.91	275	0.37	54.8	2.90	92	26.71	–	–	2.95	0.036	98.8
2/24	31	6 T/HR REB,W/NO GR FAN,LOWER RZ	111	1.10	0.87	260	0.35	57.3	2.71	73	–	–	–	–	–	–
2/24	32	16 T/HR REBURN,W/GR TO BRNS	111	1.12	0.83	233	0.32	61.7	2.76	77	25.18	–	22.90	3.50	–	–
3/2	45	12 T/HR REBURN,W/GR TO BRNS	86	1.12	0.87	266	0.36	50.0	3.04	99	25.73	15.66	12.00	–	–	–
2/16	11	BASELINE W/NO REBURNING	81	1.13	1.13	537	0.73	–	3.50	64	–	–	13.43	–	–	–
2/24	33	BASELINE W/NO REBURN	83	1.13	1.13	537	0.73	–	3.43	45	–	–	–	–	–	–

PARAMETRIC/OPTIMIZATION TESTING (LAMAR COAL FIRING)

TABLE 1. DAILY LOG OF B&W REBURN TEST RESULTS – "T" PHASE (cont)

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm @3%O2	B&W NOX #/MKB	B&W BASE % NOX RED.	B&W O2 (%)	B&W CO ppm @3%O2	B&W ESP %UBC	B&W HOP %UBC	PLANT %UBC	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF. (%)
3/4	49	12.8 T/HR REBURN,W/GR TO BRNS	82	1.15	0.85	233	0.32	56.1	3.58	121	22.51	27.58	24.63	–	–	–
2/16	12	11.5 T/HR REBURN,W/GR TO BRNS	82	1.15	0.88	249	0.34	53.1	3.11	141	–	–	–	–	–	–
2/16	13	11.5 T/HR REBURN,W/GR TO BRNS	82	1.13	0.87	250	0.34	52.9	3.22	120	37.54	–	–	4.38	0.383	91.3
2/16	14	11.5 T/HR REBURN,W/GR TO BRNS	82	1.13	0.86	256	0.35	51.8	3.12	130	33.10	–	–	3.76	0.539	85.7
3/3	47	11.5 T/HR REBURN,W/GR TO BRNS	82	1.11	0.85	237	0.32	55.4	2.83	121	30.03	21.66	11.10	–	–	–
2/22	28	11.5 T/HR REBURN,W/GR TO BRNS	83	1.13	0.87	256	0.35	51.8	3.08	113	34.87	–	23.94	4.05	–	–
2/22	29	11.5 T/HR REBURN,W/GR TO BRNS	83	1.11	0.86	247	0.33	53.5	2.93	128	–	–	–	–	–	–
2/24	34	11.5 T/HR REBURN,W/GR TO BRNS	83	1.12	0.86	241	0.33	54.6	3.01	82	–	–	–	–	–	–
3/3	46	11.5 T/HR REB,W/NO GR TO BRNS	83	1.11	0.87	252	0.34	52.5	2.66	128	33.83	17.61	11.10	–	–	–
2/25	37	BASELINE W/NO REBURN	70	1.11	1.11	495	0.67	–	3.91	51	–	–	–	–	–	–
2/25	35	11.5 T/HR REBURN,W/GR TO BRNS	70	1.20	0.91	266	0.36	48.4	3.02	101	–	–	–	–	–	–
2/25	39	11.5 T/HR REBURN,W/GR TO BRNS	70	1.19	0.93	250	0.34	51.5	2.83	103	38.12	24.09	–	4.10	–	–
2/25	38	1.5 T/HR REBURN,W/NO GR TO BRN	70	1.19	0.93	251	0.34	51.2	2.83	95	–	–	–	–	–	–
2/27	42	11 T/HR REBURN,W/NO GR TO BRNS	71	1.12	0.87	237	0.32	54.0	3.29	109	34.04	25.46	22.36	4.56	–	–
2/28	44	10 T/HR REBURN,W/MIN GR TO BRNS	66	1.15	0.89	287	0.39	43.6	2.60	79	–	–	–	–	–	–
2/23	30	BASELINE W/NO REBURN	56	1.14	1.14	470	0.64	–	4.80	94	–	–	–	–	–	–
2/26	40	8.4 T/HR REB,W/NO GR TO BRNS	55	1.22	1.07	387	0.52	23.5	2.91	85	–	–	–	–	–	–
2/26	41	8.4 T/HR REB,W/NO GR TO BRNS	55	1.16	0.97	349	0.47	31.0	3.13	87	–	–	–	–	–	–
2/27	43	8 T/HR REB,W/MIN GR TO BRNS	55	1.11	0.98	318	0.43	37.5	3.05	99	33.86	30.10	–	5.30		
3/3	48	7.9 T/HR REB,W/MIN GR TO BRN	57	1.07	0.96	353	0.48	30.7	2.82	95	35.85	24.16	–	–	–	–
12/6	C	BASE LAMAR/DECKER NO GR FAN	90	1.18	1.18	483	0.66	–	4.65	35	–	–	5.48	–	–	–
12/9	D	10.5 T/HR REBURN,L/D COAL,NO GR	91	1.25	1.09	374	0.51	20.0	4.10	95	–	–	4.14	–	–	–
12/10	E	12 T/HR REBURN,L/D COAL,NO GR	90	1.25	1.06	368	0.50	27.0	4.60	100	–	–	1.21	–	–	–
12/11	F	10 T/HR REBURN,L/D COAL,W/GR	90	1.18	1.01	353	0.48	32.0	2.90	74	–	–	4.95	–	–	–
12/12	G	12 T/HR REBURN,L/D COAL,W/GR	90	1.18	0.97	340	0.46	40.0	4.50	144	–	–	13.78	–	–	–
2/11	H	13 T/HR REBURN,L/D COAL,W/GR	100	1.20	1.00	383	0.52	33.0	3.35	65	–	–	8.71	–	–	–
2/25	36	13 T/HR REBURN W/DECKER COAL	101	1.11	0.91	289	0.39	–	3.23	68	–	–	–	–	–	–

PARAMETRIC/OPTIMIZATION TESTING (LAMAR COAL FIRING)

TABLE 2. DAILY LOG OF REBURN TEST RESULTS – "A" PHASE

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm @3%O2	B&W NOX #/MKB	B&W % NOX RED.	B&W O2 (%)	B&W CO (PPM)	ACUX NOX ppm @3%O2	ACUX NOX #/MKB	ACUX % NOX RED.	ACUX O2 (%)	ACUX CO ppm @3%O2	ACUX UBC (%)	%UBC PLANT	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF (%)	RES OHM-CM E10
4-3	4A	ACUREX FULL LOAD BASELINE	110	1.12	1.12	639	0.87	–	4.08	172	653	0.89	–	4.70	–	3.34	6.99	0.55	0.0768	86.0	–
4-29	4A'	ACUREX FULL LOAD BASELINE	110	1.11	1.11	619	0.84	–	3.95	52	653	0.89	–	4.70	16	–	11.45	–	–	–	–
4-1	2A	13 T/HR REB W/140RPM/HIGH STOIC/NO GR	110	1.04	0.89	320	0.43	49.1	2.96	194	323	0.44	51.1	3.80	98	12.37	2.91	1.90	0.0207	98.9	9.0
4-2	3A	13 T/HR REB W/140RPM/MED STOIC/NO GR	110	1.05	0.87	290	0.39	52.3	2.73	115	297	0.40	55.0	3.60	–	10.80	2.51	2.48	0.0342	98.6	–
4-7	6A	13 T/HR REB W/140RPM/LOW STOIC/w GR	110	1.05	0.84	270	0.37	55.6	2.91	107	299	0.41	54.8	3.00	133	6.24	6.47	0.62	0.0518	91.6	–
4-8	7A	13 T/HR REB W/160RPM/LOW STOIC/w GR	110	1.07	0.86	267	0.36	56.2	2.99	60	294	0.40	55.5	2.65	33	8.09	5.57	0.97	0.0559	94.2	–
4-9	8A	13 T/HR REB W/160RPM/MED STOIC/NO GR	110	1.09	0.88	308	0.42	49.4	3.15	75	317	0.43	52.0	2.70	33	13.96	5.13	1.72	0.0382	97.8	–
4-10	9A	13 T/HR REB W/100RPM/MED STOIC/w GR	110	1.07	0.88	310	0.42	49.1	3.07	63	357	0.48	46.1	2.90	20	20.97	7.45	1.33	0.0174	98.7	–
4-13	10A	13 T/HR REB W/100RPM/LOW STOIC/w GR	110	1.08	0.87	290	0.39	52.4	3.04	85	346	0.47	47.7	3.40	65	19.90	8.74	2.82	0.0144	99.5	–
4-24	16A	13 T/HR REB PER AUTO CRTL (OPT COND)	111	1.07	0.87	266	0.36	56.3	3.08	66	326	0.44	50.8	4.20	22	30.70	7.98	1.34	0.0219	98.4	11.0
4-27	17A	15.5 T/HR REB W/LOW STOICH CONDITIONS	110	1.06	0.81	233	0.32	61.8	2.68	104	246	0.34	62.5	3.30	37	12.40	7.68	1.49	0.0415	97.2	10.0
4-29	2A'	13 T/HR REB W/140RPM/HIGH STOIC/NO GR	110	1.09	0.89	333	0.45	45.3	2.98	65	323	0.44	51.1	3.80	32	–	11.45	–	–	–	–
4-29	3A'	13 T/HR REB W/140RPM/MED STOIC/NO GR	110	1.06	0.86	300	0.41	50.8	2.73	70	297	0.40	55.1	3.60	37	–	11.45	–	–	–	–
5-1	21A	13 T/HR REB W/HIGH STOIC/NO GR FAN	110	1.09	0.96	351	0.48	42.4	3.78	72	379	0.51	42.7	3.70	53	–	9.12	1.36	0.0199	98.5	–
4-28	18A	11.2 T/HR REB W/AUTO/3 CYC OPERATION	90	1.04	0.84	257	0.35	55.2	2.88	70	287	0.39	53.0	3.88	49	18.95	5.75	1.40	0.0168	98.8	14.0
4-6	5A	ACUREX MED LOAD BASELINE	82	1.19	1.19	568	0.77	–	4.13	76	505	0.68	–	4.20	50	7.94	8.49	1.11	0.0234	97.9	–
4-29	19A	11.1 T/HR REB PER AUTO CRTL(OPT COND)	82	1.07	0.87	305	0.41	42.6	3.35	85	265	0.36	54.7	4.70	78	–	11.45	1.96	0.0205	99.0	14.0
4-15	11A	11.5 T/HR REB W/LOW STOICH @ 160 RPM	82	1.10	0.85	231	0.31	56.4	3.03	92	239	0.32	59.1	4.20	74	16.44	2.76	1.23	0.0162	98.7	–
4-16	12A	11.5 T/HR REB W/MED STOICH @ 160 RPM	83	1.07	0.88	262	0.36	50.7	3.13	69	260	0.35	55.6	3.80	51	14.69	2.77	1.64	0.0195	98.8	–
4-21	13A	11.5 T/HR REB W/HIGH STOICH @ 160 RPM	82	1.12	0.91	299	0.41	43.8	3.37	68	327	0.44	44.1	4.50	42	15.15	10.39	1.82	0.0142	99.2	21.0
3-31	1A	ACUREX BASELINE-PPT IN/OUT DUST LOAD	68	1.16	1.16	559	0.76	–	4.18	92	–	–	–	–	–	23.46	–	–	–	–	–
5-1	20A	8.0 T/HR REB W/HIGHER STOICH/160 RPM	60	1.04	1.00	389	0.53	23.0	3.56	87	337	0.46	39.0	4.70	75	–	7.56	2.63	0.0253	99.0	–
4-23	15A	8.0 T/HR REB W/LOW STOICH @ 160 RPM	59	1.04	0.92	224	0.30	55.8	3.17	115	288	0.39	46.2	5.30	72	20.33	8.40	2.69	0.0148	99.4	9.7
4-22	14A	8.0 T/HR REB W/HIGH STOICH @ 160 RPM	55	1.04	0.97	362	0.49	28.5	2.91	53	412	0.56	25.5	4.60	20	20.01	7.62	2.05	0.0245	98.8	26.0
4-1	2	B&W PRE-REBURN BASELINE	109	1.10	1.10	599	0.81	–	4.07	122	–	–	–	–	–	–	–	–	–	–	–
4-2	3	B&W PRE-REBURN BASELINE	110	1.06	1.06	573	0.78	–	3.97	95	–	–	–	–	–	–	–	–	–	–	–
4-3	4	B&W FULL LOAD BASELINE – SLM UBC	110	1.12	1.12	613	0.83	–	4.15	115	–	–	–	4.23	–	–	6.99	–	–	–	–
4-6	5	B&W FULL LOAD BASELINE	110	1.05	1.05	609	0.83	–	–	–	–	–	–	4.41	–	–	8.49	–	–	–	–
4-7	6	B&W PRE-REBURN BASELINE	110	1.11	1.11	609	0.83	–	4.02	85	–	–	–	–	–	–	–	–	–	–	–
4-8	7	B&W PRE-REBURN BASELINE	110	1.09	1.09	604	0.82	–	4.10	63	621	0.84	–	4.60	76	–	–	–	–	–	–
4-9	8	B&W PRE-REBURN BASELINE	110	1.11	1.11	657	0.89	–	3.84	41	682	0.92	–	4.12	23	–	–	–	–	–	–
4-2	3B	13 T/HR B&W/MED STOIC/HIGH OFA *	110	1.04	0.87	320	0.43	47.5	3.54	142	313	0.42	52.7	3.65	36	–	2.51	–	–	–	–
4-13	10B	14 T/HR REB W/OPT CODITIONS @ 140 RPM	110	1.06	0.87	290	0.39	52.4	3.02	70	313	0.42	52.7	2.80	81	–	–	–	–	–	–
4-13	10C	14 T/HR REB W/OPT CODITIONS @ 160 RPM	111	1.05	0.87	279	0.38	54.2	3.00	64	296	0.40	55.1	2.80	65	–	–	–	–	–	–
4-16	11B	11.5 T/HR W/OPT CODITIONS @ 160 RPM	82	1.09	0.87	243	0.33	54.2	3.24	115	245	0.33	58.1	3.82	74	–	2.77	–	–	–	–
4-16	11C	11.5 T/HR W/OPT/HIGH OFA @ 160 RPM	82	1.09	0.85	251	0.34	52.7	4.06	59	261	0.35	55.4	4.73	29	–	2.77	–	–	–	–
4-16	12B	10.5 T/HR REB W/HIGH STOICH @ 160 RPM	83	1.10	0.93	291	0.39	45.2	3.24	65	286	0.39	51.1	3.56	41	–	2.77	–	–	–	–
5-5	1BM	12.8 T/HR CASCADE W/NEW BRN MODS	110	1.07	0.87	308	0.42	49.4	2.87	60	319	0.43	51.7	3.28	37	–	8.59	–	–	–	–
5-6	2BM	8.7 T/HR CASCADE W/NEW BRN MODS	60	1.02	0.97	328	0.44	35.1	3.52	102	309	0.42	42.3	4.45	120	–	9.78	–	–	–	–
5-7	3BM	14 T/HR W/NEW BRN MOD/HIGHER HI	110	1.06	0.88	307	0.42	49.6	2.78	88	306	0.41	53.7	3.35	60	–	9.80	–	–	–	–
5-7	4BM	11.8 T/HR W/NEW BRN MODS/HIGHER HI	82	1.08	0.85	290	0.39	45.4	2.91	82	285	0.39	49.4	3.20	82	–	9.80	–	–	–	–

PERFORMANCE TESTING (LAMAR COAL FIRING)

TABLE 3. DAILY LOG OF REBURN TEST RESULTS – "P"/"F" PHASES

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm 3%O	B&W NOX #/MKB	B&W % NOX RED.	B&W O2 (%)	B&W CO (PPM)	ACUX NOX ppm @3%O2	ACUX NOX #/MKB	ACUX % NOX RED.	ACUX O2 (%)	ACUX CO ppm @3%O2	ACUX UBC (%)	%UBC PLANT	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF (%)	PPT. RES OHM-CM
INITIAL PERFORMANCE PHASE																					
5-16	1P	MEDIUM LOAD PERFORMANCE TEST	80	1.11	0.89	281	0.38	47.1	3.05	98	292	0.40	50.1	3.93	73	22.63	21.01	2.81	0.0034	99.9	–
5-16	2P	LOW LOAD PERFORMANCE TEST	58	1.06	0.98	322	0.44	36.3	3.01	113	331	0.45	40.1	3.90	100	31.53	21.01	2.92	0.0132	99.5	–
5-17	3P	LOW LOAD PERFORMANCE TEST	58	1.06	1.01	340	0.46	32.8	3.32	111	361	0.49	34.7	4.90	75	34.46	15.04	2.63	0.0027	99.9	2.4
5-17	4P	LOW LOAD PERF TEST W/SOOTBLOWING	58	1.08	1.00	326	0.44	35.5	3.45	101	364	0.49	34.2	4.80	77	28.27	15.04	3.69	0.0311	99.2	2.1
5-18	5P	HIGH LOAD PERFORMANCE TEST	110	1.05	0.85	289	0.39	52.6	3.04	65	332	0.45	49.8	3.26	33	13.91	29.36	2.07	0.0158	99.2	7.9
5-19	6P	HIGH LOAD PERFORMANCE TEST	110	1.06	0.84	267	0.36	56.2	2.93	96	286	0.39	56.7	3.30	44	14.93	22.47	1.34	0.0090	99.3	33.0
5-19	7P	MEDIUM LOAD PERFORMANCE TEST	82	1.07	0.87	268	0.36	49.6	2.91	93	285	0.39	51.3	3.90	52	13.60	22.47	1.29	0.0055	99.6	6.8
5-20	8P	HIGH LOAD PERF TEST W/SOOTBLOWING	109	1.08	0.84	272	0.37	55.4	2.84	81	278	0.38	57.9	3.70	25	14.29	15.78	2.38	0.0084	99.6	3.8
5-20	9P	MED LOAD PERF TEST W/SOOTBLOWING	82	1.12	0.90	261	0.35	50.9	2.83	92	266	0.36	54.5	4.00	64	23.80	15.78	2.82	0.0037	99.9	0.7
FINAL PERFORMANCE TEST PHASE																					
9-28	F1	BASE PERF TEST-CYC @ 100% W/REB	77	1.10	1.10	563	0.76	–	3.51	65	585	0.79	–	3.83	18	13.20	5.32	0.9872	0.0091	99.1	–
9-28	F2	HIGH LOAD FINAL REBURN PERF. TEST	110	1.08	0.85	303	0.41	50.2	2.94	105	317	0.43	52.0	3.23	16	10.83	5.32	1.6251	0.0376	97.7	–
9-28	FFB	PRE-REBURN BASELINE HIGH LOAD	110	1.10	1.10	578	0.78	–	3.19	80	613	0.83	–	3.37	10	–	–	–	–	–	–
9-28	F3	HIGH LOAD FINAL REBURN PERF. TEST	110	1.07	0.85	301	0.41	50.5	3.02	140	335	0.45	49.3	3.40	18	8.67	5.32	1.4645	0.0305	97.9	–
9-29	F4	BASE PERF TEST-CYC @ 100% W/REB	77	1.10	1.10	509	0.69	–	3.57	72	539	0.73	–	3.80	13	3.73	6.36	1.0675	0.0097	99.1	–
9-29	F5	HIGH LOAD FINAL REBURN PERF. TEST	110	1.07	0.84	298	0.40	51.1	2.97	168	325	0.44	50.9	3.37	24	8.80	6.36	1.3950	0.0410	97.1	–
9-30	F6	BASE PERF TEST-CYC @ 100% W/REB	52	1.05	1.05	474	0.64	–	3.83	65	524	0.71	–	4.32	31	11.67	5.23	1.7998	0.0114	99.4	–
9-30	FMB	PRE-REBURN BASELINE MEDIUM LOAD	82	1.15	1.15	528	0.72	–	3.36	98	556	0.75	–	3.57	22	–	–	–	–	–	–
9-30	F7	MEDIUM LOAD FINAL REBURN PERF TEST	83	1.11	0.85	291	0.39	45.2	3.06	100	297	0.40	49.2	3.33	44	16.78	–	1.5838	0.0152	99.0	–
9-30	F8	MEDIUM LOAD FINAL REBURN PERF TEST	82	1.09	0.85	298	0.40	43.8	3.02	107	303	0.41	48.3	3.34	37	16.55	–	1.5017	0.0141	99.1	–
10-1	F9	BASE PERF TEST-CYC @ 100% W/REB	54	1.03	1.03	495	0.67	–	3.69	58	516	0.70	–	3.98	15	13.42	23.93	2.0458	0.0232	98.9	–
10-2	F10	MEDIUM LOAD FINAL REBURN PERF TEST	82	1.09	0.84	266	0.36	50.0	2.97	118	274	0.37	53.2	3.24	54	12.89	18.14	1.1988	0.0193	98.4	–
10-3	F11	BASE PERF TEST-CYC @ 100% W/REB	37	1.03	1.03	598	0.81	–	5.31	56	685	0.93	–	5.69	37	11.66	15.23	0.8162	0.0077	99.1	–
10-2	F12	LOW LOAD FINAL REBURN PERF. TEST	58	1.06	0.93	326	0.44	35.5	3.29	80	338	0.46	38.9	3.59	50	26.14	18.14	2.3318	0.0161	99.3	–
10-3	F13	LOW LOAD FINAL REBURN PERF. TEST	58	1.07	0.94	341	0.46	32.6	3.11	105	351	0.48	36.5	3.48	67	35.06	15.23	2.5595	0.0128	99.5	–
10-3	FLB	PRE-REBURN BASELINE LOW LOAD	58	1.10	1.10	480	0.65	–	3.70	80	494	0.67	–	3.72	44	–	–	–	–	–	–
10-3	F14	BASE PERF TEST-CYC @ 100% W/REB	38	1.04	1.04	599	0.81	–	5.25	57	705	0.96	–	5.74	26	12.35	15.23	0.7568	0.0087	98.9	–
10-4	F15	LOW LOAD FINAL REBURN PERF TEST	59	1.07	0.93	317	0.43	37.3	3.08	120	323	0.44	41.5	3.58	57	38.00	22.45	2.5058	0.0069	99.7	–
10-4	F16	LOWEST REBURN LOAD w/180 RPM	38	1.07	0.94	400	0.54	33.2	4.26	88	435	0.59	36.4	4.88	49	21.07	22.45	1.4288	0.0253	98.2	–
10-5	F17	LOW LOAD REBURN W/1 CYCLONE	59	1.11	0.90	290	0.39	42.7	2.81	116	310	0.42	44.0	3.51	63	26.61	17.87	1.7475	0.0347	98.0	–
10-5	F18	LOW LOAD REB W/2 CYCS HIGH AIR	59	1.06	0.94	349	0.47	30.9	3.95	131	363	0.49	34.3	4.30	59	3.58	–	1.7950	0.0331	98.2	–
10-5	F19	BASELINE FULL LOAD	110	1.09	1.09	585	0.79	–	3.31	209	651	0.88	–	3.86	12	16.61	17.87	0.9029	0.0889	90.2	–

TABLE 4. COAL ANALYSES FOR WISCONSIN POWER & LIGHT NELSON DEWEY UNIT #2

LAMAR COAL ANALYSES

TEST ID	OPT	OPT	OPT	#11-14	2A	2A	4A	4A	12A	1P	3P	5P	8P	FINE	F1	F4	F6	F9	F10	F11	F15
FUEL ANAL (As Rec'	WARNER	WARNER	WARNER	WARNER	B&W	WARNER	B&W	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	B&W	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER
SOURCE	11-21-91	11-25-91	12-17-91	2-16-92	4-1-92	4-1-92	4-3-92	4-3-92	4-16-92	5-16-92	5-17-92	5-18-92	5-19-92	7-14-92	9-28-92	9-29-92	9-30-92	10-1-92	10-2-92	10-3-92	10-4-92
MOISTURE	17.87	19.32	18.80	17.24	16.31	15.53	14.88	15.06	18.22	16.22	16.80	16.32	16.09	15.36	17.66	17.24	17.46	17.14	18.33	16.94	17.37
VOLATILE MATTER	31.89	31.10	31.69	30.67	33.91	32.52	34.33	32.06	31.36	32.51	32.28	32.03	31.99	36.26	31.55	32.15	32.46	32.55	32.00	32.27	32.19
FIXED CARBON	43.89	43.43	43.83	44.99	44.23	46.01	44.41	46.08	44.68	45.03	44.33	45.34	44.99	42.90	44.14	44.13	43.68	44.38	43.95	44.43	43.90
ASH	6.35	6.15	5.68	7.10	5.55	5.94	6.38	6.80	5.74	6.24	6.59	6.31	6.13	5.48	6.65	6.48	6.40	5.93	5.72	6.36	6.54
SUM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.20	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
HHV, Btu/lb	11020	10848	10886	10945	11399	11437	11364	11288	10880	11210	11023	11232	11151	11445	10928	10996	11003	11173	10948	11111	11066
SUM OF INERTS	24.22	25.47	24.48	24.34	21.86	21.47	21.26	21.86	23.96	22.46	23.39	22.63	22.22	20.84	24.31	23.72	23.86	23.07	24.05	23.30	23.91
FC/VM	1.38	1.40	1.38	1.47	1.30	1.41	1.29	1.44	1.42	1.39	1.37	1.42	1.41	1.18	1.40	1.37	1.35	1.38	1.37	1.38	1.36
CARBON	61.39	60.24	60.33	60.93	63.80	64.00	63.76	62.84	61.27	64.46	61.81	62.43	64.62	64.46	60.51	61.23	61.22	62.17	61.12	61.58	61.65
HYDROGEN	4.14	4.39	4.22	4.00	4.28	4.32	4.27	4.31	4.24	3.44	4.17	4.23	3.44	4.47	4.18	3.93	4.27	4.28	4.10	4.14	4.29
NITROGEN	1.11	1.08	1.07	1.13	1.26	1.37	1.30	1.24	1.22	1.18	1.10	1.19	1.23	1.33	1.12	1.12	1.08	1.17	1.05	1.13	1.10
SULFUR	1.31	1.29	1.27	1.34	1.46	1.56	1.49	1.55	1.52	1.42	1.39	1.32	1.36	1.62	1.41	1.36	1.37	1.38	1.25	1.42	1.42
MOISTURE	17.87	19.32	18.80	17.24	16.31	15.53	14.88	15.06	18.22	16.22	16.80	16.32	16.09	15.36	17.66	17.24	17.46	17.14	18.33	16.94	17.37
ASH	6.35	6.15	5.68	7.10	5.55	5.94	6.38	6.80	5.74	6.24	6.59	6.31	6.13	5.48	6.65	6.48	6.40	5.93	5.72	6.36	6.54
OXYGEN	7.83	7.53	8.63	8.26	7.34	7.28	7.92	8.20	7.79	7.04	8.14	8.20	6.33	7.28	8.47	8.64	8.20	7.93	8.43	8.43	7.63
SUM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.20	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
EPA Fd FACTOR	9646	9732	9606	9585	9722	9738	9722	9667	9801	9713	9702	9621	9813	9843	9596	9544	9667	9666	9629	9574	9705
AVERAGE EPA Fd																					9724

WESTERN COAL ANALYSES

TEST ID	1W	2W	3W	4W	5W	6W	7W	8W	10W	11W	12W	14W	16W	17W	FEGT	23W	29W	30W
FUEL ANAL (As Rec'	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER	WARNER
SOURCE	11-16-92	11-16-92	11-17-92	11-19-92	11-19-92	11-19-92	11-20-92	11-20-92	11-30-92	11-30-92	12-1-92	12-1-92	12-2-92	12-2-92	12-3-92	12-4-92	12-7-92	12-7-92
MOISTURE	24.83	25.32	25.98	26.58	27.15	27.48	27.98	28.51	26.39	26.60	26.81	26.69	27.00	26.89	26.21	26.45	25.94	25.85
VOLATILE MATTER	31.60	32.06	31.23	30.88	31.17	31.11	30.89	30.53	31.57	31.40	31.45	31.04	30.97	30.13	31.53	30.60	30.67	30.79
FIXED CARBON	38.94	38.10	38.36	38.29	37.60	36.98	37.10	37.12	37.94	37.93	37.72	38.17	37.76	38.65	37.74	38.35	38.65	38.65
ASH	4.63	4.52	4.43	4.25	4.08	4.43	4.03	3.84	4.10	4.07	4.02	4.10	4.27	4.33	4.52	4.60	4.74	4.71
SUM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
HHV, Btu/lb	9541	9403	9321	9177	9150	9000	9030	8928	9108	9132	9123	9122	9123	9125	9254	9266	9304	9382
SUM OF INERTS	29.46	29.84	30.41	30.83	31.23	31.91	32.01	32.35	30.49	30.67	30.83	30.79	31.27	31.22	30.73	31.05	30.68	30.56
FC/VM	1.23	1.19	1.23	1.24	1.21	1.19	1.20	1.22	1.20	1.21	1.20	1.23	1.22	1.28	1.20	1.25	1.26	1.26
CARBON	54.74	53.59	54.39	52.30	51.89	51.70	51.81	51.07	52.04	52.13	52.44	52.28	52.42	52.41	53.77	52.80	53.58	53.16
HYDROGEN	3.40	3.46	3.26	3.18	3.76	3.53	3.64	3.45	2.71	3.19	3.26	3.27	3.21	3.20	3.26	3.10	3.15	3.32
NITROGEN	0.74	0.71	0.78	0.70	0.66	0.65	0.65	0.64	0.67	0.62	0.63	0.67	0.71	0.70	0.73	0.70	0.69	0.68
SULFUR	0.49	0.43	0.40	0.39	0.34	0.33	0.30	0.29	0.32	0.33	0.32	0.34	0.38	0.39	0.43	0.47	0.53	0.54
MOISTURE	24.83	25.32	25.98	26.58	27.15	27.48	27.98	28.51	26.39	26.60	26.81	26.69	27.00	26.89	26.21	26.45	25.94	25.85
ASH	4.63	4.52	4.43	4.25	4.08	4.43	4.03	3.84	4.10	4.07	4.02	4.10	4.27	4.33	4.52	4.60	4.74	4.71
OXYGEN	11.17	11.97	10.76	12.60	12.12	11.88	11.59	12.20	13.77	13.06	12.52	12.65	12.01	12.08	11.08	11.88	11.37	11.74
SUM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
EPA Fd FACTOR	9577	9510	9706	9384	9594	9641	9684	9558	9160	9378	9494	9467	9501	9490	9659	9386	9524	9425
AVERAGE EPA Fd																		9606

TABLE 5. DAILY LOG OF REBURN TEST RESULTS ("W" PHASE)

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm @3%O2	B&W NOX #/MKB	B&W BASE % NOX RED.	B&W O2 (%)	B&W CO (PPM)	ACUX NOX ppm @3%O2	ACX NOX #/MKB	ACUX BASE % NOX RED.	ACUX O2 (%)	ACUX CO ppm @3%O2	B&W ESP UBC (%)	B&W HOP UBC (%)	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF (%)
12-4	23W	REBURN @ MAX LOAD POSSIBLE	118	1.06	0.87	275	0.37	54.2	3.04	73	296	0.40	50.6	2.92	89	11.15	9.95	2.3902	-	-
12-9	C8	REBURN @ MAXIMUM LOAD	116	1.05	0.87	239	0.32	58.3	3.25	85	245	0.33	57.2	3.59	74	-	-	-	-	-
12-10	C15	REBURN @ MAXIMUM LOAD	115	1.06	0.87	228	0.31	58.0	3.35	57	234	0.31	56.9	3.33	90	-	-	-	-	-
12-8	C2	REBURN @ FULL LOAD	112	1.09	0.85	210	0.28	57.7	3.10	51	216	0.29	56.5	3.15	76	-	-	-	-	-
11-16	1W	BASELINE - FULL LOAD	109	1.05	1.05	498	0.67	-	3.38	59	519	0.69	-	3.75	30	3.30	-	0.4236	0.0114	97.3
11-16	1W'	REBURN @ FULL LOAD W/LAMAR SETTINGS	110	1.07	0.88	235	0.31	52.9	3.05	78	238	0.31	54.1	3.26	38	-	-	-	-	-
11-16	1W'	ABOVE W/GR DAMPER 80%	110	1.07	0.90	219	0.29	56.1	3.15	75	220	0.29	57.7	3.14	45	-	-	-	-	-
11-16	1W'	ABOVE W/GR DAMPER 100%	110	1.07	0.88	212	0.28	57.4	3.20	78	221	0.29	57.4	3.18	45	-	-	-	-	-
11-16	1W'	ABOVE W/GR DAMPER 70%	110	1.07	0.88	217	0.29	56.4	3.10	78	221	0.29	57.4	3.27	51	-	-	-	-	-
11-16	1W'	ABOVE W/GR DAMPER 70%/HIGHER HI%	110	1.07	0.86	214	0.29	56.9	2.95	87	218	0.29	57.9	3.04	47	-	-	-	-	-
11-16	1W'	ABOVE W/GR DAMP. 70%/HIGHER HI%/LOW SA	110	1.07	0.85	211	0.28	57.6	3.00	95	211	0.28	59.3	3.12	61	-	-	-	-	-
11-16	1W'	ABOVE W/IMPELLER @ -1/2"	110	1.07	0.85	201	0.27	59.6	2.95	103	206	0.27	60.4	3.05	61	-	-	-	-	-
11-19	4W	BASELINE - FULL LOAD	110	1.07	1.07	603	0.81	-	3.58	63	638	0.85	-	4.07	44	16.88	26.59	1.2619	0.0128	99.0
12-1	12W	BASELINE - FULL LOAD	110	1.06	1.06	517	0.69	-	3.52	59	542	0.73	-	3.85	58	6.08	-	1.5908	-	-
12-2	15W	BASELINE - FULL LOAD	108	1.06	1.06	581	0.78	-	3.56	36	477	0.64	-	-	72	-	-	-	-	-
12-3	18W	BASELINE @ FULL LOAD W/GR FAN: FEGT	109	1.07	1.07	576	0.77	-	3.49	74	610	0.82	-	3.29	72	-	-	-	-	-
12-3	19W	BASELINE @ FULL LOAD NO GR FAN: FEGT	110	1.04	1.04	594	0.80	-	3.58	85	610	0.82	-	3.71	82	-	-	-	-	-
12-4	22W	BASELINE @ FULL LOAD: SINGLE SCAN	109	1.05	1.05	562	0.75	-	3.84	55	564	0.76	-	3.80	82	-	-	-	-	-
12-7	26W	BASELINE - FULL LOAD	110	1.07	1.07	549	0.74	-	3.52	47	-	-	-	-	-	-	-	-	-	-
12-8	C1	BASELINE - FULL LOAD	111	1.10	1.10	492	0.66	-	3.65	30	502	0.67	-	3.52	64	-	-	-	-	-
12-9	C6	BASELINE - FULL LOAD	110	1.08	1.08	548	0.73	-	3.65	55	546	0.73	-	3.93	66	-	-	-	-	-
12-10	C13	BASELINE - FULL LOAD	110	1.08	1.08	528	0.71	-	3.50	26	528	0.71	-	3.22	74	-	-	-	-	-
11-17	3W	REB @ FULL LOAD W/LAMAR COND	110	1.05	0.85	234	0.31	58.2	2.94	144	242	0.32	56.7	3.03	120	4.15	5.96	0.9908	0.0174	98.2
11-19	5W	REBURN @ FULL LOAD W/NO GR FAN	110	1.10	0.95	307	0.41	49.1	2.91	68	323	0.43	49.4	3.30	45	4.41	3.50	0.9384	0.0186	98.0
12-1	13W	REBURN @ FULL LOAD W/OPT COND	110	1.08	0.86	214	0.29	58.6	3.28	89	224	0.30	56.7	3.48	63	2.68	7.08	1.1905	-	-
12-2	16W	REBURN @ FULL LOAD W/HIGH % HI	110	1.07	0.85	229	0.31	60.6	3.00	93	236	0.32	59.4	3.06	96	11.24	2.86	1.5291	-	-
12-2	17W	REBURN @ FULL LOAD W/LOW % HI	109	1.07	0.91	299	0.40	48.5	3.19	56	317	0.42	45.4	3.05	70	11.64	6.81	1.5585	-	-
12-2	17W'	REB @ FULL LOAD W/GOOD COND/LOW SA	109	1.09	0.88	248	0.33	57.3	3.20	69	252	0.34	56.6	3.03	95	-	-	-	-	-
12-2	17W'	ABOVE W/HIGH % HI/NO GR FAN	109	1.06	0.92	274	0.37	52.8	3.16	56	282	0.38	51.5	3.15	89	-	-	-	-	-
12-3	20W	REBURN @ FULL LOAD W/GR FAN: FEGT	110	1.12	0.92	322	0.43	45.8	3.32	74	315	0.42	47.0	3.13	77	-	-	-	-	-
12-3	21W	REBURN @ FULL LOAD NO GR FAN: FEGT	109	1.06	0.92	307	0.41	48.3	3.37	78	309	0.41	48.0	3.42	76	-	-	-	-	-
12-7	27W	REBURN @ FULL LOAD NO GR FAN	110	1.08	0.92	276	0.37	49.7	3.27	95	-	-	-	-	-	-	-	-	-	-
12-7	28W	REBURN @ FULL LOAD W/GR FAN	110	1.11	0.89	252	0.34	54.1	3.64	101	-	-	-	-	-	-	-	-	-	-
12-9	C7	REBURN @ FULL LOAD	110	1.06	0.85	208	0.28	62.0	2.80	98	217	0.29	60.3	3.31	90	-	-	-	-	-
12-9	C12	REBURN @ FULL LOAD	109	1.03	0.84	-	-	-	-	-	218	0.29	60.1	3.32	106	-	-	-	-	-
12-10	C14	REBURN @ FULL LOAD	111	1.08	0.87	227	0.30	57.0	3.25	64	237	0.32	55.1	3.30	104	-	-	-	-	-
12-10	C21	REBURN @ HIGH LOAD	103	1.07	0.85	-	-	-	-	-	232	0.31	56.1	3.21	99	-	-	-	-	-
12-10	C20	REBURN @ HIGH LOAD	100	1.13	0.93	-	-	-	-	-	255	0.34	51.7	3.05	90	-	-	-	-	-
12-10	C19	REBURN @ MEDIUM LOAD	89	1.14	0.95	-	-	-	-	-	254	0.34	51.9	3.47	89	-	-	-	-	-
11-16	2W	BASELINE - MEDIUM LOAD	78	1.08	1.08	479	0.64	-	3.60	44	486	0.65	-	3.79	37	2.65	3.30	0.8570	0.0104	98.8
11-30	11W	BASELINE - MEDIUM LOAD	83	1.10	1.10	478	0.64	-	3.73	16	507	0.68	-	3.70	66	4.18	4.20	1.9397	-	-

TABLE 5. DAILY LOG OF REBURN TEST RESULTS - "W" PHASE (cont)

DATE	TEST #	CONDITION	MW	CYC STOIC	REB ZONE STOIC	B&W NOX ppm @3%O2	B&W NOX #/MKB	B&W BASE % NOX RED.	B&W O2 (%)	B&W CO (PPM)	ACUX NOX ppm @3%O2	ACX NOX #/MKB	ACUX BASE % NOX RED.	ACUX O2 (%)	ACUX CO ppm @3%O2	B&W ESP UBC (%)	B&W HOP UBC (%)	PPT. IN gr/DSCF	PPT. OUT gr/DSCF	PPT. EFF (%)
11-19	6W	REB @ MED LOAD W/LAMAR CONDITIONS	83	1.08	0.88	234	0.31	51.1	3.02	57	241	0.32	51.4	3.26	54	14.91	11.84	1.0681	0.0218	98.0
11-19	6W	REB @ MED LOAD W/LAMAR CONDITIONS	83	1.09	0.89	-	-	-	-	-	244	0.33	51.0	3.26	63	-	-	-	-	-
11-19	6W	REBURN @ MED LOAD W/GR @ 60%	83	1.12	0.91	-	-	-	-	-	235	0.32	52.7	3.33	55	-	-	-	-	-
11-19	6W	REBURN @ MED LOAD W/GR HIGH/LOW SA	83	1.09	0.87	-	-	-	-	-	203	0.27	59.1	3.01	74	-	-	-	-	-
11-19	6W	REB @ MED LOAD W/GR HIGH/LOWER SA	83	1.11	0.85	-	-	-	-	-	187	0.25	62.3	2.75	130	-	-	-	-	-
11-20	8W	REB @ MED LOAD W/LOW SA/HIGH GR	82	1.09	0.84	208	0.28	56.5	3.20	123	224	0.30	54.9	3.48	130	12.75	10.99	0.9865		
11-30	10W	REB @ MED LOAD W/HIGH RBZS-LOW HI%	82	1.13	0.99	314	0.42	34.4	4.11	29	320	0.43	35.7	3.77	59	7.24	11.34	1.4091	-	-
12-8	C3	REBURN @ MEDIUM LOAD	82	1.10	0.90	214	0.29	55.3	3.75	25	217	0.29	56.3	3.75	74	-	-	-	-	-
12-9	C9	REBURN @ MEDIUM LOAD	81	1.06	0.86	209	0.28	56.4	3.25	32	218	0.29	56.1	3.56	109	-	-	-	-	-
12-9	C11	REBURN @ MEDIUM LOAD	81	1.08	0.91	-	-	-	-	-	208	0.28	58.1	3.76	79	-	-	-	-	-
12-10	C18	REBURN @ MEDIUM LOAD	80	1.07	0.94	-	-	-	-	-	227	0.30	54.3	3.32	96	-	-	-	-	-
12-10	C17	REBURN @ LOW LOAD	70	1.08	0.90	-	-	-	-	-	200	0.27	56.3	3.06	101	-	-	-	-	-
12-5	25W	BASELINE - LOW LOAD	61	1.05	1.05	455	0.61	-	3.99	27	473	0.63	-	3.76	71	7.82	0.79	1.1292	-	-
12-1	14W	BASELINE - LOW LOAD	56	1.04	1.04	473	0.63	-	3.84	36	494	0.66	-	3.80	87	4.14	7.27	2.0205	-	-
11-20	7W	REBURN @ LOW LOAD W/LAMAR COND	60	1.08	0.95	232	0.31	50.0	3.22	43	247	0.33	49.0	3.50	68	17.37	15.64	1.1485	0.0170	98.5
12-4	24W	REB @ LOW LOAD W/OPT COND: TEST ABORT	59	1.02	0.91	172	0.23	63.0	3.51	68	177	0.24	63.5	3.28	107	20.74	-	1.7961	-	-
12-7	29W	REBURN @ LOW LOAD W/HIGH % HI	60	1.05	0.92	207	0.28	55.4	2.86	87	239	0.32	50.6	3.63	109	10.40	6.56	2.3332	-	-
12-7	30W	REBURN @ LOW LOAD W/MED % HI	60	1.05	0.93	246	0.33	47.0	3.61	47	277	0.37	42.8	4.10	92	3.17	-	1.2566	-	-
12-8	C4	REBURN @ LOW LOAD	60	1.10	0.90	251	0.34	45.9	3.60	30	265	0.35	45.2	3.73	87	-	-	-	-	-
12-9	C10	REBURN @ LOW LOAD	62	1.12	0.93	219	0.29	52.8	3.55	44	225	0.30	53.5	3.80	86	-	-	-	-	-
12-10	C16	REBURN @ LOW LOAD	61	1.07	0.95	-	-	-	-	-	294	0.39	39.3	3.61	116	-	-	-	-	-
11-20	9W	REB @ LOWEST LOAD W/LOW SA/HIGH GR	42	1.07	0.94	206	0.28	55.5	4.25	47	208	0.28	55.2	4.65	63	5.23	-	0.4792		
12-8	C5	REBURN @ LOWEST LOAD	44	1.15	0.89	213	0.29	54.1	4.10	44	210	0.28	54.7	4.31	100	-	-	-	-	-

APPENDIX NO. 8

Air Pollution Control Technology Company (APCO) Research Reports on Precipitator Performance

The following contains all the Nelson Dewey Precipitator Evaluation Reports prepared by APCO throughout the Cyclone Coal Reburning Project. Their review includes determining the precipitators performance during baseline and coal reburn operation. The reports included in this appendix are:

- Model Projections of Nelson Dewey Unit #2 Precipitator Performance following the Implementation of Coal Reburn Technology (includes addendum)

- Initial Projections of Nelson Dewey Unit #2 Precipitator Performance with the Application of Coal Reburn Technology

- Trip Report: Nelson Dewey Unit #2 Precipitator Inspection (September 16, 1991)

- Baseline Precipitator Performance Evaluation

MODEL PROJECTIONS OF NELSON DEWEY UNIT #2 PRECIPITATOR PERFORMANCE FOLLOWING THE IMPLEMENTATION OF COAL REBURN TECHNOLOGY

INTRODUCTION:

Babcock & Wilcox and Wisconsin Power and Light are taking part in a NO_x reduction program sponsored by the U. S. Department of Energy. This Coal Reburn Project has involved retrofitting boilers with pulverized coal burners to supplement existing cyclone burners. The pulverized coal burners are located in such a way as to alter the combustion and temperature profile of the boiler and, thereby, reduce NO_x emissions. Unit #2 of the Nelson Dewey Station of Wisconsin Power and Light was chosen as the demonstration unit for this technology.

It was anticipated that the modifications to the boiler would impact the performance of the precipitator used for particulate removal from flue gases exiting the boiler. The percentage of ash appearing as fly ash was expected to increase and the particle size distribution of the ash was expected to change. Fly ash from cyclone boilers typically has a small mass median diameter and contains a large number of fine particles. It was felt that the use of pulverized coal burners would increase the MMD of the ash exiting the boiler and reduce the percentage of fine particles. The effect of the change in the temperature profile on precipitator inlet particle size distribution was not known.

APCO Services, Inc. was asked to model the performance of the Nelson Dewey Unit #2 precipitator prior to the boiler modifications to determine if it was reasonable to expect the unit to remain in compliance with existing particulate emission limits after the modifications were made. Initial projections were made using: reburn data gathered at the SBS Combustor facility at the B & W Research Center in Alliance, Ohio; baseline performance test conducted by Acurex Corporation; precipitator electrical readings taken on May 31, 1990, just after the Acurex tests were completed;

and precipitator design data. The measured baseline collection efficiency while burning Lamar coal had been 82.6% (17.4% penetration) for a boiler load of 110 MW. Earlier data obtained while firing a different coal had indicated a collection efficiency of 92.9%. Model projections indicated a collection efficiency of 83.8% (16.2% penetration) as baseline performance. This represents a difference of 7% between measured and predicted performance. It was felt that this was good agreement between measured and predicted performance.

The above model projections were based on a particle size distribution having an MMD of 3.10 μm and a standard deviation of 2.46 (measured distribution for the SBS combustor). The gas flow rate of 475,000 acfm which was used was a measured value from an earlier test. The inlet mass loading of 0.0855 gr/acf (0.35 lb/MBtu) and the electrical conditions used were measured values. The non-ideal parameters which gave the best agreement between measured and modeled performance were a standard deviation in gas-flow distribution of 25% and a sneakage per baffled section of 10%. The values of these last two parameters were adjusted to obtain the best fit and are typical for older precipitators.

The model was next used to predict precipitator performance following the boiler modifications. Three gas flow rates were considered: the measured one above, 475,000 acfm; a calculated value of 440,000 acfm based upon an excess air of 30%; and 416,700 acfm which was calculated assuming 3.0% O_2 at the economizer outlet. Also, the electrical conditions for the precipitator fields were varied to determine how the precipitator would react to improvement in electrical conditions and how it would respond to changes in fly-ash resistivity. Finally, model runs were made by assuming no change in the inlet particle size distribution, and by assuming a size distribution having a larger MMD with a smaller percentage of fine particles.

The model projections of precipitator performance with-reburn indicated the following:

- If no improvement in the electrical operating conditions was seen, the performance of the unit would be marginal for the increased inlet mass loading associated with reburning, assuming the size distribution shifted toward a larger MMD with a smaller percentage of fine particles.

- If no improvement in the electrical operating conditions was seen, and the particle size distribution did not change with reburning; the unit would be out of compliance with emission standards.

- Improving electrical operating conditions to those one would anticipate for the Lamar coal ash would improve precipitator performance significantly. It was felt that the unit should be in compliance even if the size distribution of the particulate at the ESP inlet remained essentially that of the without-reburn case.

The boiler modifications have been completed and the performance of the precipitator has been measured for both the Lamar coal and for a western coal. The mathematical model has now been used to see how well its predictions match actual performance for the two coals tested.

COMPUTER MODEL DESCRIPTION:

Predictions of precipitator performance were made using a mathematical model developed at Southern Research Institute[1,2] with the sponsorship of EPA. A flow diagram of the model showing important input parameters and some of the output information is shown in Figure 1.

The mathematical model is based on the exponential Deutch-Anderson equation. It is structured so that the precipitator is divided into small incremental lengths in the direction of gas flow. In each increment, calculations are made for each particle size band contained in the inlet particle size distribution. Also calculated for each incremental length are, the electric field at the plate, the particle charge for each particle size band, the migration velocities of the particles toward the plate, and collection efficiencies for each particle size band. The particulate which is not collected in a given increment becomes the inlet loading for the succeeding increment. The incremental structure of the model is required to allow for the changing conditions present along the length of a precipitator and to insure that the assumptions made in the Deutch-Anderson equation are met. The model computes length-averaged migration velocity as a function of particle size, and the overall mass collection efficiency by summation over the fractional collection efficiency. In addition, the model uses empirical expressions to adjust the length-averaged migration velocities for non-ideal effects such as gas bypassing a collector section (sneakage, S) and variations in the gas velocity distribution (%RMS deviation, σ_g). A sneakage of 10% per baffled section and σ_g of 25% are typically required to match measured performance with modeled results for older precipitators. For newer units, S = 5% and σ_g = 15% are usually more representative.

The model is very sensitive to change in: the electrical conditions within each collecting field, the inlet particle size distribution, the gas volume flow rate, the electrical properties of the gas, the electrical properties of the particles, rapping re-entrainment, and non-ideal effects.

If the particle size distribution does not change, variations in the inlet mass loading cause minor variations in the overall collection efficiency for inlet loadings less than 3-4 gr/acf, but opacity is very sensitive to changes in the mass loading.

INLET PARTICLE SIZE DISTRIBUTION:

The inlet particle size data used for the Lamar coal was from Test 6P. This distribution had an MMD of 4.35 and a standard deviation of 2.53. This distribution did not give good agreement between measured and modeled performance when other measured parameters were used.

No particle size data were available for the western coal. The size distribution measured during Test 6P was again used for these model runs.

INLET MASS LOADING:

The inlet mass loadings for the model were those found at the precipitator inlet for each of the tests with which model results were compared. These are listed in Table 1.

GAS VELOCITY DISTRIBUTION AND SNEAKAGE PER BAFFLED SECTION:

A standard deviation in gas flow distribution of 25% was used for Runs 1W and 3W (western coal tests). This was the value found to give the best fit of modeled-to-measured performance testing for the 1990 baseline test series. Other values were also tested for Test 6P since agreement between measured and modeled performance was not as good as expected.

The sneakage per baffled section of 10% used to give the best agreement for the baseline modeling was also used for these model runs. Again additional values of sneakage were used for Test 6P in an attempt to obtain better agreement between measured and modeled results.

PRECIPITATOR ELECTRICAL CONDITIONS:

Measured electrical conditions were used for each case considered. Readings taken during the tests were used for the western coal model runs. Electrical readings were not provided for the Lamar coal test, Test 6P. Therefore readings taken during Test 8P, Lamar coal with reburning and soot blowing at 110 MW, and Test 9P, Lamar coal with reburning at 82 MW, were used in the model for Test 6P. Additional model runs were made using calculated electrical conditions since using the above readings in association with other measured parameters did not give good agreement between model results and measured performance. The measured electrical readings are listed in Tables 2 - 5. Theoretical values for an ash resistivity of 3.0×10^{10} ohm-cm and 3.5×10^{10} ohm-cm are listed in Table 7.

OTHER MODEL INPUT PARAMETERS:

Other model input parameters such as flue-gas flow rate, average gas velocity, and flue gas temperature which were used were measured values. These are listed in Table 1. In an attempt to better understand the Test 6P result, a volume flow rate was calculated for use in the model. This will be discussed later. Also the same precipitator geometry as that used in the earlier modeling effort was used for this work.

MODEL RESULTS FOR CURRENT OPERATION:

A comparison of measured performance with predicted performance is given in Table 6. Again, the non-ideal parameters which gave the best agreement between measured and modeled performance for the western coal was a sneakage per baffled section (σg) of 10%, and standard deviation in gas flow distribution of 25% just as was the case for the 1990 baseline comparison. These were not the best non-ideal parameters for the Lamar coal run however. The agreement between model projections

of collection efficiency and measured collection efficiency was extremely good for Test 1W and Test 3W. Measured opacity data were not made available to APCO Services, so no comparison of the predicted values with measured values could be made.

Model Case (3) of the Test 6P comparison gave the closest agreement between modeled and measured collection efficiencies. In this case, the electrical conditions for Test 9P were used. The sneakage per baffled section was 5% and the standard deviation in velocity distribution was 15%. Using the same electrical conditions with 10% sneakage and a standard deviation in velocity of 25%, the model predicted a collection efficiency of 97.81%. The penetration for this efficiency would have been 2.19%, or three times the measured penetration of 0.7%. It should be noted that the collection efficiency for later performance tests (Tests F2, F3, and F5) ranged from 97.6 to 97.9% with an average collection efficiency of 97.7%.

Additional model runs were made in an effort to understand the poorer agreement between the above comparison for the Lamar coal than that found for the western coal. The coal burn rate of 91.34 klb/hr and the high heating value of the Lamar coal 11,151 BTU/lb were used to calculate the flow rate with 3.3% O_2 at 474°F. The calculated flow rate was 389,900 acfm, approximately 11% lower than the measured flow rate. This was used in the model along with the associated reduced average gas velocity of 3.52 ft/sec. All other input parameters were held constant with the exception of the sneakage, set at 10%, and the standard deviation in velocity distribution, set at 25%. The calculated collection efficiency for this case was 97.91% with the penetration again calculated to be approximately three times the measured value. The predicted opacity was 10.6%.

Next, the the original input data were used with calculated electrical readings for a dust resistivity of 3.5×10^{10} ohm-cm being substituted for the measured ones. These calculated

electrical conditions are listed in Table 7. Also, the non-ideal parameter, S = 10% and σ_g = 25% were used. Using these data, the model predicted collection efficiency was 98.42% and the predicted opacity was 8.0%.

The particle size distribution measured during Test 5P differed from that measured for Test 6P. It had an MMD of 6.40 μm and a standard deviation of 2.47. This was used along with the electrical conditions for an ash resistivity of 3.5 x 10^{10} ohm-cm and the above non-ideal conditions. The predicted efficiency for this case was 98.6 % and the predicted opacity was 5.4%. Keeping other input parameters of the above run fixed with the exception of changing electrical conditions to those calculated for a dust resistivity of 3.0 x 10^{10} ohm-cm, the calculated efficiency was 99.05% and the predicted opacity was 3.6%.

Next, the MMD of the inlet particle size distribution was changed to 8.40 μm with the other input parameters being the same as those in the last model run. The calculated efficiency was 99.29%, equal to the measured efficiency, and the predicted opacity was 2.3%. Thus obtaining agreement between the model and measured collection efficiency while using the same non-ideal parameters used for the other conditions modeled. This required the use of better electrical conditions and a different particle size distribution than those measured.

The measured electrical conditions used to model Test 6P were not obtained during the test. Soot blowing tend to suppress both currents and voltages especially for inlet fields. The Test 8P data may have been lower than those for Test 6P because of soot blowing. Also, the electrical conditions taken during the 82 MW tests (Test 5P) could have been poorer than those associated with Test 6P since the gas temperature would have been lower than that found at 110 MW. This lower temperature would have led to higher dust resistivity (see Figure 2) and, thus, poorer electrical conditions. It should be noted, however, that the average

measured resistivity, as seen in Figure 2, was greater than the 3.0×10^{10} ohm-cm used to obtain the electrical conditions which gave the good agreement between measured and modeled results.

No argument can be made for choosing the size distribution with an MMD of 8.4% and a σ_p of 2.47 over the measured one. The percentage of inlet particulate with diameters below 2 μm was approximately 21% for the measured distribution, while it would have been only 8% for the alternate distribution. The lower percentage of fine particles in the alternate size distribution had a greater impact on the increased collection efficiency than did the improved electrical conditions.

Other attempts to obtain better agreement between measured and modeled results were made but were not successful. These included modifying rapping or assuming no rapping losses. Thus, one can only speculate as to why the agreement was not as good for the Lamar cal as it was for the other cases modeled.

REFERENCES:

1. McDonald, J. R. A Mathematical Model of Electrostatic Precipitation (Revision 1): Volume I. Modeling and Programing. EPA-600/7-78-111a, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, June 1978.

2. Mosley, R. B., M. H. Anderson, and J. R. McDonald. A Mathematical Model of Electrostatic Precipitation (Revision 2). EPA-600/7-80-034, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, (1980).

Table 1. Input parameters for the precipitator model which were used in modeling the Unit 2 precipitator at Nelson Dewey Station of Wisconsin Power and Light.

Inlet mass loading	- Without Reburn	
	1W)	0.215 gr/ACF (0.4238 gr/DSCF)
	- With Reburn	
	3W)	0.497 gr/ACF (0.9908 gr/DSCF)
	6P)	0.692 gr/ACF (1.34 gr/DSCF)
Flue gas temperature	-475 °F	
Volume flow rates;	- 1W)	427,900 ACFM, SCA = 310 ft^2/kACFM
	- 3W)	451,300 ACFM, SCA = 294 ft^2/kACFM
	6P)	440,100 ACFM, SCA = 302 ft^2/kACFM
Face velocity	- 1W)	3.866 ft/sec
	- 3W)	4.077 ft/sec
	- 6P)	3.976 ft/sec
# of Electrical fields		4
Plate height		30 ft
Plate length		9, 4.5, 4.5, & 9 feet
# of gas passages		82
Plate-to-Plate spacing		9 inches
Wire-to-Wire spacing		9 inches (average)
Wire diameter		0.109 inches

Table 2. Measured precipitator electrical operating conditions for Nelson Dewey Unit #2, 11/16/92, used for Run 1W.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	41	190
2	41.5	210
3	39.5	250
4	41.5	1350

Table 3. Measured precipitator electrical operating conditions for Nelson Dewey Unit #2, 11/15/92, used for Run 3W.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	39.5	350
2	44	250
3	39.5	400
4	39.5	1350

Table 4. Measured precipitator electrical operating conditions for Nelson Dewey Unit #2, 5/20/92, used for Run 6P.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	36.5	230
2	35.5	200
3	35.5	250
4	40.5	1470

Table 5. Measured precipitator electrical operating conditions for Nelson Dewey Unit #2, 5/19/92, used for Run 6P.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	36.5	235
2	38	220
3	36	210
4	41	1450

Table 6. Comparison of precipitator model predictions with measured performance for the Unit 2 precipitator at Nelson Dewey Station of Wisconsin Power and Light.

TEST #	MEASURED	PREDICTED	
	EFFICIENCY	EFFICIENCY	OPACITY
	(%)	(%)	(%)
1W	97.3	97.34	4.4
3W	98.2	98.21	6.7
6P (1)	99.3	98.08	10.7
6P (2)	99.3	97.02	14.9
6P (3)	99.3	98.67	7.5
6P (4)	99.3	97.81	11.1

NOTE 6P (1): 5/20/1992 Electrical Conditions, S = 5%, σg = 15%
(2): 5/20/1992 Electrical Conditions, S = 10%, σg = 25%
(3): 5/19/1992 Electrical Conditions, S = 5%, σg = 15%
(4): 5/19/1992 Electrical Conditions, S = 10%, σg = 25%

Table 7. Calculated precipitator electrical operating conditions for Nelson Dewey Unit #2 used for Test 6P assuming an ash resistivity of 3.0×10^{10} ohm-cm.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	41.6	599
2	40.5	445
3	38.8	487
4	37.0	1270

Calculated precipitator electrical operating conditions assuming an ash resistivity of 3.0×10^{10} ohm-cm.

FIELD	VOLTAGE (kV)	CURRENT (mA)
1	42.0	656
2	41.0	489
3	39.0	523
4	37.3	1370

ADDENDUM TO

MODEL PROJECTIONS OF NELSON DEWEY UNIT #2 PRECIPITATOR PERFORMANCE FOLLOWING THE IMPLEMENTATION OF COAL REBURN TECHNOLOGY

Acurex Environmental Corporation issued a report entitled: "Hazardous Air Pollutant Monitoring: Demonstration of Coal Reburning For Cyclone Boiler NO_x Control, Data Summary Report," dated April 1993. The precipitator performance test results found in this report supplement previous data for comparison performance with and without boiler reburn conditions. An Indiana bituminous (Lamar) coal was being burned during this test series.

The tests were performed during November 2-6, 1992. Two baseline tests were followed by two reburn tests which were then followed by a baseline and then a reburn test. The boiler was operated at a nominal load of 111 MW; and reburn, when in use, provided 30% of the heat input to the boiler.

The chemistry of the coal burned during the test was very similar to previous samples of Lamar coal. The moisture content was 15.68% and the ash content was 6.4%. This ash level represented an ash content of approximately 5.8 lb/MMBtu. Inlet mass loadings measured for the baseline cases averaged approximately 1.35 lb/MMBtu. This corresponds to 23% of the ash being converted to fly ash. With reburn, the average inlet mass loading was approximately 2.52 lb/MMBtu which would represent 44% of the ash appearing as fly ash.

The average collection efficiency of the precipitator for the baseline case was 97.3% while the average collection efficiency during the reburn case was 99.2%. Using these efficiencies and the above estimated inlet mass loadings, one would estimate that the emissions for the baseline case would have been .036 lb/MMBtu and for the with-reburn case, .020 lb/MMBtu. The outlet emissions in terms of lb/hr ranged from 25 lb/hr to 41 lb/hr for the three

baseline tests and 7.5 lb/hr to 37 lb/hr for the reburn tests. The limited number of tests and the fact that the ranges of emissions overlap for the two test conditions would lead one to question the validity of making a statement about the average reburn emissions being lower than the average baseline emissions. In order to see if this difference was statistically meaningful, earlier performance data were reviewed.

Limited data are available for baseline conditions. The 1990 baseline result indicated an average emission rate of 0.061 lb/MMBtu and Tests 4A and F19 had emission rates of approximately 0.14 lb/MMBtu and 0.15 lb/MMBtu respectively. Another test indicated an emission rate of 0.041 lb/MMBtu. Averaging these four tests gives an emission rate for the baseline case of 0.098 $\pm$ 0.48 lb/MMBtu.

Fourteen reburn tests made for several boiler firing conditions were used to determine the average reburn emissions. The average emissions for these tests was 0.024 $\pm$ 0.015 lb/MMBtu. The average collection efficiency for these 14 tests was 97.6 $\pm$ 2.1%. Collection efficiencies for baseline runs ranged from 82% to 98.6%. Average emissions from these tests would indicate that the reburn emissions are statistically lower than emissions for baseline conditions. But again, the limited number of baseline tests and the large spread in their results should make one cautious about making such a statement.

If emissions are indeed lower for the reburn technology, one must ask what changes in precipitator performance lead to this result. The inlet mass loading is higher with reburn and the collection efficiency is higher. The mass loadings measured for both boiler firing conditions are such that they should not significantly impact performance. One would expect a change in particle size distribution for the inlet mass in the reburn case. Limited particle size data were available for baseline full-load conditions. This limited data indicates that 43% of the mass has

a particle diameter smaller than 2 μm under baseline conditions. More data were available for reburn conditions. These data indicate that an average of 27% of the mass has particle diameters smaller than 2 μm. Precipitator collection efficiency is low for particle diameters in the range of 0.2 to 2 μm with the minimum efficiency occuring at approximately 0.6 to 0.7 μm. The greater number of fine particles with baseline firing conditions most likely contributes to the higher emission rates for this firing condition.

Another factor which could lead to improved precipitator performance is lower gas temperature with reburn. Flue gas temperature at the precipitator inlet for baseline conditions was in the range of 525°F to 550°F while the inlet temperature ranged from 470°F to 500°F during reburn operation. If heat rate and excess air were the same for both firing conditions, the average volume flow rate for reburn would be lower than the average flow rate for baseline due to the lower exit gas temperature. This lower flow rate would lead to improved precipitator performance if precipitator electrical conditions did not change.

The emissions with reburn, in any case, was well below the emission limit of 0.1 lb/MMBtu. While it was possible to obtain emissions below this limit for the baseline case, some tests indicated baseline emissions above this level. Thus, from the standpoint of precipitator performance, reburn firing is as good or better than cyclone-only firing.

Finally, all of the data were reviewed in terms of the ability to model the precipitator's performance. Table 1A, on the following page, summarizes the results of this review.

Table 1A. Summary of the comparison of measured precipitator performance with modeled precipitator performance for Nelson Dewey Unit #2.

Test	Measured Efficiency (%)	Modeled Efficiency (%)
1990 Baseline	82.6-92.3	83.8
Nov. 92 Baseline	97.3	97.8
1W	97.3	97.3
6P	99.3	97.8
3W	98.2	98.2
Nov. 92 Reburn	99.2	98.5

During the 1990 baseline tests only 8-10% of the ash appeared as fly ash. It is felt that this produced a finer inlet particle size distribution and that this was the primary contributor to the low collection efficiencies measured during these tests. Later baseline tests indicated that approximately 25% of the ash was converted to fly ash. Thus, one would expect a smaller percentage of fine particles.

Electrical conditions were not available for modeling the November 1992 tests. Flue gas volumes and gas temperatures were also not available. The electrical conditions were calculated assuming an ash resistivity of 2.0×10^{10} ohm-cm and flue gas volumes were calculated from coal chemistry by assuming a boiler input of 1,020 MMBtu/hr. In all cases but Test 6P, the non-ideal parameters used to obtain the model results were a sneakage per baffle section of

10% and a standard deviation in gas flow distribution of 25%. It is felt that in general the model does an adequate job of predicting precipitator performance and that the knowledge gained from this project can be used to estimate performance of precipitators for future projects.

PROJECTIONS OF NELSON DEWEY UNIT #2 PRECIPITATOR PERFORMANCE WITH THE APPLICATION OF COAL REBURN TECHNOLOGY

INTRODUCTION:

Babcock & Wilcox is involved in an NO_x reduction program for cyclone fired boilers sponsored by the U.S. Department of Energy. The Coal Reburn Project involves retrofitting boilers with pulverized coal burners to supplement existing cyclone burners. The PC burners will be located in such a way as to alter the temperature profile of the boiler and thereby reduce the production of NO_x. The technology has been tested at pilot-scale in the SBS combustor at the B&W Research and Development Center in Alliance, Ohio. A full-scale demonstration is planned on Unit #2 of the Nelson Dewey Station of Wisconsin Power and Light.

Particulate emissions from Nelson Dewey Unit #2 are controlled by an electrostatic precipitator. The application of reburn technology will impact the performance of the precipitator. The mass emissions from the boiler will increase with coal reburn which will increase the mass loading into the precipitator. One would also anticipate a change in the particle size distribution of the material entering the precipitator when reburning is implemented and there is the possibility that the resistivity of the ash might change. All of these changes will have an effect on precipitator performance.

APCO Services, Inc. was contracted by B&W to perform "in-situ" resistivity measurements at the outlet of the SBS combustor to determine the effect that reburn would have on ash resistivity. APCO Services was also employed to make projections of the Unit #2 precipitator performance when the reburn technology is implemented. A mathematical model of the precipitator was used in making these these projections. First, data taken during baseline testing for cyclone firing only was used to set up the precipitator model. Then changes in model input parameters indicated by data obtained during reburn tests at the SBS combustor were used to predict performance during reburn.

Electrical data were obtained from the precipitator TR sets at the conclusion of the Baseline Tests. These readings were not consistent with those one would predict for the operating conditions of the boiler and/or the characteristics of the fly ash. Thus the model was also used to predict precipitator performance under ideal conditions. This report gives the results of the precipitator modeling effort and makes recommendations for performance improvement.

ESTIMATIONS OF PRECIPITATOR PERFORMANCE:

A model developed by Southern Research Institute[2,3] with the sponsorship of EPA was used to model the precipitator. The mathematical model is based on the exponential Deutch-Anderson equation. It is structured such that the precipitator is divided into small incremental lengths in the direction of gas flow. In each increment, calculations are made for each particle size contained in the inlet particle size distribution. Also calculated for each incremental length are, the electric field at the plate, the particle charge for each particle size, the migration velocities of the particles toward the plate, and collection efficiencies for each particle size. The particulate which is not collected in a given increment becomes the inlet loading for the succeeding increment. The incremental structure of the model is required to allow for the changing conditions present along the length of a precipitator and to insure that the assumptions made in the Deutch-Anderson equation are met. The model computes length-averaged migration velocity as a function of particle size, and an overall mass collection efficiency by summation over the fractional collection efficiencies. In addition, the model uses empirical expressions to adjust the length-averaged migration velocities for non-ideal effects such as gas bypassing a collector section (sneakage, S) and variations in the gas velocity distribution (%RMS deviation, σ_g). A sneakage of 10% per baffled section and a σ_g of 25% are typically required to

match measured performance with modeled results for older precipitators. For newer units, S = 5% and σ_g = 15% are usually more representative.

The model is very sensitive to change in: the electrical conditions within each collecting field, the inlet particle size distribution, the gas volume flow rate, the electrical properties of the gas and of the particles, rapping re-entrainment, and non-ideal effects. Variations in the inlet mass loading cause minor variations in the overall collection efficiency, but it can have a significant impact on stack opacity.

Nelson Dewey Unit #2 precipitator design data were used for geometry related input parameters of the model. Coal and ash chemistries were used to calculate flue gas volume flow rates, ash resistivity, and inlet mass loadings. Three flow rates were used in the modeling effort: 440,000 ACFM based upon 30% excess air (3.9 % O2 at ESP inlet), 416,700 ACFM based upon 3.0 % O2 as measured at economizer outlet, and 475,000 ACFM from earlier data provided by WPL. Flow rates measured during the baseline tests at full load conditions were in the range of 422,000 ACFM to 462,000 ACFM. The modeled flows span this range.

Inlet mass loadings without reburn were calculated for each flow rate based upon the measured inlet loading of approximately 0.35 lb/MBTU. Next, inlet mass loadings were calculated based upon 10% of the ash appearing as fly ash without reburn and 85% of the reburn ash appearing as fly ash. In making these calculations, it was assumed 72% of the coal would be fired through the cyclone burners and 28% through the PC burners. These were the percentages found in pilot-scale tests. Thus, the percentage of ash entering the precipitator as fly ash with reburning would be:

$$72\% \times .10 + 28\% \times .85 = 31\%$$

Ash resistivity was calculated to aid in determining the precipitator electrical conditions one would expect for a unit in good mechanical condition and to see if one should anticipate a time dependent degradation in ESP performance. One can see form the plot that operating at 525°F, the initial resistivity would be in the mid 10^{10} ohm-cm range. With time, one would expect the layer adjacent to the collection plates become depleted in sodium leading to an increase in the resistivity of this depleted layer to 2 - 3 x 10^{11} ohm-cm. Figure 1 is a plot of calculated resistivity versus temperature for the Lamar coal burned during the baseline testing at Nelson Dewey Station. Similar calculations for the ash chemistry of a sample from the pilot-scale unit are shown in Figure 2. Resistivity calculation results are given in an appendix. The results of the calculations indicate that a time dependent degradation in precipitator performance should be expected.

Table 1. list the results from "in-situ" resistivity measurements made at the SBS combustor facility. One can see that the resistivity predicted above for an undepleted layer is in good agreement with measured resistivities at the assumed operating temperature of 525°F. Also, one can see that little difference was seen between measured values with reburn and those found without reburn. Thus one would not expect any changes in precipitator field electrical conditions due to a change in ash resistivity when reburning is initiated.

The particle size distribution measured during the SBS tests without reburn and with reburn were very similar (see Figure 3). A log-normal distribution which fit a wide range of these data, MMD = 3.1 um and σp = 2.46, was used to model the without reburn cases, and for some of the with reburn model runs. A second size distribution was constructed by proportionately adding the above size distribution to an average distribution for bituminous coal ashes from PC boilers from an EPRI study (MMD = 16.3, σp = 3.4). The constructed distribution had a mass median

Table 1. In Situ Resistivity measured at the outlet of the Babcock & Wilcox Research Center pilot combustor.

DATE	TIME	GAS TEMPERATURE (^{o}F)	RESISTIVITY V-I (ohm-cm)	RESISTIVITY SPARK (ohm-cm)
With Reburn:				
4/2/90	1220	496	7.5×10^{10}	
4/3/90		532		2.1×10^{10}
4/3/90	1626	514	4.2×10^{10}	
4/3/90	1750	536	4.6×10^{10}	4.5×10^{10}
4/3/90	1910	538	6.9×10^{10}	5.8×10^{10}
Baseline:				
4/5/90	0956	534	2.4×10^{10}	4.6×10^{10}
4/5/90	1325	496	5.9×10^{10}	5.9×10^{10}
4/5/90	1631	511	4.3×10^{10}	3.7×10^{10}

diameter (MMD) of 15.0 um and a standard deviation (σp) of 4.85. This distribution is also shown in the plot of cumulative percent mass versus particle diameter shown in Figure 3.

For each case modeled, a range of non-ideal parameters, sneakage per baffled section (S) and standard deviation in velocity distribution (σg), was used. Again, S = 10% and σg = 25% give the best agreement between measured and modeled results for older precipitators while S = 5% and σg = 15% are more representative of newer ESPs. S = 0, σg = 0 would represent an ideal precipitator.

Model input parameters, with the exception of predicted improved electrical conditions, are listed in Tables 2 and 3. Table 4 are electrical conditions predicted from Electric Power Research Institute correlations between resistivity and electrical operating conditions. Comparing the operating conditions measured on May 31, 1990 (Table 3) to the computed values shown in Table 4,

the measured inlet field readings would indicate that the ash resistivity was on the order of 1×10^{12} ohm-cm. The measured currents were also indicative of a resistivity in the range of 10^{12} ohm-cm, while the measured voltage for the outlet field was indicative of a resistivity on the order of 5×10^{10} ohm-cm.

Electrical readings were also obtained from the TR sets of the Unit #1 precipitator on May 31, 1990. These readings are listed in Table 5; they are are more representative of those to be expected for the Lamar coal ash. One can see good agreement between these reading and those predicted for a 5×10^{10} ohm-cm ash. This then calls into questions the readings obtained from Unit #2. Were they due to a depleted ash layer, or to problems within the precipitator? Plant personnel indicated that Unit #2 had been firing Lamar coal for approximately a week at the time that the precipitator data were obtained, and that ESP performance had deteriorated with the switch to Lamar coal. It is felt that a week is too short a time for the ash layer to have become depleted in sodium to the extent that the electrical data would indicate. Thus, the poor electrical conditions must have been due, at least in part, to problems within the precipitator, or firing conditions of the boiler.

The mass collection efficiency was calculated to be 82.6% based upon the inlet and outlet loadings measured during baseline tests at 110 MW. That is:

Inlet mass loading = 0.35 lb/MBTU

Outlet mass loading = 0.061 lb/MBTU

EFFICIENCY = (1 - 0.061/0.35) = .826

Earlier data had indicated an inlet loading of 0.364 lb/MBTU and an outlet loading of 0.026 lb/MBTU these data would indicate a collection efficiency of 92.9 %. Thus, one should expect a

Table 2. Input parameters for the precipitator model which were used in modeling the Unit 2 precipitator at Nelson Dewey Station of Wisconsin Power and Light.

Inlet mass loading	- Without Reburn	
	1)	0.0855 - 0.107 gr/ACF
	2)	0.0923 - 0.115 gr/ACF
	3)	0.0975 - 0.122 gr/ACF
	- With Reburn	
	1)	0.300 gr/ACF
	2)	0.322 gr/ACF
	3)	0.342 gr/ACF
Flue gas temperature	-525 °F	
Volume flow rates;	-1)	475,000 ACFM, SCA = 279 ft^2/kACFM
	-2)	440,000 ACFM, SCA = 302 ft^2/kACFM
	-3)	416,700 ACFM, SCA = 318 ft^2/kACFM
Face velocity	-1)	4.29 ft/sec
	2)	3.97 ft/sec
	3)	3.76 ft/sec
# of Electrical fields		4
Plate height		30 ft
Plate length		9, 4.5, 4.5, & 9 feet
# of gas passages		82
Plate-to-Plate spacing		9 inches
Wire-to-Wire spacing		9 inches (average)
Wire diameter		0.109 inches

Table 3. Measured precipitator electrical operating conditions for Nelson Dewey Unit #2, 5/31/90, 0957.

FIELD	AVERAGE VOLTAGE (kV)	AVERAGE CURRENT (mA)
1	34.5	90
2	36	60
3	34.5	60
4	36.5	300

Table 4. Calculated precipitator electrical operating conditions for Nelson Dewey Unit #2 for indicated ash resistivities.

FIELD	RESISTIVITY (ohm-cm) 5×10^{10}		1×10^{11}		1×10^{12}	
	VOLTAGE (kV)	CURRENT (mA)	VOLTAGE (kV)	CURRENT (mA)	VOLTAGE (kV)	CURRENT (mA)
1	40.8	509	39.2	357	34.1	113
2	39.7	374	38.1	261	33.2	79
3	38.2	430	37.0	328	33.3	133
4	36.3	1116	35.0	846	31.0	336

Table 5. Measured precipitator electrical operating conditions for Nelson Dewey Unit #1, 5/31/90, 0954.

FIELD	AVERAGE VOLTAGE (kV)	AVERAGE CURRENT (mA)
1	39.5	250
2	43.0	400
3	36.5	460
4	36.0	900

collection efficiency in the range of 82.6% to 92.9% with the 82.6% being representative of performance with the Lamar coal ash. Efficiency was not measured on May 31, 1990 when the above electrical data were taken, but it was assumed that the performance would have been similar to that of the baseline tests. Stack opacity was 10 to 10.5% at the time the electrical readings were obtained. This could be compared with opacity levels during baseline testing to determine if the above assumption is valid.

Table 6 presents the model results without reburn. Run ND-1, S = 10%, σ_g = 25%, yields the closest fit to baseline measured efficiency. This run assumed a volume flow rate of 475,000 ACFM and an inlet loading of 0.35 lb/MBTU. Measured electrical conditions were used. Both efficiency and opacity were reasonably close to measured values. Run ND-3, S = 10%, σg = 25%, was the best fit to opacity for any of the without reburn runs. The predicted efficiency for this run would have led to an emission rate of 0.045 lb/MBTU which is 25% below that measured during baseline testing. The emission rate predicted for Run ND-1 would have been 0.057 lb/MMBTU as compared to the measured value of 0.061 lb/MMBTU.

Table 7 presents the results of calculations for the without reburn case which were made after assuming that 10% of the coal ash appears as fly ash at the ESP inlet. All other model input parameters used in these projections were the same as those used for the runs presented in Table 6. By comparison, one can see that the major change between the results of Table 6 and those of Table 7 is an increase in the predicted opacities as the inlet mass loading is increased. It was felt that the model was giving reasonably accurate fits to measured results as configured. Therefore runs were made to predict performance with reburn.

The reburn projections were first made by assuming that the only input parameters which would change were the inlet size distribution and the inlet mass loading. The inlet size distribution used was that constructed from the combining of the measured SBS distribution and the EPRI distribution. The model results obtained after these changes were made are given in Table 8. The run corresponding to Run ND-1, Run ND-7 (flow rate = 475,000 ACFM, S = 10%, and σ_g = 25%) predicts an opacity of approximately 16% for a boiler load of 110 MW. The emission rate for an efficiency of 93.02% would be on the order of .095 lb/MMBTU. If one assumes that the without reburn run most representative of baseline performance was Run ND-3, the corresponding run, ND-9, would predict a with reburn opacity of approximately 14% and the emission rate approximately 0.075 lb/MMBTU. Thus, the predicted emission level is below the permitted level of 0.14 lb/MMBTU for Nelson Dewey Unit #2. It is felt that an opacity margin of 4-6% is smaller than one would like in order to allow for boiler upsets, soot blowing, and uncertainties in the model projections.

Next, model projections were made assuming no change in inlet particle size distribution with reburning, and electrical conditions similar to those obtained on May 31, 1990. Calculations were made only at the intermediate flow rate, 440,000 ACFM. The results of these calculations are given in Table 9, Run ND-10. One can see that the unit would be out of compliance if the size distribution remained unchanged. The predicted opacity would be 34% and the calculated emission rate 0.19 lb/MMBTU. For higher flow rates or poorer electrical conditions the precipitator's performance would be worse than this projection.

Also shown in Table 9 are calculation showing the effects of improved electrical conditions. The input parameters of Run ND-10 were not changed except for the electrical conditions of each field. Run AND1, used electrical conditions indicative of an ash having a resistivity of 5 x 10^{10} ohm-cm (see Table 4). For these

conditions, The model predicted an opacity similar to that observed when the electrical reading were taken on May 31, 1990. The predicted emission rate would be 0.051 lb/MMBTU.

Run AND2, used the same input as Run ND-10 except for the substitution of electrical conditions one would expect for an ash having a resistivity of 1×10^{11} ohm-cm. The predicted opacity for this case would be on the order of 15% and the emission rate would be approximately 0.075 lb/MMBTU. These results show the trend one should expect as the ash layer on the plates becomes depleted in sodium.

CONCLUSIONS AND RECOMMENDATIONS:

It is felt that the baseline performance of the Nelson Dewey Unit #2 precipitator has been adequately modeled assuming the electrical condition obtained on May 31, 1990 were representative of those seen during the baseline tests. Using this model, projections of precipitator performance with reburn indicate the following:

- If no improvement in the electrical operating conditions is seen, the performance of the unit will be marginal for the increased inlet mass loading associated with reburning, assuming the size distribution shifts toward a larger MMD with a smaller percentage of fine particles.

- If no improvement in the electrical operating conditions is seen, and the particle size distribution does not change with reburning; the unit will be out of compliance with emission standards.

- Improving electrical operating conditions to those one would anticipate for the Lamar Coal ash would improve precipitator performance significantly. The unit should be in compliance even if the size distribute of the

particulate at the ESP inlet remains essentially that of the without reburn case.

Improvements in the operation of the precipitator should be possible, With that in mind, one should consider:

- Performing an internal inspection of the Unit 2 ESP to determine if mechanical and/or alignment problems or rapping problems are contributing to the poor electrical conditions. Flow distribution problems and re-entrainment problems which would reduce performance could also be looked for during the inspection.

- Installing a means of sodium injection to condition the ash in order to reduce resistivity and to avoid the apparent sodium depletion which is experienced when burning the Lamar coal.

[illegible] model results, without [illegible] case for the three flows modeled, using the inlet mass loadi[illegible]s calculated by assuming 0.35 lb/MBTU at the inlet.

INLET PARTICLE SIZE DISTRIBUTION: MMD = 3.1 um, σ_p = 2.46

RUN #	FLOW RATE (acfm)	MASS LOADING (gr/acf)	AVERAGE VOLTAGE (kV)	CUR DEN (nA/cm2)	S (%)	σ_g (%)	EFFICIENCY (%)	OPACITY (%)
ND1	475,000	0.0855	34.1	4.13	0	0	88.74	8.9
					5	15	86.48	10.2
					5	20	86.03	10.4
					5	30	84.92	10.9
					10	15	84.85	11.1
					10	25	83.80	11.6
ND2	416,700	0.0975	34.9	4.37	0	0	92.61	7.0
					5	15	90.69	8.3
					5	20	90.28	8.5
					5	30	89.30	9.2
					10	15	89.30	9.2
					10	25	88.34	9.8
ND3	440,000	0.0923	34.9	4.37	0	0	91.52	7.5
					5	15	89.48	8.8
					5	20	89.06	9.0
					5	30	88.03	9.6
					10	15	88.02	9.7
					10	25	87.02	10.2

Ta[illegible] 1. Precipitator model results, withou[illegible]burn case for the three flows modeled, using the inlet mass loadings calculated by assuming 10% of the coal ash appears as fly ash.

INLET PARTICLE SIZE DISTRIBUTION: MMD = 3.1 um, σ_p = 2.46

RUN #	FLOW RATE (acfm)	MASS LOADING (gr/acf)	AVERAGE VOLTAGE (kV)	CUR DEN (nA/cm2)	S (%)	σ_g (%)	EFFICIENCY (%)	OPACITY (%)
ND4	475,000	0.107	34.1	4.13	0	0	88.58	11.2
					5	15	86.30	12.7
					5	20	85.85	13.0
					5	30	84.74	13.6
					10	15	84.67	13.8
					10	25	83.62	14.4
ND5	416,700	0.122	34.9	4.37	0	0	92.48	8.8
					5	15	90.54	10.4
					5	20	90.14	10.7
					5	30	89.15	11.5
					10	15	89.14	11.6
					10	25	88.18	12.3
ND6	440,000	0.115	34.9	4.37	0	0	91.39	9.4
					5	15	89.34	10.9
					5	20	88.92	11.2
					5	30	87.88	12.0
					10	15	87.86	12.1
					10	25	86.86	12.8

Ta[illegible]1. Precipitator model results, withou[illegible] burn case for the three flows modeled, using the inlet mass loadings calculated by assuming 10% of cyclone ash and 85% of reburn ash appears as fly ash.

INLET PARTICLE SIZE DISTRIBUTION: MMD = 15.0 um, σ_p = 4.85

RUN #	FLOW RATE (acfm)	MASS LOADING (gr/acf)	AVERAGE VOLTAGE (kV)	CUR DEN (nA/cm2)	S (%)	σ_g (%)	EFFICIENCY (%)	OPACITY (%)
ND7	475,000	0.300	34.1	4.13	0	0	95.26	12.2
					5	15	94.26	13.8
					5	20	94.06	14.1
					5	30	93.55	14.7
					10	15	93.52	14.9
					10	25	93.02	15.6
ND8	416,700	0.342	34.9	4.37	0	0	96.90	9.6
					5	15	96.09	11.3
					5	20	95.91	11.6
					5	30	95.48	12.4
					10	15	95.48	12.5
					10	25	95.05	13.3
ND9	440,000	0.322	34.9	4.37	0	0	96.46	10.2
					5	15	95.58	11.9
					5	20	95.40	12.2
					5	30	94.94	12.9
					10	15	94.93	13.0
					10	25	94.47	13.7

9. Precipitator model results, without reburn case for the three flows modeled, using the inlet mass loadings calculated by assuming 10% of cyclone ash and 85% of reburn ash appears as fly ash.

INLET PARTICLE SIZE DISTRIBUTION: MMD = 3.1 um, σ_p = 2.46

RUN #	FLOW RATE (acfm)	MASS LOADING (gr/acf)	AVERAGE VOLTAGE (kV)	CUR DEN (nA/cm2)	S (%)	σ_g (%)	EFFICIENCY (%)	OPACITY (%)
ND10	440,000	0.322	34.9	4.37	0	0	90.41	26.7
					5	15	88.29	30.3
					5	20	87.86	30.9
					5	30	86.81	32.5
					10	15	86.77	32.8
					10	25	85.75	34.2
AND1	440,000	0.322	38.4	19.7	0	0	98.34	5.4
					5	15	97.47	7.7
					5	20	97.26	8.2
					5	30	96.73	9.4
					10	15	96.77	9.4
					10	25	96.21	10.6
AND2	440,000	0.322	36.6	14.5	0	0	97.22	8.8
					5	15	96.04	11.7
					5	20	95.77	12.3
					5	30	95.09	13.8
					10	15	95.14	13.8
					10	25	94.44	15.2

Figure 1. Calculated resistivity Versus temperature for the Lamar coal burned at Nelson Dewey Station.

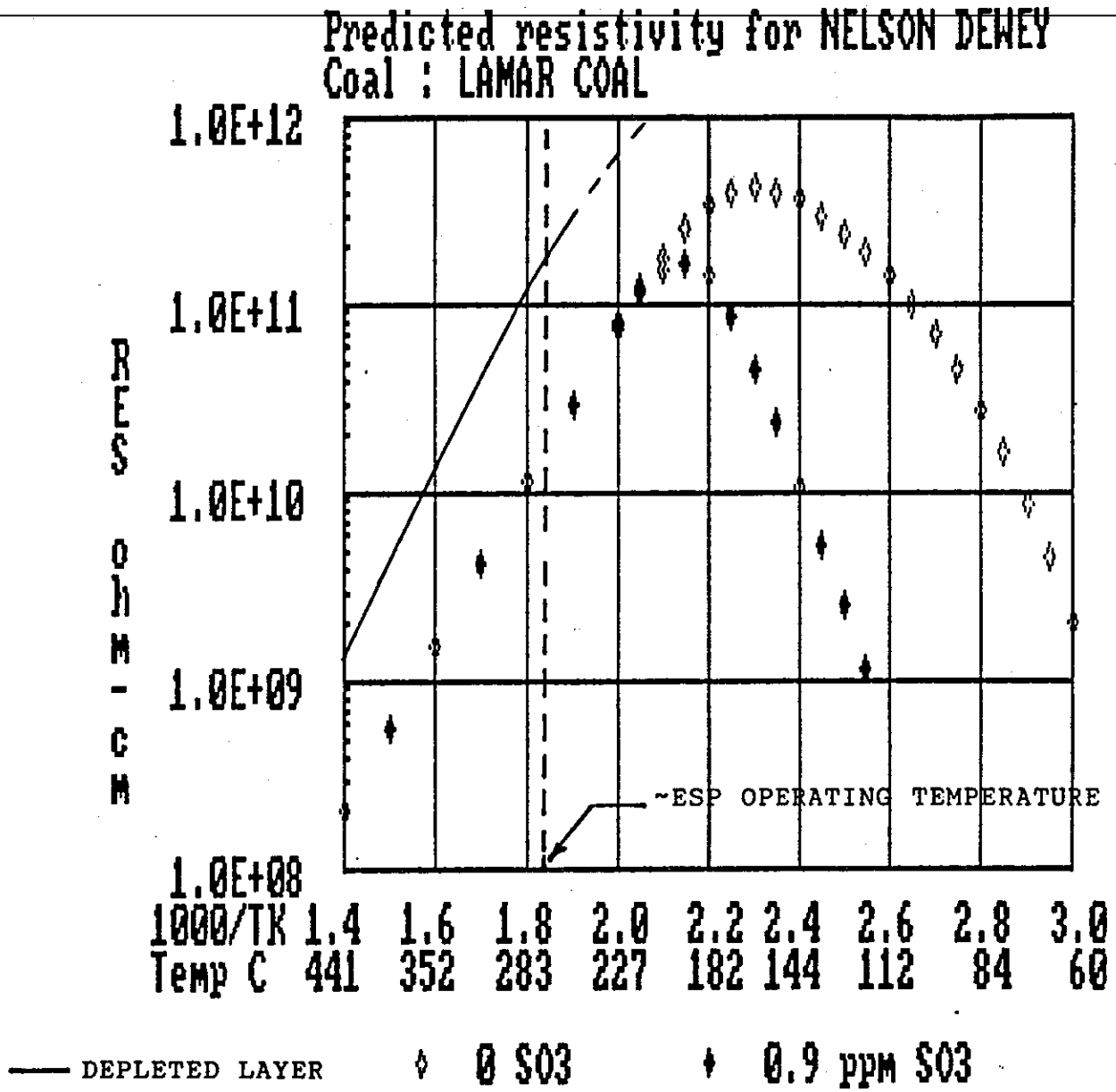


Figure 2. Calculated resistivity versus temperature for the Lamar coal burned in the B&W Pilot.

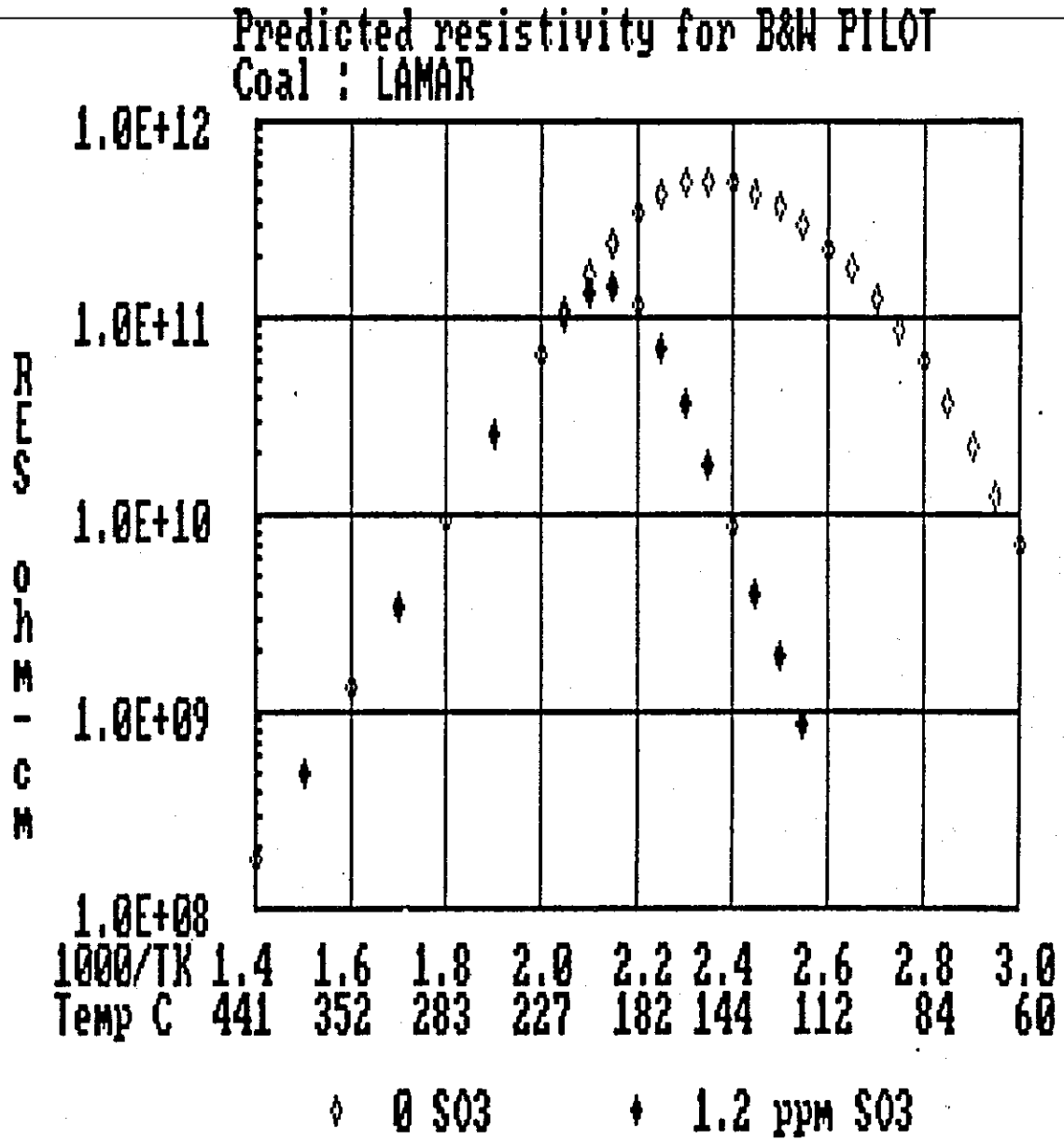
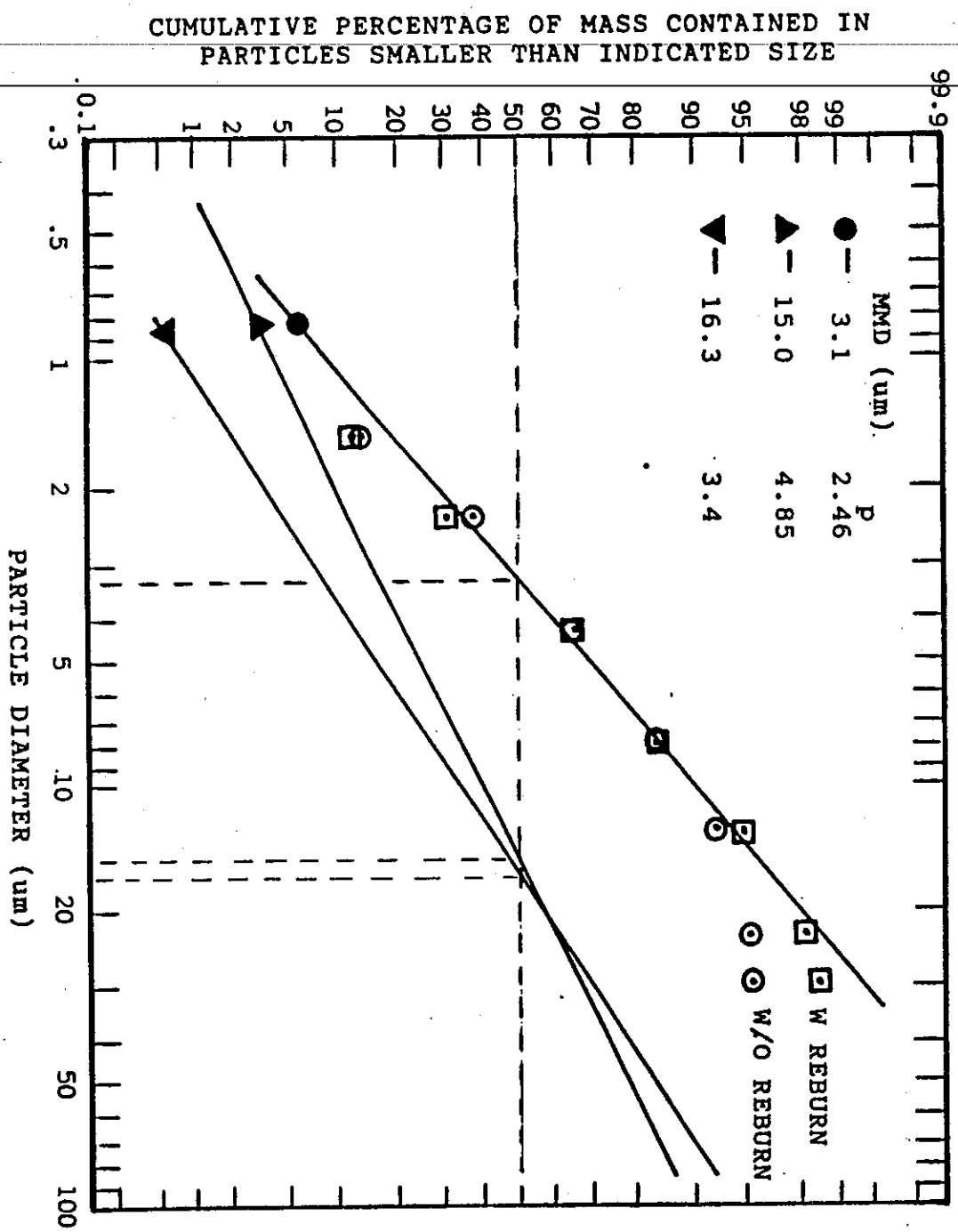


Figure 3. Plots of the precipitator inlet particle size distributions used to model the performance of the Nelson Dewey Unit #2 precipitator.



APPENDIX A

Stoichiometric Calculations of Flue Gas Composition and Flow Rate

COMBUSTION CALCULATION - MOLAL BASIS
N DEWEY, LAMAR COAL

Excess Air (%) = 30%

Fuel, O2, and Air per Unit of Fuel						Flue Gas (F.G.) composition Moles per Fuel Unit (AF)					
Fuel Constituent	Per Fuel Unit lb	Mol. Wt. Divi-sor	Fuel Con-stit-uent	O2 Mul-ti-plier	O2 Moles Theo Reqd	CO2	SO2	O2	N2	H2O	CO
C to CO2	63.47	12	5.29	1	5.29	5.29					
C to CO	0.02	12	0.00	0.5	0.00						0.00
C unburned	0.15										
H2 to H2O	4.35	2	2.18	0.5	1.09					2.18	
S to SO2	1.15	32	0.04	1	0.04		0.04				
O2 deduct	7.92	32	-0.25	1	-0.25			-0.25			
N2	1.24	28	0.04		0.00				0.04		
CO2											
H2O	16.74	18	0.93		0.00					0.93	
Ash	4.96										
Sum	100.00				6.17						
Moles of O2 and Air Required for 30% Excess Air											
O2 Required (Theoretical)					6.17						
O2 Excess (%E.A. x O2)					1.85			1.85			
O2 Total					8.02						
N2 Supplied (3.76 x O2)					30.14				30.14		
Air Supplied, Dry (N2 + O2)					38.15						
H2O in Air (Dry Air x A/(B-A))					0.81					0.81	
Air Supplied, Wet					38.96						
Flue Gas Constituents						5.29	0.04	1.60	30.18	3.91	0.00

NOTE: For air at 80 F and 60% relative humidity, A/(B-A) = 0.0212 is often used

CALCULATION OF VOLUME FLOW RATE
for N DEWEY, LAMAR

Boiler Heat Input = 1050.0 MMBTU/hr

HHV of Coal = 11326.0 BTU/lb

				SCFM	VOL % 64.0	VOL % (dry)
O2 =	378.2 x	1.60	=	605.1	3.9%	4.3%
CO2 =	376.1 x	5.29	=	1989.6	12.9%	14.2%
N2 =	376.4 x	30.18	=	11359.8	73.5%	81.3%
H2O =	378.3 x	3.91	=	1479.2	9.6%	
SO2 =	405.6 x	0.04	=	16.2	0.1%	0.1%
SUM				15449.8	100.0%	100.0%

Coal Burn Rate = 92707.0 lb/hr

Flue Gas Temp = 525.0 Deg F

Stack Pressure = 12.0 in H20, or 30.80 in Hg

Stack O2 Content = 3.0 %

Volume Flow Rate = 439233.5 ACFM at 525 Deg F and 30.80 in Hg
with 3.9 % O2

Volume Flow Rate = 416739.8 ACFM at 525 Deg F and 30.80 in Hg
with 3.0 % O2

CALCULATION OF VOLUME FLOW RATE
for N DEWEY, LAMAR

Boiler Heat Input = 1050.0 MMBTU/hr

HHV of Coal = 11326.0 BTU/lb

				SCFM	VOL % 64.0	VOL % (dry)
O2 =	378.2 x	1.60	=	605.1	3.9%	4.3%
CO2 =	376.1 x	5.29	=	1989.6	12.9%	14.2%
N2 =	376.4 x	30.18	=	11359.8	73.5%	81.3%
H2O =	378.3 x	3.91	=	1479.2	9.6%	
SO2 =	405.6 x	0.04	=	16.2	0.1%	0.1%
SUM				15449.8	100.0%	100.0%

Coal Burn Rate = 92707.0 lb/hr

Flue Gas Temp = 448.0 Deg F

Stack Pressure = 12.0 in H20, or 30.80 in Hg

Stack O2 Content = 3.0 %

Volume Flow Rate = 404897.5 ACFM at 448 Deg F and 30.80 in Hg
with 3.9 % O2

Volume Flow Rate = 384162.2 ACFM at 448 Deg F and 30.80 in Hg
with 3.0 % O2

APPENDIX B

Predicted Resistivities for Lamar Coal Ash

B&W PILOT, LAMAR COAL

	AS RECEIVED ULTIMATE COAL ANALYSIS	MOLES PER 100 LB FUEL	REQUIRED FOR COMBUSTION MOLES/100 LB FUEL AT 100% TOTAL AIR	
			O2	DRY AIR
C	63.64	5.299	5.299	25.223
H2	4.35	2.153	1.077	5.124
O2	7.92	.248	-.248	-1.180
N2	1.24	.044	.000	.000
S	1.15	.036	.036	.171
H2O	16.74	.929	.000	.000
ASH	4.96	.000	.000	.000
SUM	100.00	8.709	6.164	29.338

	REQ FOR COMBUSTION MOLES/100 LB FUEL @30% EXCESS AIR	
	O2	DRY AIR
O2 AND AIR * 130/100 TOTAL	8.013	38.139
EXCESS AIR		8.801
EXCESS O2	1.849	

PRODUCTS OF COMBUSTION

	TOTAL MOLES/100 LB FUEL	% BY VOL WET BASIS	% BY VOL DRY BASIS
CO2	5.299	12.850	14.184
H2O	3.881	9.411	.000
SO2	.036	.087	.096
N2	30.174	73.169	80.770
O2	1.849	4.484	4.949
SUM WET	41.239		
SUM DRY	37.358		

H2O	9.4
SO2	870
SO3	.9
E	12

	ASH ANALYSIS	CORRECTED ASH ANALYSIS	ATOMIC CONCENTRATION
LI2O	.02	.02	.035
NA2O	.51	.51	.431
K2O	1.23	1.24	.683
MGO	.88	.89	.857
CAO	8.34	8.41	5.837
FE2O3	21.43	21.62	4.213
AL2O3	19.16	19.33	5.900
SIO2	40.54	40.90	17.650
TIO2	.92	.93	.301
P2O5	.55	.55	.087
SO3	5.55	5.60	1.360
SUM	99.13	100.00	37.355

SUM OF LITHIUM AND SODIUM ATOMIC CONCENTRATIONS	.47
SUM OF MAGNESIUM AND CALCIUM ATOMIC CONCENTRATIONS	6.7
IRON ATOMIC CONCENTRATION	4.2

1000/T(K)	DEG K	DEG C	DEG F	RHO(VS)	RHO(VSA) .9 PPM	RHO(VSA) 1.0 PPM	RHO(VSA) 4.0 PPM
1.40	714	441	826	2.1E+08	2.1E+08	2.1E+08	2.1E+08
1.50	667	394	740	5.7E+08	5.7E+08	5.7E+08	5.7E+08
1.60	625	352	665	1.5E+09	1.5E+09	1.5E+09	1.5E+09
1.70	588	315	599	4.2E+09	4.2E+09	4.2E+09	4.2E+09
1.80	556	282	540	1.1E+10	1.1E+10	1.1E+10	1.1E+10
1.90	526	253	488	3.0E+10	3.0E+10	3.0E+10	3.0E+10
2.00	500	227	440	7.8E+10	7.7E+10	7.6E+10	7.2E+10
2.05	488	215	418	1.2E+11	1.1E+11	1.1E+11	9.4E+10
2.10	476	203	397	1.8E+11	1.6E+11	1.5E+11	9.2E+10
2.15	465	192	378	2.6E+11	1.7E+11	1.6E+11	6.0E+10
2.20	455	181	359	3.3E+11	1.4E+11	1.3E+11	3.0E+10
2.25	444	171	340	4.0E+11	8.7E+10	7.6E+10	1.4E+10
2.30	435	162	323	4.2E+11	4.6E+10	4.0E+10	6.0E+09
2.35	426	152	306	4.0E+11	2.3E+10	2.0E+10	2.6E+09
2.40	417	144	290	3.6E+11	1.1E+10	9.4E+09	1.1E+09
2.44	410	137	278	3.1E+11			
2.45	408	135	275	3.0E+11	5.3E+09	4.5E+09	4.8E+08
2.49	402	128	263	2.5E+11			2.2E+08*
2.50	400	127	260	2.4E+11	2.5E+09	2.1E+09	
2.55	392	119	246	1.9E+11	1.2E+09	9.9E+08	
2.58	388	114	238	1.6E+11	7.1E+08*	6.6E+08*	
2.60	385	111	233	1.4E+11			
2.70	370	97	207	6.7E+10			
2.80	357	84	183	2.7E+10			

* RESISTIVITY AT ACID DEW POINT.

NOTE: BECAUSE THE PREDICTED RESISTIVITY VALUES ARE VERY SENSITIVE TO SEVERAL FLUE GAS AND ASH COMPOSITIONAL FACTORS, ONE MUST EXERCISE GREAT CARE IN THE SELECTION AND PREPARATION OF COAL AND ASH SAMPLES. FURTHERMORE, THE QUALITY OF THE QUANTITATIVE CHEMICAL ANALYSIS WORK IS OF GREAT IMPORTANCE. IN ESTABLISHING THIS PROGRAM, THE AS-RECEIVED, ULTIMATE COAL ANALYSES WERE OBTAINED USING ASTM D3176 PROCEDURE, AND THE COAL ASH WAS PRODUCED USING ASTM D271 PROCEDURE FOLLOWED BY A SECOND IGNITION AT 1050 DEGREES C + OR - 10 DEGREES C IN

RESISTIVITY PREDICTION BASED ON WORK DONE BY
DR. ROY BICKELHAUPT OF SOUTHERN RESEARCH INSTITUTE.
THE RESEARCH WAS SPONSORED BY THE PARTICULATE
TECHNOLOGY BRANCH, INDUSTRIAL ENVIRONMENTAL RESEARCH
LABORATORY OF THE ENVIRONMENTAL PROTECTION AGENCY,
DR. L. E. SPARKS, PROJECT OFFICER.

lamar

	AS RECEIVED ULTIMATE COAL ANALYSIS	MOLES PER 100 LB FUEL	REQUIRED FOR COMBUSTION MOLES/100 LB FUEL AT 100% TOTAL AIR	
			O2	DRY AIR
C	71.38	5.943	5.943	28.289
H2	4.96	2.455	1.228	5.843
O2	11.62	.363	-.363	-1.728
N2	1.68	.060	.000	.000
S	1.80	.056	.056	.267
H2O	3.79	.210	.000	.000
ASH	4.77	.000	.000	.000
SUM	100.00	9.087	6.864	32.671

	REQ FOR COMBUSTION MOLES/100 LB FUEL @30% EXCESS AIR	
	O2	DRY AIR
O2 AND AIR * 130/100 TOTAL	8.923	42.472
EXCESS AIR		9.801
EXCESS O2	2.059	

PRODUCTS OF COMBUSTION

	TOTAL MOLES/100 LB FUEL	% BY VOL WET BASIS	% BY VOL DRY BASIS
CO2	5.943	13.141	14.262
H2O	3.555	7.860	.000
SO2	.056	.124	.134
N2	33.613	74.323	80.663
O2	2.059	4.553	4.941
SUM WET	45.225		
SUM DRY	41.671		

H2O	7.9
SO2	1240
SO3	1.2
E	12

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	ASH ANALYSIS	CORRECTED ASH ANALYSIS	ATOMIC CONCENTRATION
LI2O	.02	.02	.038
NA2O	.46	.46	.426
K2O	1.20	1.21	.732
MGO	.78	.78	.834
CAO	10.76	10.82	8.270
FE2O3	36.00	36.20	7.773
AL2O3	16.29	16.38	5.509
SIO2	29.23	29.39	13.976
TIO2	.93	.94	.334
P2O5	.43	.43	.075
SO3	3.34	3.36	.899
SUM	99.44	100.00	38.866

SUM OF LITHIUM AND SODIUM ATOMIC CONCENTRATIONS .46
SUM OF MAGNESIUM AND CALCIUM ATOMIC CONCENTRATIONS 9.1
IRON ATOMIC CONCENTRATION 7.8

1000/T(K)	DEG K	DEG C	DEG F	RHO(VS)	RHO(VSA) 1.2 PPM	RHO(VSA) 1.0 PPM	RHO(VSA) 4.0 PPM	RH 1(
1.40	714	441	826	1.8E+08	1.8E+08	1.8E+08	1.8E+08	1
1.50	667	394	740	4.7E+08	4.7E+08	4.7E+08	4.7E+08	4
1.60	625	352	665	1.3E+09	1.3E+09	1.3E+09	1.3E+09	1
1.70	588	315	599	3.5E+09	3.5E+09	3.5E+09	3.5E+09	3
1.80	556	282	540	9.3E+09	9.3E+09	9.3E+09	9.3E+09	9
1.90	526	253	488	2.6E+10	2.6E+10	2.6E+10	2.5E+10	2
2.00	500	227	440	6.6E+10	6.5E+10	6.5E+10	6.3E+10	5
2.05	488	215	418	1.0E+11	9.8E+10	1.0E+11	8.6E+10	6
2.10	476	203	397	1.6E+11	1.4E+11	1.4E+11	9.3E+10	5
2.15	465	192	378	2.4E+11	1.5E+11	1.6E+11	6.6E+10	2
2.20	455	181	359	3.3E+11	1.2E+11	1.4E+11	3.5E+10	1
2.25	444	171	340	4.2E+11	7.0E+10	8.8E+10	1.6E+10	5
2.30	435	162	323	4.8E+11	3.6E+10	4.7E+10	7.1E+09	2
2.35	426	152	306	5.0E+11	1.8E+10	2.3E+10	3.0E+09	7
2.40	417	144	290	4.8E+11	8.4E+09	1.1E+10	1.3E+09	3
2.45	408	135	275	4.2E+11	4.0E+09	5.3E+09	5.6E+08	1
2.50	400	127	260	3.6E+11	1.9E+09	2.5E+09	2.4E+08	
2.51	398	125	257	3.5E+11			2.2E+08*	
2.55	392	119	246	2.9E+11	8.8E+08	1.2E+09		
2.58	388	114	238	2.5E+11	5.7E+08*			
2.59	386	113	235	2.4E+11		6.4E+08*		
2.60	385	111	233	2.3E+11				
2.70	370	97	207	1.2E+11				
2.80	357	84	183	5.8E+10				

* RESISTIVITY AT ACID DEW POINT.

NOTE: BECAUSE THE PREDICTED RESISTIVITY VALUES ARE VERY SENSITIVE TO SEVERAL FLUE GAS AND ASH COMPOSITIONAL FACTORS, ONE MUST EXERCISE GREAT CARE IN THE SELECTION AND PREPARATION OF COAL AND ASH SAMPLES. FURTHERMORE, THE QUALITY OF THE QUANTITATIVE CHEMICAL ANALYSIS WORK IS OF GREAT IMPORTANCE.

Calculated values of resistivity for a sodium depleted layer of Lamar coal ash

1000/T(K)	DEG K	DEG C	DEG F	RHO(VI)	RHO(VD)
1.3	769	496	925	7.8E+07	4.7E+08
1.4	714	441	826	2.1E+08	1.4E+09
1.5	667	394	740	5.7E+08	4.2E+09
1.6	625	352	665	1.5E+09	1.3E+10
1.7	588	315	599	4.2E+09	3.8E+10
1.8	556	282	540	1.1E+10	1.1E+11
1.9	526	253	488	3.1E+10	3.5E+11

NOTE: BECAUSE THE PREDICTED RESISTIVITY VALUES ARE VERY SENSITIVE TO SEVERAL ASH COMPOSITIONAL FACTORS, ONE MUST EXERCISE GREAT CARE IN THE SELECTION AND PREPARATION OF COAL AND ASH SAMPLES. FURTHERMORE, THE QUALITY OF THE QUANTITATIVE CHEMICAL ANALYSIS WORK IS OF GREAT IMPORTANCE. WHEN USING THIS PROGRAM, THE COAL ASH SHOULD BE PRODUCED USING ASTM D271 PROCEDURE FOLLOWED BY A SECOND IGNITION AT 1050 DEGREES C + OR - 10 DEGREES C IN STILL AIR FOR AT LEAST 10 HOURS.

NOTE: RHO(VI) is the initial resistivity, and RHO(VD) is the deplet resistivity.

TRIP REPORT
NELSON DEWEY UNIT 2 PRECIPITATOR INSPECTION
September 16, 1991

A visit was made to the Nelson Dewey Station of Wisconsin Power and Light Company to perform an internal inspection of the Unit 2 electrostatic precipitator. The inspection was begun in the penthouse area (insulator compartment) and the focus of the inspection was locating any problems which might limit the performance of the unit.

The precipitator was supplied by Research Cottrell. It has two chambers, each having three mechanical fields in the direction of gas flow. The center mechanical field is split into two electrical field in the direction of gas flow, thus, there are four electrical fields. That is, the inlet field is a 9 foot field, followed by a 4 1/2 foot field, followed by a 4 1/2 foot field and then the outlet is a 9 foot field. The mechanical sections are rapped on the leading and the trailing edges of the plates.

The Unit 2 precipitator has some features which should be pointed out. There is no baffles below the plate suspension at the leading and trailing edges of the fields therefore, there is the potential for high sneakage over the tops of the plates. This was evidenced by heavy ash deposits on the wire frames. Also, the number of vibrators on the wire frames were greater than one would typically find. For the inlet and outlet fields, one vibrator is attached to the support members of frame, and there are 3 additional vibrators equally spaced between the frame supports. The center fields have vibrators on their supports and two equally spaced between the supports.

For counting purposes, the north chamber of the precipitator was designated Chamber 1, and lanes were counted from north to south. The results of the inspection were as follows:

PENTHOUSE:

- All of the high voltage feed-through bushings had a heavy coating of dust on them, but did not appear to have any electrical tracking.

- The wire rapper isolation insulators had a light coating of dust, but for the most part are fairly clean.

- All but two of the wire rapper shafts were bound in their upper penetrations of the penthouse. That is, where they extend through the roof for connection to the vibrators. A plant electrician indicated that plans were to modify these feed-throughs by replacing the gland packings with boot seals. This modification should free these shafts. A similar modification has been made to the plate rapper shafts in the past 18 months.

UPPER WIRE FRAMES:

CHAMBER 1, INLET FIELD:

- o Ash deposits on the plates were very light, thus, it was felt that these plates were being sufficiently rapped.
- o The dust deposits were uniformly built-up on individual wires. The smallest deposits had a diameter of about 3/8 of an inch. The largest deposits were about 1 inch in diameter. It was felt that wire cleanliness was a problem which could have limited electrical conditions.
- o The north and south sides of Cell 1 were carbon copies of each other.
- o The wire-to-plate alignment was good at the tops of the plates.

CHAMBER 1, CENTER FIELD:

- o The upper 6 to 8 feet of the plates had 1/4 to 3/8 inch deposits on all plates.
- o Wire build-up was similar to that seen in the inlet field.
- o The wire-to-plate alignment was good at the tops of the plates.

CHAMBER 1, OUTLET FIELD:

- o The wire deposits were uniform and not very thick. All of the wires were about 3/8 of an inch in diameter, the dust was fairly hard to remove.
- o Plate deposits were spotty, but very heavy in some locations, with deposits up to 1/2 inch thick or thicker. It appeared that a lot of dust had fallen off after the unit had come off line which contributed to the spotty build-ups.
- o The wire-to-plate alignment was good at the tops of the plates.

CHAMBER 1, T/R SET 2B:

- o The voltage divider on the north side of this set seemed to have an encasement which was leaking oil. This had allowed the divider to track (electrical current path). This could be limiting voltage to this set and should be checked.

CHAMBER 2, INLET FIELD:

- o The wire deposits on both the north and south sides of the field were similar to those seen in Cell 1. All wires had nominally 3/8 inch diameters with a few having diameters up to an inch. It was estimated that approximately 10-15% of the wires had the larger diameters.

- o ~~The plates had minimal deposits of ash.~~

- o The wire-to-plate alignment was good at the tops of the plates.

CHAMBER 2, CENTER FIELD:

- o The upper 6 to 8 feet of the plates had 1/4 to 3/8 inch deposits on all plates. The outer layer of the deposits contained a large amount of carbon. The carbon was most likely deposited during shut down. The underlying ash was a gray color, and was very fluffy. Below the gray layer was a thin orange colored ash, which was almost like cement. It was crusty and could not be rubbed, but had to be scraped from the plate.

- o Wire build-up was similar to that seen in the inlet field.

- o The wire-to-plate alignment was good at the tops of the plates.

CHAMBER 2, OUTLET FIELD:

- o Condition of this field very similar to that of the outlet outlet field of Chamber 1, there was very heavy plate deposits in some areas. Again, it looked as if dust had fallen off in some areas. The deposits were heavier on the back half of the plates.

- o There were one or two areas where wire deposits were heavy, but in general, they were similar to those seen in the outlet field of Chamber 1.

- o The wire-to-plate alignment was good at the tops of the plates.

LOWER ACCESS:

CHAMBER 1, INLET FIELD:

- o Looking toward the inlet between fields 1 and 2, the wire deposits consisted of a fluffy layer for the outer surface, but the inner layer of ash was very hard and crusty. This crusty layer would be difficult to remove.

- o The plates also had a very crusty layer which was from 1/32 to 1/16 inch thick. It was felt that it would require either sand blasting or water washing to remove this layer.

CHAMBER 1, CENTER FIELD:

- o Looking toward the outlet into field 2, the wires were slightly out of tolerance, that is, the lower wire frame was slightly out of alignment. In some lanes, the wire-to-plate spacing was 4 inches, where the minimum should be 4-1/4 inches. There were a few lanes with a wire-to-plate spacing at the bottom of 3 3/4 inches.

- o Again, the problem of the crusty under layer of ash on the plates and wires was seen.

- o Lane 9 of the 3rd field looking toward the inlet from the outlet side of the field, the wire-to-plate spacing at the bottom of the plates was approximately 3 1/2 inches towards the south side of the lane. This problem was caused by the combination of the plate-to-plate spacing being off and the lower wire frame being slightly out of adjustment. This would definitely limit the voltage attainable for this field. This alignment problem carried over for several lanes, but was not as severe in other lanes.

CHAMBER 1, OUTLET FIELD:

- o Looking toward the outlet, the 1st two of wires in lanes 11 and 12 had wire-to-plate spacings of approximately 4 inches to one side. The problem did not carry throughout the field, but was seen in only a few lanes. This spacing problem should be corrected, or the effected wires removed.

CHAMBER 2, INLET FIELD:

- o The wire and plate deposits were similar to those seen in Chamber 1.

CHAMBER 2, CENTER FIELD:

- o The 2nd field looking toward the outlet, the wire and plate build-up similar to that seen in Chamber 1.

- o Lower wire fame alignment for the field was pretty good.

- o The 3rd field looking toward the inlet, the wire-to-plate spacing at the bottom in lane 15 was approximately 4 inches to one side. There were several lanes in the area which had this problem.

- o In lane 30 and carrying through to 41, There were several lanes with wire-to-plate spacings below 4 inches. Some as low as 3 3/4 inches.

CHAMBER 2, OUTLET FIELD:

- o The the lower wire frame was slightly out of alignment (off approximately 1/4 inch).

GENERAL:

- o At the inlet of Chamber 2, there was 3 to 4 feet of ash between the 1st and 2nd perforated plates.
- o All of the door gaskets were hardened and should be replaced.
- o Several of the access door covers had no insulation. The lack of insulation was permitting severe corrosion to take place in these areas.

RECOMMENDATIONS:

- o The surfaces of the plates and wires should be cleaned down to the metal to insure that a resistive coating is not limiting power input.
- o All wire-to-plate spacings should be checked for alignment. Those wires or wire frames which are not within tolerance should be brought back into alignment.
- o The voltage divider for T/R set 2B should be checked and replaced if found to be bad.
- o The roof penetrations for the vibrator rapper shafts should be freed.
- o Areas having inadequate insulation should be properly insulated.
- o The fly ash which has collected between the inlet perforated plates should be removed, and the perforated plates modified to avoid future deposits or a "puffer" system installed to keep this area clear of ash deposit.

4.6 BASELINE PRECIPITATOR PERFORMANCE EVALUATION

Nelson Dewey #2's precipitator was supplied by Research Cottrell, Inc. and operates under positive pressure at a temperature of approximately 500°F at full load. The Air Pollution Control Technology Company (APCO) was contracted during the baseline tests to aid in evaluating pre-retrofit precipitator performance. In addition, a subsequent report by APCO will address precipitator performance predictions during cyclone reburn operation.

APCO Services obtained current voltage data from each of the precipitators T/R sets in conjunction with the baseline tests. These data are tabulated in the following Tables 4.6-1 to 4.6-4.

Table 4.6-1. Current versus Voltage data for T/R set 2A of Nelson Dewey Station Unit 2 taken May 31, 1990.

PRIMARY		SECONDARY	
VOLTAGE (volts)	CURRENT (amps)	VOLTAGE (kV)	CURRENT (mA)
40	0	20	0
55	0	22	10
65	0	24.5	15
85	0	26	25
100	0	28	40
120	5	30.3	50
150	15	34.5	100
165	40	35	150 spark

Table 4.6-2. Current versus Voltage data for T/R set 2B of Nelson Dewey Station Unit 2 taken May 31, 1990.

PRIMARY		SECONDARY	
VOLTAGE (volts)	CURRENT (amps)	VOLTAGE (kV)	CURRENT (mA)
45	0	20	0
50	0	22	0
60	0	24.5	0
70	0	27	0
85	0	30	0
95	0	32.5	10
		34	20
140	20	35.5	50
145	25	36	75
150	30	34.8	110 spark

Completed 0924

Table 4.6-3. Current versus Voltage data for T/R set 2C of Nelson Dewey Station Unit 2 taken May 31, 1990.

PRIMARY		SECONDARY	
VOLTAGE (volts)	CURRENT (amps)	VOLTAGE (kV)	CURRENT (mA)
40	0	20.3	0
45	0	22.3	5
55	0	24.8	5
75	0	26.8	5
95	0	29.8	10
110	0	31.8	20
125	0	33.8	40
140	5	34.8	50 spark

Completed 0932

Table 4.6-4. Current versus Voltage data for T/R set 2D of Nelson Dewey Station Unit 2 taken May 31, 1990.

PRIMARY		SECONDARY	
VOLTAGE (volts)	CURRENT (amps)	VOLTAGE (kV)	CURRENT (mA)
45	0	20.5	0
50	0	22.3	5
65	5	24.5	10
85	10	27	15
105	10	29	40
130	15	31.5	75
140	20	32.5	100
160	35	34.3	155
175	50	35	210
183	60	35.8	275
190	68	36.8	310
195	75	36.5	350 spark

Completed 0942

Plots of the individual V-I curves are given in Figures 4.6-1 - 4.6-4. Also, plotted in these figures are typical V-I curves for a precipitator of this design operating at design conditions. The measured V-I curves are represented by solid lines and the theoretical curves by dashed lines. One can see that reasonably good agreement was obtained for the inlet field of the precipitator even though the current density was low, but poor agreement was obtained for the remaining three fields. The shapes of the measured curves indicate that the ash resistivity was high (5×10^{11} ohm-cm to 1×10^{12} ohm-cm). Resistivity predicted from coal and ash chemistry was on the order of 4×10^{9} ohm-cm for the precipitators operating temperature. Also, the curves indicate that the discharge electrodes or collecting plates associated with T/R sets 2B and 2C may have had excessively thick dust deposits.

Figure 4.6-1 Current versus Voltage for T/R Set 2A of Nelson Dewey Station, Wisconsin Power and Light, May 31, 1990.

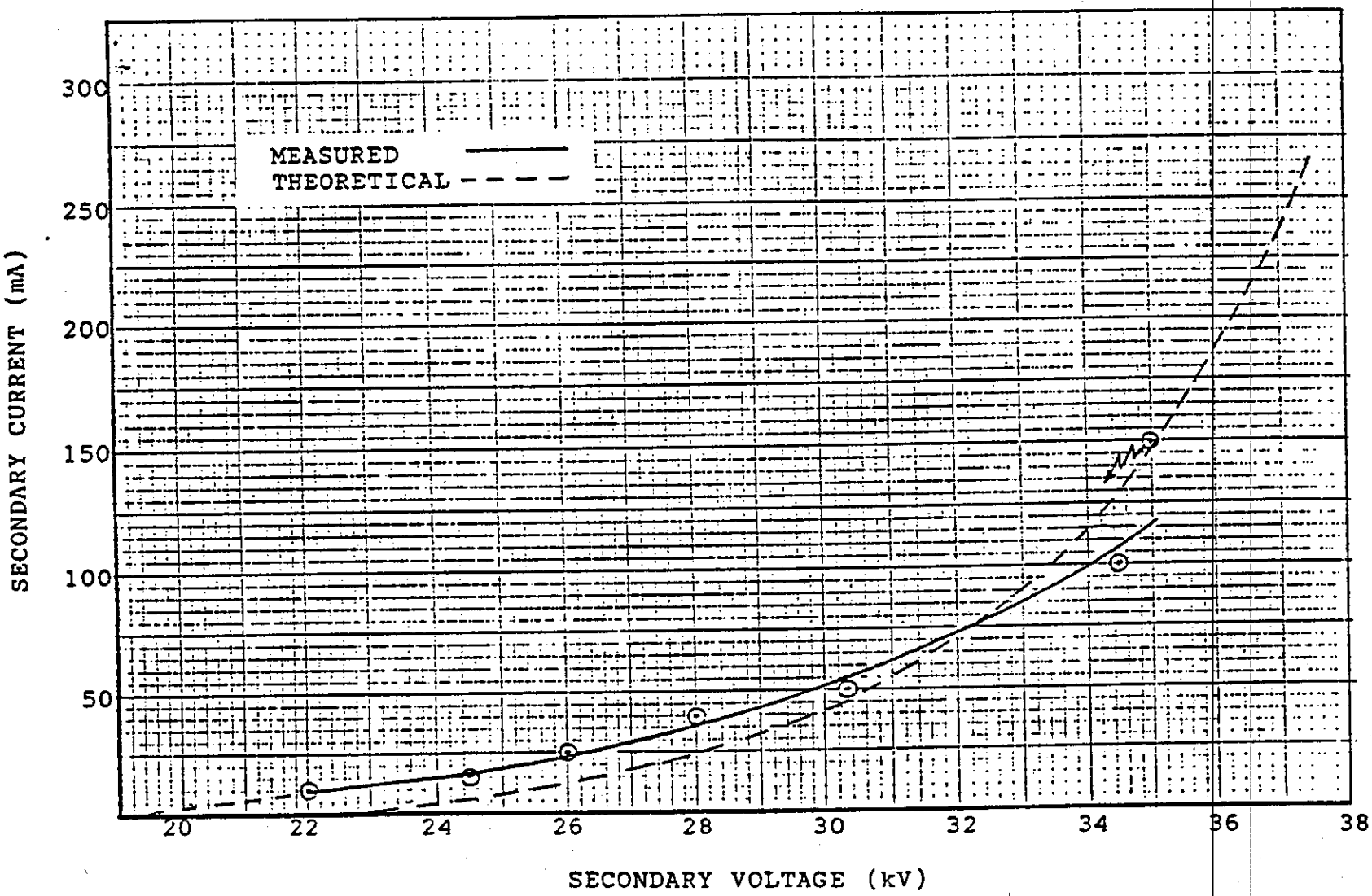


Figure 4.6-2 Current versus Voltage for T/R Set 2B of Nelson Dewey Station, Wisconsin Power and Light, May 31, 1990.

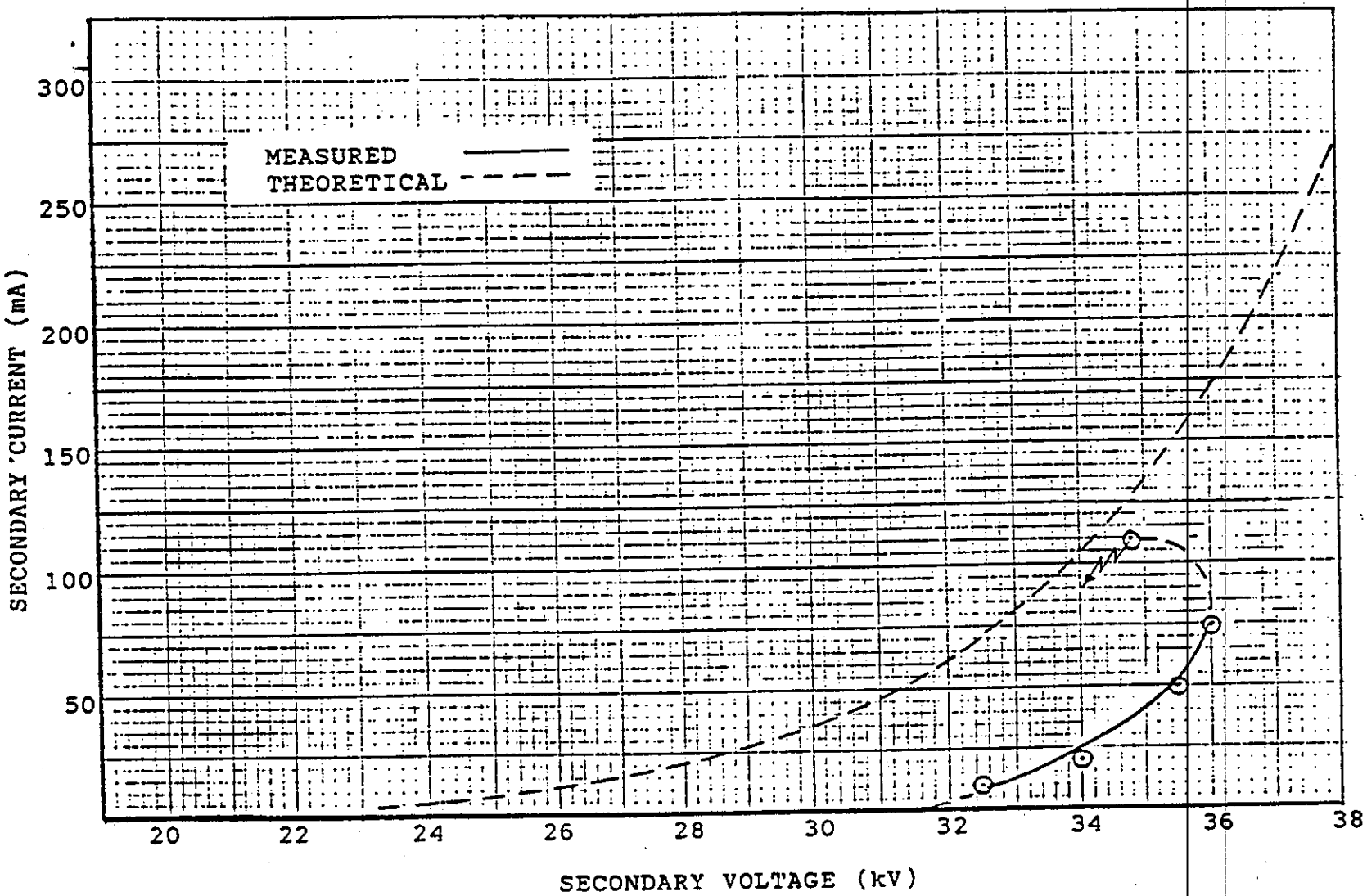


Figure 4.6-3 Current versus Voltage for T/R Set 2C of Nelson Dewey Station, Wisconsin Power and Light, May 31, 1990.

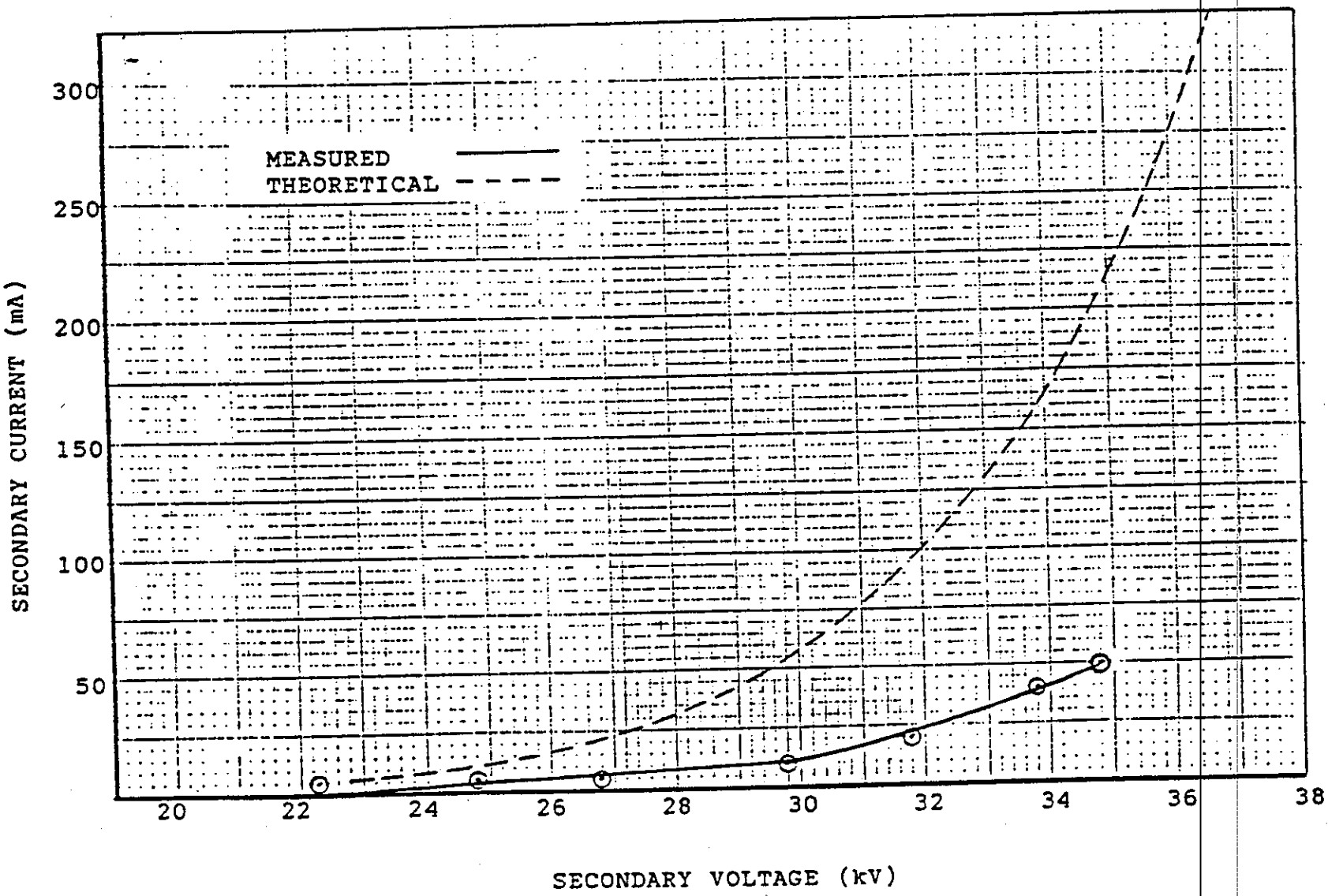
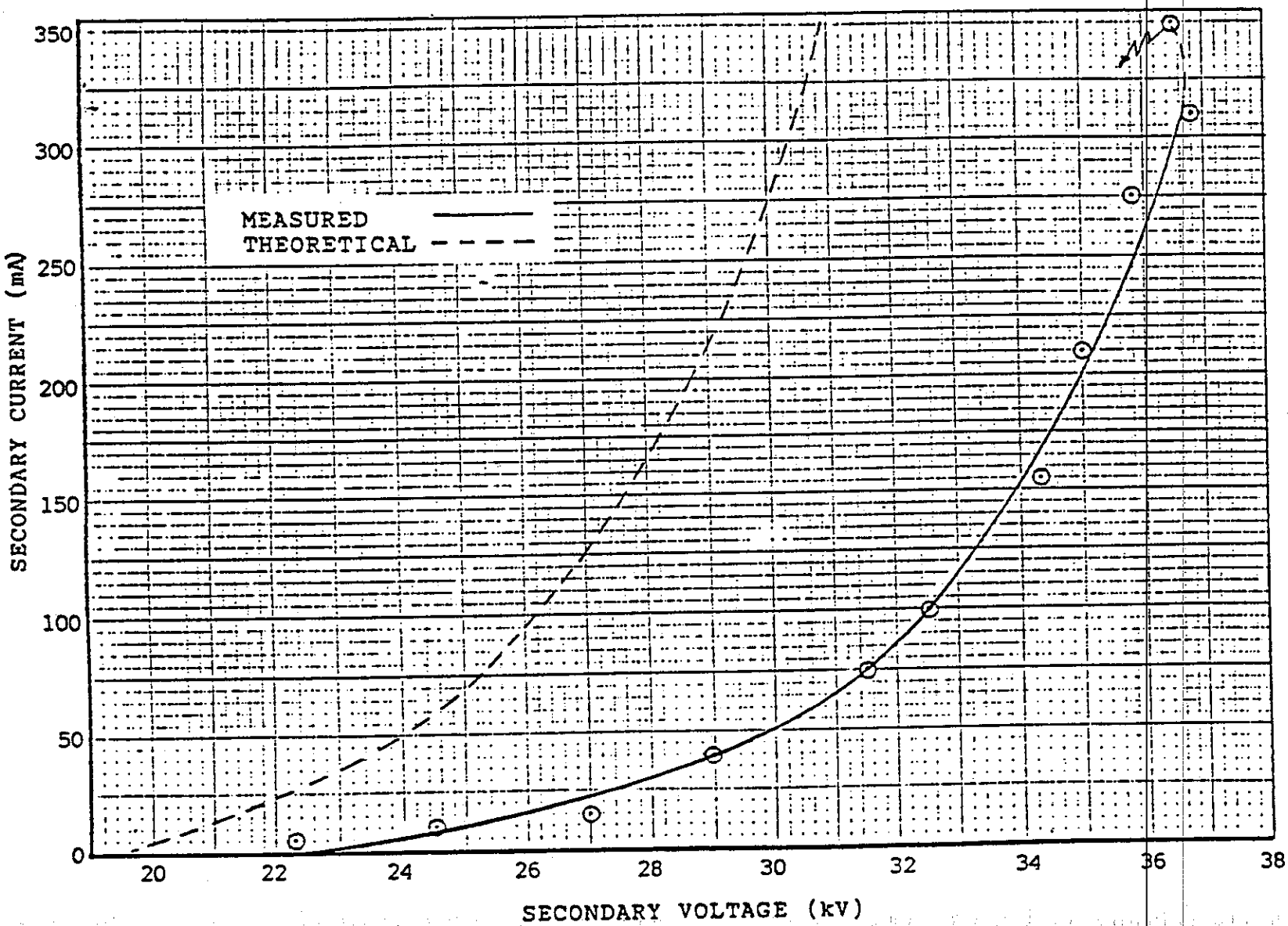


Figure 4.6-4 Current versus Voltage for T/R Set 2D of Nelson Dewey Station, Wisconsin Power and Light, May 31, 1990.



The boiler was operating at a load of 110 MW with a steam flow of 784 klb/hr at the time the precipitator V-I curves were taken. The economizer O_2 concentration was 2.6% and the stack opacity was approximately 10.3%. The operating points for the individual T/R sets following the taking of the current-voltage data are given in Table 4.6-5. Also given In Table 4.6-5 are T/R set readings for Unit 1. Although the theoretical curves plotted in Figure 4.6-1 thru 4.6-4 do not extend into the range of the operating points for Unit 1, one can see that much better agreement between measured and theoretical values would be obtained for the Unit 1 data.

Table 4.6-5. Electrical conditions obtained for Unit 1 and Unit 2 precipitators at Nelson Dewey Station of Wisconsin Power and Light, May 31, 1990.

T/R SET	PRIMARY		SECONDARY		AVERAGE
	VOLTAGE (V)	CURRENT (A)	VOLTAGE (kV)	CURRENT (mA)	CUR DEN (nA/cm^2)
Unit 2:					
2A	145	10	34.5	90	2.1
2B	135	20	36	60	2.8
2C	145	15	34.5	60	2.8
2D	190	62	36.5	300	6.9
Unit 1:					
1A	210	70	39.5	250	5.8
1B	230	95	43	400	18.4
1C	238	105	36.5	460	21.2
1D	240	170	26	900	20.7

A mathematical model developed by Southern Research Institute for the U.S. EPA was used to predict precipitator performance based on the electrical data obtained for Unit 2. The flue gas flow rate and inlet mass loading were estimated from coal chemistry data for the Indiana Lamar Coal which was being burned. The parameters used in this model are

listed in Table 4.6-6. Several model runs were made, with the inlet particle size distribution being adjusted between runs, until a predicted opacity value was obtained which was in close agreement with the measured opacity. The best results were obtained for a particle size distribution having a mass median diameter (MMD) of 13 μm and a RMS standard deviation (σ_p) of 2.9. This standard deviation would be typical for a cyclone boiler, but the MMD would be approximately 45% larger than that normally found for a cyclone boiler. A smaller size distribution would have led to a lower predicted collection efficiency and a higher opacity.

Table 4.6-6. Input parameters for the precipitator model which were used in modeling the Unit 2 precipitator at Nelson Dewey Station of Wisconsin Power and Light.

Inlet mass loading	- 0.492 gr/ACF w/o reburn
Flue gas temperature	- 525 °F
Volume flow rate	- 475,000 ACFM, SCA = 272 ft^2/kACFM
Face velocity	- 4.29 ft/sec
# of Electrical fields	- 4
Plate height	- 30 ft
Plate length	- 9 ft, flds 1 & 4; 4.5 ft, flds 2 & 3
# of gas passages	- 82
Plate-to-Plate spacing	- 9 inches
Wire-to-Wire spacing	- 9 inches
Wire diameter	- 0.109 inches

The results of the model calculation are listed in Table 4.6-7. A value of 5% sneakage per baffled section (S) with a 15% RMS deviation in gas velocity (σ_g) gave a predicted opacity closest to that measured. These values of S and σ_g are typical.

Plant personnel indicated that a degradation in precipitator performance with time was noticed when a switch to the Indiana Lamar coal was made. Many "hot-side" precipitators experience a similar degradation when burning coals having ashes with low sodium and/or high calcium content.

These ashes usually have a moderate inherent resistivity (5×10^9 to 1×10^{10} ohm-cm). With time, the ash layer adjacent to the collecting plates becomes depleted in sodium ions (the primary current carrier) and the resistivity of the adjacent layer rises. This layer is not removed with rapping and the net resistivity of the layer (old plus new deposits) increases, thus leading to the degradation in performance. Sodium depletion could be a problem with the Lamar coal which has an ash containing approximately 0.5% sodium and approximately 8.5% calcium.

Table 4.6-7. Results from model calculations for the Unit 2 precipitator at Nelson Dewey Station of Wisconsin Power and Light.

RUN #	SCA (ft / kACFM)	AVE. CUR. DEN. (nA/cm^2)	AVE. VOLT. (kV)	MMD (%)	INLET σ_{par} (μm)	SNEAK (%)	σ_{gas} (%)	EFF. (%)	OPACITY (%)
	280	4.37	34.9	13.0	2.9	0.0	0.0	97.20	8.7
						0.05	0.15	96.32	10.4
						0.05	0.20	96.12	10.8
						0.05	0.30	95.64	11.6

APPENDIX NO. 9

Summary of T and A Series Tuning and Optimization Test Data

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	DATE MO DAY YEAR	LOAD MW	STEAM FLOW KLB/HR	SH OUT TEMP	RH OUT TEMP	SH SPRAY FLOW KLB/HR	RH SPRAY FLOW KLB/HR	CYCLON I COAL FLOW KLB/HR	% OF MAX CYCLON I INPUT	CYC IN SERV	REBURN INPUT %	REBURN INPUT KLB/HR	ROTARY CLASS. RPM	EXCESS AIR %	REBURN STOICH	CYCLONE STOICH	ACTUAL FLYASH SPLIT %	ADJUSTED FLYASH SPLIT %
1	BS1	11 21 91	110	783.30	998	999	41.98	13.60	98.18	102.27	3	0.00	0.00	0	19.30	1.1610	1.0940	0.00	0.00
2	BS2	11 25 91	110	779.68	999	996	38.42	0.00	96.20	100.21	3	0.00	0.00	0	19.70	1.1640	1.1000	0.00	0.00
3	4	4 3 92	110	776.73	999	997	46.47	4.23	91.30	95.10	3	0.00	0.00	0	24.10	1.1820	1.1190	0.00	0.00
4	4A	4 3 92	111	780.97	999	1002	55.72	11.18	92.79	96.66	3	0.00	0.00	0	23.60	1.1790	1.1180	16.86	16.86
5	4AA	4 29 92	110	778.86	1000	1003	60.00	11.75	92.02	95.85	3	0.00	0.00	0	22.70	1.1810	1.1070	0.00	0.00
6	26T	2 21 92	110	793.33	977	978	0.00	0.00	72.98	76.02	3	25.23	24.57	140	14.60	0.9711	1.0798	46.95	46.95
7	27T	2 21 92	110	778.05	996	1001	2.68	0.00	72.97	76.01	3	25.42	24.58	140	15.20	0.8871	1.0856	56.78	44.76
8	21A	5 1 92	110	786.12	994	998	0.00	0.00	70.61	73.55	3	27.86	26.11	160	21.40	0.9587	1.0888	4.03	43.48
9	2	4 1 92	109	773.18	996	992	67.60	9.82	93.80	97.71	3	0.00	0.00	0	23.50	1.1810	1.0980	0.00	0.00
10	2A	4 1 92	110	772.33	998	1000	26.54	9.65	65.51	68.24	3	26.95	26.25	140	16.00	0.8945	1.0394	50.08	50.08
11	2AA	4 29 92	110	778.85	994	998	1.36	0.00	64.74	67.44	3	28.22	26.30	160	16.20	0.8889	1.0883	0.00	0.00
12	3	4 2 92	110	781.88	1002	996	54.28	22.00	93.38	97.27	3	0.00	0.00	0	22.70	1.1970	1.0450	0.00	0.00
13	3A	4 2 92	110	778.32	999	1001	3.95	0.00	64.54	67.23	3	27.37	26.33	140	14.60	0.8670	1.0533	63.71	44.88
14	3AA	4 29 92	110	784.14	1001	996	3.43	0.00	65.19	67.91	3	28.06	26.32	160	14.60	0.8604	1.0549	0.00	0.00
15	3B	4 2 92	110	774.00	999	1003	6.98	3.48	65.12	67.83	3	27.39	26.43	140	19.80	0.8713	1.0397	0.00	0.00
16	6	4 7 92	110	780.46	994	998	79.99	15.51	92.52	96.38	3	0.00	0.00	0	23.10	1.1910	1.1120	0.00	0.00
17	6A	4 7 92	110	780.55	999	1007	29.54	0.00	65.63	68.36	3	27.92	26.22	140	15.70	0.8347	1.0515	17.60	44.47
18	8	4 9 92	110	785.83	1000	1000	49.46	2.81	92.21	96.05	3	0.00	0.00	0	21.90	1.1680	1.1080	0.00	0.00
19	8A	4 9 92	110	787.67	999	1001	9.45	0.00	65.63	68.36	3	28.02	26.48	160	17.20	0.8841	1.0883	46.95	46.95
20	7	4 8 92	109	784.50	1000	993	65.46	9.80	92.47	96.32	3	0.00	0.00	0	23.70	1.1830	1.0930	0.00	0.00
21	7A	4 8 92	110	786.41	999	1004	16.69	0.00	65.61	68.34	3	27.90	26.31	160	16.20	0.8569	1.0744	27.53	44.27
22	9	4 10 92	110	790.16	998	1002	69.85	14.65	93.33	97.22	3	0.00	0.00	0	22.70	1.1740	1.0890	0.00	0.00
23	9A	4 10 92	110	789.49	999	1003	14.86	0.00	66.18	68.94	3	27.69	26.28	100	16.70	0.8775	1.0746	35.39	35.39
24	10	4 13 92	110	790.73	998	993	49.85	13.52	93.29	97.18	3	0.00	0.00	0	22.70	1.1790	1.0930	0.00	0.00
25	10A	4 13 92	110	784.02	999	1002	8.69	0.00	65.75	68.49	3	27.88	26.26	100	16.50	0.8732	1.0796	69.98	44.33
26	16A	4 24 92	111	785.08	998	1003	38.49	5.21	66.37	69.14	3	27.34	26.06	160	16.80	0.8673	1.0652	34.55	34.55
27	1BM	5 5 92	110	801.44	998	1003	13.17	0.00	69.58	72.48	3	27.56	25.99	150	15.50	0.8715	1.0646	21.36	44.78
28	3T	2 13 92	110	781.04	987	993	6.24	0.00	68.43	71.28	3	28.86	27.79	140	17.50	0.9385	1.1095	69.36	44.18
29	4T	2 13 92	110	778.79	991	1002	0.00	0.00	69.22	72.10	3	28.57	27.71	140	18.60	0.8871	1.1266	40.73	40.73
30	10B	4 13 92	110	784.75	1000	1004	21.04	9.41	64.30	66.98	3	29.65	28.40	140	16.40	0.8721	1.0592	27.83	43.89
31	10C	4 13 92	111	786.99	999	1008	26.20	10.92	64.76	67.46	3	29.49	28.37	160	16.10	0.8715	1.0538	25.17	43.83
32	5T	2 14 92	111	778.20	998	1005	0.00	0.00	68.53	71.39	3	29.25	28.34	140	17.20	0.8754	1.1015	0.00	0.00
33	7T	2 15 92	111	787.35	980	997	0.00	0.00	68.85	71.72	3	29.08	28.24	140	17.10	0.8685	1.1062	0.00	0.00
34	16T	2 18 92	109	752.90	1008	1023	38.90	0.00	66.06	68.81	3	29.96	28.31	140	16.30	1.0313	1.4071	0.00	0.00
35	22T	2 19 92	110	785.59	954	985	0.79	0.00	69.83	72.74	3	28.80	28.25	140	14.70	0.9176	1.0840	56.57	44.47
36	24T	2 20 92	110	799.30	966	959	0.75	0.00	68.61	71.47	3	29.29	28.41	140	15.30	0.9267	1.1039	0.00	0.00
37	6T	2 14 92	111	781.57	997	999	3.35	0.00	68.54	71.40	3	29.22	28.34	140	16.80	0.8798	1.1054	0.00	0.00
38	15T	2 17 92	110	780.34	995	995	2.04	0.00	67.02	69.81	3	30.42	29.33	140	16.50	0.8932	1.1345	0.00	0.00
39	10T	2 15 92	110	778.62	985	997	0.00	0.00	68.02	70.85	3	29.30	28.19	140	15.90	0.8485	1.1170	0.00	0.00
40	8T	2 15 92	110	774.94	996	1002	0.00	0.00	67.95	70.78	3	29.33	28.24	140	16.60	0.8534	1.1257	0.00	0.00

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	DATE MO DAY YEAR	LOAD MW	STEAM FLOW KLB/HR	SH OUT TEMP	RH OUT TEMP	SH SPRAY FLOW KLB/HR	RH SPRAY FLOW KLB/HR	CYCLONE COAL FLOW KLB/HR	% OF MAX CYCLONE INPUT	CYC IN SERV	REBURN INPUT %	REBURN INPUT KLB/HR	ROTARY CLASS. RPM	EXCESS AIR %	REBURN STOICH	CYCLONE STOICH	ACTUAL FLYASH SPLIT %	ADJUSTED FLYASH SPLIT %
41	19T	2 18 92	110	775.92	996	998	4.01	0.00	67.74	70.56	3	29.41	28.26	140	16.30	0.8649	1.1038	0.00	0.00
42	23T	2 19 92	110	782.90	994	1000	0.68	0.00	68.64	71.50	3	29.17	28.29	140	15.20	0.8595	1.1029	44.95	44.95
43	16T	2 17 92	110	778.03	997	996	7.99	0.00	66.84	69.63	3	30.42	29.26	140	16.10	0.8609	1.1122	0.00	0.00
44	9T	2 15 92	109	784.30	978	988	0.00	0.00	68.28	71.13	3	29.18	28.16	140	14.70	0.8455	1.1004	0.00	0.00
45	17T	2 17 92	110	777.77	995	997	0.00	0.00	66.96	69.75	3	30.39	29.24	140	16.30	0.8683	1.1027	51.39	51.39
46	3BM	5 7 92	110	819.59	998	996	29.45	8.69	70.11	73.03	3	29.36	27.98	150	14.90	0.8600	1.1000	26.15	44.10
47	50T	3 5 92	110	774.04	1000	1004	22.19	0.00	67.34	70.15	3	29.51	28.21	140	16.40	0.8504	1.0785	34.33	34.33
48	25T	2 20 92	111	793.67	991	979	2.98	0.00	65.04	67.75	3	33.00	32.08	140	15.60	0.9057	1.1243	43.54	43.54
49	31T	2 24 92	111	800.57	974	982	0.00	0.00	65.77	68.51	3	32.76	32.07	140	14.40	0.8726	1.1005	0.00	0.00
50	32T	2 24 92	111	783.03	998	1003	3.51	0.00	64.71	67.41	3	33.13	32.07	140	14.70	0.8255	1.1228	50.62	50.62
51	17A	4 27 92	110	783.37	998	1000	20.26	0.00	60.08	62.58	3	33.27	31.17	160	14.30	0.8051	1.0571	39.75	39.75
52	16A	4 28 92	90	614.39	1000	1000	11.36	0.00	51.69	53.84	3	29.82	22.78	160	15.50	0.8423	1.0419	36.80	50.04
53	45T	3 2 92	86	574.60	998	1000	3.36	0.00	49.94	52.02	3	31.75	24.29	140	16.50	0.8669	1.1241	49.02	49.02
54	5A	4 6 92	82	543.22	999	1000	17.12	0.00	66.83	104.42	2	0.00	0.00	0	23.90	1.1690	1.1940	33.35	33.35
55	11A	4 15 92	82	554.33	992	1000	0.00	0.00	44.72	69.88	2	33.80	23.32	160	16.40	0.8513	1.0983	33.66	52.01
56	11B	4 16 92	82	553.68	991	1000	3.38	0.00	44.97	70.27	2	33.49	23.31	160	17.80	0.8645	1.0909	31.86	51.66
57	11C	4 16 92	82	552.78	994	1003	0.00	0.00	45.06	70.41	2	33.14	23.30	160	23.40	0.8458	1.0913	29.11	50.79
58	12A	4 16 92	83	556.90	999	1001	5.75	0.00	45.59	71.23	2	33.18	23.19	160	17.10	0.8835	1.0735	44.60	44.60
59	13A	4 21 92	82	548.89	997	996	15.56	0.00	44.67	69.80	2	32.87	23.24	160	18.70	0.9135	1.1174	49.72	49.72
60	4BM	5 7 92	82	518.24	998	997	23.66	0.00	49.18	76.84	2	32.88	22.98	150	15.70	0.8419	1.0825	18.96	52.02
61	11T	2 16 92	81	488.07	996	996	9.38	0.00	69.83	109.11	2	0.00	0.00	0	19.50	1.1410	1.1270	0.00	0.00
62	12T	2 16 92	82	497.57	982	976	6.27	0.00	47.81	74.70	2	32.78	23.37	140	17.00	0.8753	1.1470	0.00	0.00
63	13T	2 16 92	82	494.10	991	994	2.85	0.00	47.88	74.81	2	32.70	23.35	150	17.60	0.8744	1.1284	57.33	57.33
64	14T	2 16 92	82	488.73	998	1001	3.23	0.00	47.51	74.23	2	32.93	23.38	160	17.00	0.8586	1.1295	52.31	52.31
65	33T	2 24 92	83	502.59	976	979	20.99	0.00	71.52	111.75	2	0.00	0.00	140	19.10	1.1400	1.0120	0.00	0.00
66	34T	2 24 92	83	495.00	994	989	2.42	0.00	48.60	75.94	2	32.35	23.23	140	16.30	0.8595	1.1209	0.00	0.00
67	28T	2 22 92	83	501.75	998	979	14.06	0.00	48.63	75.98	2	32.18	23.14	140	16.80	0.8723	1.1336	54.76	54.76
68	29T	2 22 92	83	508.21	999	971	16.52	0.00	49.59	77.48	2	31.70	23.08	140	15.80	0.8614	1.1081	0.00	0.00
69	46T	3 3 92	83	494.02	999	999	11.42	0.00	48.72	76.13	2	32.10	23.21	140	14.20	0.8640	1.1066	45.96	45.96
70	47T	3 3 92	82	490.86	998	994	21.25	0.00	48.05	75.08	2	32.51	23.21	140	15.20	0.8545	1.1066	44.31	44.31
71	48T	3 4 92	82	488.30	998	1003	0.96	0.00	45.09	70.45	2	36.37	25.86	140	20.00	0.8565	1.1454	46.87	46.87
72	12B	4 16 92	83	500.84	998	995	15.74	0.00	47.34	73.97	2	30.20	21.20	160	17.80	0.9209	1.1009	48.75	48.75
73	19A	4 29 92	82	549.92	1000	1001	13.71	0.00	46.60	72.81	2	31.97	22.51	160	18.60	0.8727	1.0643	48.82	48.82
74	37T	2 25 92	70	415.73	1000	958	5.69	0.00	60.66	94.78	2	0.00	0.00	0	22.30	1.1670	1.0900	0.00	0.00
75	42T	2 27 92	71	413.19	999	993	7.63	0.00	38.86	60.72	2	36.31	22.26	140	18.10	0.8720	1.1157	61.19	61.19
76	38T	2 25 92	70	415.17	991	975	2.38	0.00	38.00	59.38	2	37.87	23.25	140	15.20	0.9326	1.1888	0.00	0.00
77	35T	2 25 92	70	410.75	998	988	4.60	0.00	37.65	58.83	2	38.08	23.23	140	16.40	0.9128	1.2040	0.00	0.00
78	39T	2 26 92	70	460.47	991	975	2.38	0.00	37.99	59.36	2	37.87	23.25	140	15.20	0.9326	1.1888	53.79	53.79
79	1A	3 31 92	68	446.41	996	965	0.00	0.00	55.71	87.05	2	0.00	0.00	0	24.30	1.1600	1.1610	30.34	30.34
80	20A	5 1 92	60	400.40	985	984	0.00	0.00	36.33	56.77	2	31.06	16.43	160	19.90	0.9439	0.9912	60.60	60.60

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	DATE MO DAY YEAR	LOAD MW	STEAM FLOW KLB/HR	SH OUT TEMP	RH OUT TEMP	SH SPRAY FLOW KLB/HR	RH SPRAY FLOW KLB/HR	CYCLON COAL FLOW KLB/HR	% OF MAX CYCLON INPUT	CYC IN SERV	REBURN INPUT %	REBURN INPUT KLB/HR	ROTARY CLASS. RPM	EXCESS AIR %	REBURN STOICH	CYCLONE STOICH	ACTUAL FLYASH SPLIT %	ADJUSTED FLYASH SPLIT %
81	2BM	5 6 92	60	409.29	993	961	0.00	0.00	36.17	56.52	2	32.20	17.26	160	19.70	0.9788	1.0143	52.54	52.54
82	15A	4 23 92	59	392.32	987	971	0.00	0.00	33.60	52.50	2	32.18	16.51	160	17.40	0.9202	1.0378	66.14	66.14
83	44T	2 27 92	66	433.20	991	973	0.72	0.00	57.68	90.13	2	0.00	0.00	0	13.80	1.0750	1.0730	0.00	0.00
84	48T	3 3 92	57	372.26	991	964	0.00	0.00	34.48	53.88	2	31.52	15.95	160	15.10	0.9623	1.0697	58.14	58.14
85	30T	2 23 92	56	368.34	975	953	0.00	0.00	49.12	76.75	2	0.00	0.00	0	28.90	1.2060	1.1410	0.00	0.00
86	43T	2 27 92	55	364.90	982	943	0.00	0.00	33.23	51.92	2	32.47	16.04	140	16.60	0.9766	1.1073	68.25	68.25
87	40T	2 26 92	55	355.09	996	982	17.44	0.00	31.76	49.63	2	34.68	16.96	140	15.70	1.0747	1.2266	0.00	0.00
88	41T	2 26 92	55	352.87	988	976	12.83	0.00	31.35	48.98	2	34.93	16.94	140	17.10	0.9639	1.1586	0.00	0.00
89	14A	4 22 92	55	382.31	952	928	0.00	0.00	31.76	49.63	2	32.99	16.23	160	15.70	0.9706	1.0369	52.73	52.73

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	ACTUAL UBC LB/ 100LB	ADJUSTED UBC LB/ 100LB	UBC EFF LOSS %	GAS WT. WITHOUT RECIRC. MLB/HR	TOTAL GR MLB/HR	GR TO REBURN KLB/HR	AS TESTED EFF %	CORR. EFF %	ACT. FEGT	TOTAL SEC KF	SEC IN KF	SEC OUT KF	PTI KF	RH KF	ECON KF	DRY GAS LOSS %	EXIT GAS TEMP CORR
1	BS1	0.00	0.10	0.13	1053.0	0.0	0.0	87.40	88.38	2154	0.95	0.99	0.92	1.03	0.93	0.88	4.23	318.40
2	BS2	0.00	0.11	0.15	1034.0	0.0	0.0	87.29	88.58	2095	1.19	1.27	1.11	0.99	1.13	0.90	4.01	308.30
3	4	0.00	0.10	0.13	1075.0	0.0	0.0	87.66	87.89	2124	1.19	1.22	1.15	0.85	1.46	0.61	4.68	338.80
4	4A	0.04	0.04	0.05	1092.0	0.0	0.0	87.51	87.64	2198	1.06	1.10	1.03	0.76	1.23	0.57	4.98	352.60
5	4AA	0.00	0.04	0.05	1077.0	0.0	0.0	88.22	88.63	2171	1.19	1.21	1.18	0.99	1.24	0.91	4.08	311.30
6	26T	0.86	0.86	1.15	998.0	0.0	0.0	86.69	87.97	1991	1.21	1.25	1.17	1.05	1.36	0.92	3.66	294.20
7	27T	1.16	0.87	1.16	994.0	78.1	13.2	86.92	87.77	1956	1.19	1.21	1.16	1.02	1.34	0.90	3.84	302.60
8	21A	0.04	0.53	0.69	1042.0	0.0	0.0	87.77	88.10	2000	1.20	1.22	1.18	0.99	1.17	0.84	3.95	306.90
9	2	0.00	0.08	0.05	1084.0	0.0	0.0	87.33	88.09	2171	1.29	1.38	1.21	0.88	1.54	0.61	4.51	330.90
10	2A	0.41	0.41	0.55	1014.0	52.9	0.0	86.92	87.37	2114	1.03	1.01	1.04	0.80	1.38	0.55	4.75	343.30
11	2AA	0.00	0.56	0.73	994.0	100.6	2.5	87.96	88.00	1953	1.24	1.26	1.22	0.96	1.34	0.81	4.01	309.60
12	3	0.00	0.08	0.05	1101.0	0.0	0.0	87.38	88.45	2170	1.09	1.06	1.11	0.95	1.44	0.65	4.19	316.30
13	3A	0.46	0.32	0.43	990.0	50.9	0.0	87.47	87.83	2036	1.07	1.03	1.10	0.88	1.50	0.61	4.44	328.60
14	3AA	0.00	0.56	0.73	989.0	88.7	2.0	88.00	88.05	1988	1.25	1.27	1.23	0.95	1.27	0.81	3.97	307.70
15	3B	0.00	0.53	0.71	1038.0	51.5	4.5	86.90	87.40	2016	1.03	0.97	1.07	0.84	1.57	0.61	4.58	335.80
16	6	0.00	0.04	0.05	1092.0	0.0	0.0	87.74	88.29	2226	1.23	1.28	1.17	0.82	1.55	0.56	4.39	325.50
17	6A	0.08	0.55	0.71	1003.0	58.6	9.1	87.41	87.62	2101	1.15	1.17	1.13	0.80	1.45	0.56	4.38	326.50
18	8	0.00	0.05	0.06	1069.0	0.0	0.0	87.84	88.59	2132	1.27	1.28	1.24	1.01	1.16	0.79	4.11	313.00
19	8A	0.44	0.44	0.57	1019.0	52.6	0.0	87.79	88.15	2024	1.17	1.21	1.13	0.95	1.21	0.80	4.03	310.20
20	7	0.00	0.04	0.05	1094.0	0.0	0.0	87.56	88.51	2143	1.34	1.34	1.34	1.02	1.39	0.60	4.19	316.20
21	7A	0.15	0.24	0.31	1011.0	54.8	0.0	87.99	88.39	2054	1.13	1.10	1.17	0.96	1.15	0.84	4.05	310.80
22	9	0.00	0.04	0.05	1094.0	0.0	0.0	88.31	88.71	2186	1.24	1.25	1.22	1.03	1.29	0.89	4.00	307.70
23	9A	0.52	0.52	0.68	1017.0	53.5	0.0	87.66	87.94	2036	1.18	1.20	1.16	0.98	1.24	0.78	4.12	314.50
24	10	0.00	0.04	0.05	1090.0	0.0	0.0	87.84	88.67	2135	1.22	1.34	1.10	1.00	1.27	0.87	4.04	309.50
25	10A	1.01	0.60	0.78	1009.0	101.9	0.0	87.49	87.89	1976	1.22	1.27	1.16	0.95	1.27	0.80	4.08	312.80
26	16A	0.76	0.76	0.99	1018.0	59.8	9.6	87.66	87.71	2094	1.23	1.21	1.23	0.99	1.27	0.85	4.06	312.50
27	16M	0.23	0.48	0.64	1003.0	101.4	11.3	87.92	88.10	1976	1.30	1.32	1.26	0.98	1.46	0.85	4.01	309.60
28	3T	0.50	0.31	0.41	1014.0	44.1	0.0	87.36	88.26	1988	1.18	1.21	1.15	0.92	1.19	0.84	4.07	311.60
29	4T	0.65	0.65	0.87	1026.0	64.2	18.9	86.90	87.84	1958	1.19	1.23	1.14	0.91	1.23	0.89	4.03	310.70
30	10B	0.14	0.22	0.29	1024.0	92.5	0.0	87.86	88.25	2046	1.12	1.16	1.08	0.91	1.17	0.77	4.21	317.60
31	10C	0.13	0.22	0.29	1026.0	91.8	0.0	87.87	88.29	2081	1.06	1.09	1.03	0.87	1.10	0.86	4.17	315.90
32	5T	0.00	0.55	0.74	1015.0	43.6	0.0	87.12	87.99	1989	1.14	1.18	1.10	0.93	1.28	0.86	4.01	309.60
33	7T	0.00	0.54	0.72	1017.0	40.5	0.0	87.26	88.18	1965	1.22	1.29	1.16	1.04	1.22	0.92	3.87	303.20
34	18T	0.00	0.57	0.76	982.0	47.3	0.0	87.39	88.21	2094	1.15	1.03	1.24	1.04	1.30	0.99	3.79	299.60
35	22T	1.15	0.87	1.16	1004.0	0.0	0.0	86.76	88.00	1986	1.25	1.28	1.21	1.12	1.31	0.94	3.64	293.20
36	24T	0.00	0.55	0.74	1001.0	0.0	0.0	87.13	88.47	1966	1.25	1.36	1.15	1.08	1.37	0.97	3.58	290.00
37	6T	0.00	0.55	0.74	1013.0	44.0	0.0	87.10	87.93	2002	1.10	1.12	1.07	0.90	1.25	0.86	4.07	312.60
38	15T	0.00	0.55	0.74	1004.0	45.6	1.3	87.31	88.29	1963	1.21	1.27	1.15	1.07	1.36	0.96	3.75	297.50
39	10T	0.00	0.56	0.75	998.0	76.6	54.5	87.15	87.96	1955	1.18	1.24	1.12	0.94	1.21	0.86	4.03	310.40
40	8T	0.00	0.55	0.74	1004.0	77.4	48.6	87.23	88.07	1956	1.19	1.23	1.14	0.95	1.26	0.92	3.94	306.60

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	ACTUAL UBC LB/ 100LB	ADJUSTED UBC LB/ 100LB	UBC EFF LOSS %	GAS WT. WITHOUT RECIRC. MLB/HR	TOTAL GR MLB/HR	GR TO REBURN KLB/HR	AS TESTED EFF %	CORR. EFF %	ACT. FEGT	TOTAL SEC KF	SEC IN KF	SEC OUT KF	PTI KF	RH KF	ECON KF	DRY GAS LOSS %	EXIT GAS TEMP CORR
41	19T	0.00	0.55	0.74	1000.0	64.0	10.0	87.23	88.19	1962	1.19	1.21	1.16	1.00	1.39	0.91	3.84	301.70
42	23T	1.05	0.55	0.74	1000.0	75.3	14.4	87.18	88.12	1942	1.21	1.24	1.18	1.15	1.25	0.97	3.90	304.60
43	16T	0.00	0.56	0.75	999.0	67.1	10.2	87.28	88.19	1969	1.20	1.23	1.17	1.03	1.29	0.91	3.83	301.40
44	9T	0.00	0.56	0.75	991.0	46.3	2.9	87.28	87.99	1987	1.15	1.20	1.09	0.91	1.19	0.87	4.00	309.10
45	17T	0.90	0.55	0.74	1001.0	67.5	11.8	87.19	88.19	1949	1.26	1.30	1.21	1.01	1.29	0.91	3.84	301.70
46	3BM	0.28	0.48	0.62	1008.0	0.0	0.0	88.07	88.17	2037	1.27	1.25	1.28	1.04	1.28	0.83	3.97	307.50
47	50T	0.25	0.25	0.33	999.0	61.9	8.8	87.85	88.38	2016	1.19	1.24	1.14	0.97	1.55	0.80	4.03	309.60
48	25T	0.83	0.83	0.74	1006.0	0.0	0.0	87.21	88.42	1998	1.40	1.54	1.26	1.09	1.44	0.92	3.63	292.20
49	31T	0.00	0.55	0.74	1003.0	0.0	0.0	87.17	88.35	1995	1.27	1.42	1.13	1.11	1.38	0.88	3.70	295.50
50	32T	0.92	0.55	0.75	995.0	65.8	11.6	87.33	88.20	1966	1.32	1.39	1.25	1.06	1.46	0.88	3.82	300.70
51	17A	0.33	0.33	0.43	989.0	68.6	12.8	88.13	88.00	2072	1.14	1.16	1.12	0.90	1.09	0.81	4.30	322.20
52	18A	0.48	0.65	0.84	812.0	82.5	9.9	87.96	88.08	1975	1.06	1.02	1.10	0.95	1.24	0.85	3.69	295.30
53	45T	0.91	0.91	1.22	771.0	203.7	10.1	87.15	87.79	1768	1.26	1.38	1.17	1.08	1.38	0.93	3.54	289.00
54	5A	0.18	0.18	0.38	784.0	121.6	0.0	87.74	88.09	1880	1.15	1.25	1.06	0.87	1.24	0.65	3.98	307.50
55	11A	0.37	0.58	0.75	744.0	104.6	22.0	87.74	88.27	1867	1.17	1.15	1.17	1.17	1.22	0.84	3.50	286.10
56	11B	0.33	0.89	1.16	756.0	101.2	10.3	87.36	87.90	1885	1.12	1.12	1.12	1.13	1.12	0.91	3.47	285.70
57	11C	0.21	0.83	1.08	786.0	56.1	10.0	87.27	88.01	1884	1.06	1.01	1.09	1.02	1.31	0.89	3.44	283.80
58	12A	0.44	0.89	1.16	756.0	212.6	4.0	87.28	87.90	1763	1.42	1.40	1.43	1.33	1.29	0.88	3.48	286.20
59	13A	0.51	0.88	1.16	760.0	268.8	2.4	87.05	87.57	1741	1.42	1.40	1.43	1.31	1.07	0.76	3.77	299.30
60	4BM	0.24	0.67	0.86	743.0	195.4	13.4	87.84	88.12	1839	1.34	1.25	1.41	1.17	1.23	0.81	3.54	288.20
61	11T	0.00	0.91	0.44	749.0	198.4	2.0	87.90	88.76	1764	1.38	1.38	1.38	1.15	1.25	1.00	3.32	277.30
62	12T	0.00	0.92	1.24	742.0	210.7	11.7	87.10	87.90	1735	1.37	1.39	1.34	1.20	1.19	0.96	3.38	281.80
63	13T	1.71	0.91	1.22	746.0	203.0	12.2	87.05	87.85	1752	1.31	1.31	1.31	1.17	1.20	0.94	3.44	284.50
64	14T	1.31	0.93	1.24	739.0	191.4	13.3	86.97	87.79	1777	1.25	1.29	1.21	1.06	1.22	0.91	3.47	285.90
65	33T	0.00	0.88	0.41	764.0	165.1	2.6	87.38	88.81	1783	1.43	1.32	1.50	1.49	1.29	0.90	3.32	277.60
66	34T	0.00	0.92	1.51	743.0	230.9	11.8	86.85	87.91	1714	1.48	1.56	1.40	1.42	1.25	0.92	3.37	280.90
67	28T	1.51	0.91	1.22	747.0	232.6	11.2	87.08	87.91	1753	1.32	1.37	1.28	1.10	1.22	0.95	3.40	282.40
68	29T	0.00	0.90	1.22	751.0	228.6	10.2	87.05	87.86	1772	1.31	1.35	1.26	1.10	1.16	0.93	3.45	284.70
69	46T	1.16	1.16	1.55	734.0	203.5	2.2	86.73	87.56	1790	1.25	1.25	1.23	1.12	1.32	0.89	3.42	283.80
70	47T	0.97	0.97	1.30	732.0	178.0	10.3	86.89	87.76	1837	1.23	1.29	1.17	1.11	1.23	0.84	3.45	285.10
71	48T	0.75	0.75	1.00	759.0	109.9	10.6	87.05	88.14	1817	1.29	1.36	1.22	1.19	1.33	0.87	3.38	281.10
72	12B	0.55	0.55	1.08	759.0	195.5	11.8	87.70	88.21	1818	1.27	1.25	1.29	1.11	1.18	0.81	3.60	290.60
73	19A	1.18	1.18	1.53	760.0	270.7	11.0	87.10	87.34	1749	1.41	1.43	1.38	1.09	1.23	0.77	3.64	293.90
74	37T	0.00	1.12	0.64	663.0	232.8	2.3	87.04	88.52	1631	1.50	1.59	1.41	1.18	1.36	0.88	3.19	271.90
75	42T	1.64	1.18	1.58	641.0	226.3	1.9	86.62	87.55	1694	1.31	1.43	1.22	1.18	1.30	0.93	3.21	274.30
76	38T	0.00	1.22	1.63	627.0	234.9	1.5	86.43	87.55	1663	1.38	1.45	1.31	1.17	1.32	0.90	3.17	272.30
77	35T	0.00	1.21	1.63	630.0	236.8	11.3	86.48	87.60	1666	1.38	1.43	1.34	1.43	1.28	0.96	3.12	270.30
78	39T	1.61	1.22	1.63	627.0	235.3	1.5	86.44	87.55	1663	1.37	1.45	1.30	1.19	1.28	0.89	3.17	272.30
79	1A	0.50	0.50	0.67	650.0	203.9	0.0	87.09	88.01	1667	1.25	1.43	1.09	0.94	1.21	0.68	3.59	290.40
80	20A	1.67	1.67	2.17	573.0	281.0	4.1	86.09	86.86	1554	1.26	1.19	1.30	1.29	1.29	0.87	3.15	272.30

SUMMARY OF T AND A SERIES TUNING AND OPTIMIZATION TESTS

	TEST MW	ACTUAL UBC LB/ 100LB	ADJUSTED UBC LB/ 100LB	UBC EFF LOSS %	GAS WT. WITHOUT RECIRC. MLB/HR	TOTAL GR MLB/HR	GR TO REBURN KLB/HR	AS TESTED EFF %	CORR. EFF %	ACT. FEGT	TOTAL SEC KF	SEC IN KF	SEC OUT KF	PTI KF	RH KF	ECON KF	DRY GAS LOSS %	EXIT GAS TEMP CORR
81	28M	1.72	1.72	2.23	578.0	277.2	11.7	86.17	86.92	1543	1.52	1.52	1.52	1.47	1.33	0.93	3.05	268.10
82	15A	0.97	1.48	1.92	546.0	217.1	12.9	86.67	87.25	1617	1.19	1.17	1.20	1.38	1.20	0.91	2.99	264.70
83	44T	0.00	1.35	1.82	0.0	215.6	1.7	86.68	87.40	1666	1.20	1.32	1.09	1.35	1.14	0.98	3.06	267.80
84	46T	1.64	1.64	2.19	513.0	240.9	4.4	86.03	87.08	1563	1.37	1.30	1.40	1.45	1.35	0.96	2.83	257.40
85	30T	0.00	1.42	0.87	563.0	221.1	2.3	87.08	88.28	1522	1.28	1.39	1.18	1.28	1.27	0.96	2.93	260.10
86	43T	1.86	1.86	2.49	506.0	234.5	7.7	85.69	86.77	1543	1.45	1.65	1.26	1.22	1.39	0.94	2.81	257.00
87	40T	0.00	1.63	2.19	499.0	226.7	2.4	85.78	86.89	1668	1.16	1.11	1.20	1.04	1.20	0.87	2.95	263.30
88	41T	0.00	1.63	2.19	500.0	228.1	2.3	85.70	86.87	1635	1.12	1.09	1.15	1.04	1.18	0.89	2.96	263.60
89	14A	0.74	1.58	2.06	516.0	113.7	9.0	86.56	87.21	1687	1.24	1.24	1.23	1.30	1.41	0.92	2.84	257.70

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TEST NO.	BS1	BS2	4	4A	4AA	26T	27T	21A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92
TIME START	1458	1005	0902	1205	0928	1057	1407	1005
TIME END	1714	1335	1131	1401	0945	1303	1706	1217
LOAD MW	110	110	110	111	110	110	110	110
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

BS1 AVG SCANS ? -->? : 110 MW : NO REBURN
BS2 AVG SCANS ? -->? : 110 MW : NO REBURN
4 AVG SCANS 7 -->20 : 110 MW : NO REBURN : BASE : B&W TRAV
4A AVG SCANS 24-->34 : 110 MW : NO REBURN : BASE : ACUREX TRAV
4AA AVG SCANS 6 -->8 : REPEAT 4A : 110 MW : NO REBURN
26T AVG SCANS 20-->31 : 110 MW : 12.2 TPH REBRN : NO GR TO BRNRS
27T AVG SCANS 38-->54 : 110 MW : 12.2 TPH REBRN : W/ GR TO BRNRS
21A AVG SCANS 6 -->17 : 110 MW : 13 TPH : HIGH REBRN STOIC

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW		20-005	110.4	110.2	110.0	110.9	109.8	109.9	110.1	110.2	2 1
MAIN STEAM FLOW		03-033	792.1	796.8	795.9	796.8	764.8	815.1	804.2	776.8	2 2
1ST STG STM FLW		CALC	762.7	767.3	766.4	767.5	760.0	783.9	773.7	772.8	2 23
FW FLOW		12-170	783.3	779.7	776.7	781.0	778.9	793.3	778.0	786.1	2 3
BLOW DOWN FLOW		EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 4
RH SPRAY FLOW		14-192	13.60	0.00	4.23	11.18	11.75	0.00	0.00	0.00	2 5
SH SPRAY FLOW	L	17-052	16.11	15.70	18.00	22.75	22.34	.99	2.62	1.20	2 7
SH SPRAY FLOW	R	17-056	15.92	14.96	20.03	23.74	26.17	0.00	0.00	0.00	2 8
GR FAN AMPS	A	16-181	.08	.08	.08	.08	.08	.08	25.81	.08	2 12
GR FAN AMPS	B	16-183	-.0314	-.0206	-.0206	-.0206	-.0223	-.0206	-.0206	-.0206	2 13
GR FAN BUS VOLT		EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2 14
TOTAL GR FLOW		CALC	0.00	0.00	0.00	0.00	0.00	0.00	78.11	0.00	2 24
GR TO SEC AIR		06-932	0.00	0.00	-10.46	-21.91	.79	0.00	0.00	.85	2 25
GR TO SEC AIR		CALC	0.00	0.00	0.00	0.00	0.00	0.00	13.16	0.00	2 26
GR TO FURN		CALC	0.00	0.00	0.00	0.00	0.00	0.00	64.96	0.00	2 27
OFA AIR FLOW		06-931	17.5	17.2	35.4	35.2	28.2	129.9	200.0	193.1	2 28
TMP AIR FLOW		CALC	64.07	60.41	77.85	77.01	78.88	35.93	36.02	82.59	14 10
SEC AIR FLOW		06-320	24.56	24.78	27.82	26.96	30.93	41.29	27.42	39.59	2 29
1st STG PRESS		18-128	1061.0	1067.6	1066.3	1067.9	1057.2	1091.3	1076.8	1075.5	2 19
OIL FLOW 2A		05-100	.0017	.0017	.0017	.0017	0.0000	.0030	.0018	.0019	2 20
OIL FLOW 2B		07-100	.0017	.0017	.0017	.0017	.0017	.0033	.0033	.0017	2 21
OIL FLOW 2C		09-100	.0016	.0016	.0027	.0017	.0016	.0016	.0016	.0016	2 22
% PWDR RVR BASN COAL		USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 30
CYCLONE STOIC		CALC	1.0943	1.1003	1.1192	1.1176	1.1070	1.0798	1.0856	1.0888	4 20
REBRN WB STOIC		CALC	100.0	100.0	100.0	100.0	100.0	.6	.4	.6	4 21
REBRN STOIC		CALC	1.1612	1.1644	1.1822	1.1788	1.1801	.9711	.8871	.9587	4 22
LVG FURN STOIC		CALC	1.1826	1.1860	1.2264	1.2219	1.2152	1.1352	1.1414	1.2034	4 23
LVG ECON STOIC		CALC	1.1922	1.1958	1.2360	1.2314	1.2251	1.1450	1.1511	1.2132	4 24

TEST NO.			BS1	BS2	4	4A	4AA	26T	27T	21A		
TEST SEQ. NO.			1	2	3	4	5	6	7	8		
DATE			11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92		
TIME START			1458	1005	0902	1205	0928	1057	1407	1005		
TIME END			1714	1335	1131	1401	0945	1303	1706	1217		
LOAD MW			110	110	110	111	110	110	110	110		
DATA PAGE NO. 3	FLUID TEMPERATURES F (C) - PLANT											
SSH OUT T	L	15-152	998.6	998.9	998.1	998.5	999.4	988.8	998.3	993.2	3	1
SSH OUT T	R	15-150	998.1	999.2	999.0	999.9	1000.5	965.4	992.9	994.7	3	2
SSH OUT AVE T		13-160	999.2	1001.6	999.2	999.7	999.2	981.2	997.9	995.3	14	1
LVG SH ATTMP T	L	13-164	736.7	720.1	719.8	714.3	708.9	733.1	741.4	738.7	3	8
LVG SH ATTMP T	R	13-162	744.4	730.7	720.8	719.4	704.7	740.1	768.3	759.0	3	9
PRI SH OUT T	L	HW	808.5	778.6	786.0	797.6	792.6	733.0	752.0	737.1	3	10
PRI SH OUT T	R	HW	807.1	788.2	795.6	807.7	802.5	740.9	766.2	757.4	3	11
ECON H2O OUT T	L	HW	516.7	515.2	511.6	515.7	516.6	504.9	510.1	511.9	3	27
ECON H2O OUT T	R	HW	525.0	519.4	502.9	507.9	521.4	505.1	512.8	505.6	3	28
ECON H2O IN T		20-007	459.5	459.5	459.6	460.8	459.8	457.7	457.8	458.2	3	5
RH SPRAY H2O T		HW	318.7	318.2	316.3	315.6	317.1	317.0	316.7	318.2	3	7
LVG RH T		14-150	998.9	996.1	996.9	1002.3	1002.7	978.5	1001.4	998.2	3	12
ENT RH T		CALC	660.6	706.6	699.5	683.3	687.9	723.0	733.6	713.1	3	16
COLD RH T		20-006	743.0	743.6	743.1	745.1	744.6	728.0	741.1	741.7	3	18
DATA PAGE NO. 4	FLUID TEMPERATURES F (C) - B&W											
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	19
DATA PAGE NO. 5	FLUID PRESSURES PSIG (KG/CM2)											
TURB THROT P		03-170	1450.1	1450.4	1449.9	1450.0	1449.8	1450.4	1448.9	1449.9	5	1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5	2
DRUM PRESS		04-013	1600.8	1603.2	1599.2	1599.2	1597.9	1612.4	1607.4	1605.5	5	3
LVG RH PRESS		15-102	429.0	427.5	427.0	430.6	427.2	429.7	425.6	427.3	5	4

TEST NO.	BS1	BS2	4	4A	4AA	26T	27T	21A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92
TIME START	1458	1005	0902	1205	0928	1057	1407	1005
TIME END	1714	1335	1131	1401	0945	1303	1706	1217
LOAD MW	110	110	110	111	110	110	110	110

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

ENT RH PRESS		15-100	457.6	452.8	452.6	457.5	454.8	458.0	454.7	457.3	5 5
FW HTR E EXT P		20-035	438.1	435.6	435.1	439.5	436.7	437.4	434.3	436.8	5 6
FW HTR E EXT P		TRANS	440.1	438.4	438.1	442.3	439.2	439.8	436.5	438.6	5 7
SEC SH OUT P	(T)	TRANS	1496.0	1492.7	1492.2	1494.1	1493.7	1497.9	1496.6	1495.4	5 17
DRUM PRESS	(T)	TRANS	1590.4	1589.2	1588.3	1589.6	1587.8	1602.2	1598.8	1597.7	5 18
LVG RH-1 P	(T)	TRANS	433.4	431.7	431.2	435.0	431.4	433.7	430.0	432.4	5 19
ENT RH-1 P	(T)	TRANS	454.1	452.4	0.0	0.0	0.0	454.4	450.5	0.0	5 20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	0.0	0.0	0.0	0.0	103.9	0.0	0.0	112.8	6 4
AIR LVG FD FAN T	A	09-028	130.1	109.2	122.8	127.6	131.6	121.3	128.2	135.0	7 2
AIR LVG FD FAN T	B	09-029	132.1	111.8	124.3	128.0	134.6	124.7	129.6	136.6	7 3
AIR ENT AH T	RA	20-017	177.2	144.0	127.1	130.7	136.9	177.5	159.7	139.1	6 2
AIR ENT AH T	RB	20-018	161.3	135.6	126.8	130.7	137.4	149.8	152.6	139.6	6 3
AIR ENT AH T	LA	20-025	189.9	175.3	126.1	130.7	134.9	188.2	188.7	138.5	13 25
AIR ENT AH T	LB	20-029	160.7	153.8	126.5	131.0	135.0	173.8	171.4	138.8	13 26
AIR LVG AH T	R	HW	618.9	589.6	678.3	707.4	598.6	560.8	574.6	593.1	6 6
AIR LVG AH T	L	HW	586.9	561.9	573.9	598.4	560.1	546.7	551.7	578.2	6 7
BRN SEC AIR T		08-002	561.8	533.6	587.4	614.8	539.8	512.4	522.3	551.1	14 2
BRN SA/GR T		08-001	495.9	472.7	544.0	562.7	512.0	489.7	506.1	530.3	14 3
OFA TEMP		09-002	504.3	478.4	218.8	215.6	403.3	516.3	526.5	530.5	14 4
GAS LVG AH T	RA	20-019	331.0	307.5	345.9	362.7	323.1	307.0	307.9	323.9	6 10
GAS LVG AH T	RB	20-020	306.8	283.0	316.5	330.8	302.4	291.0	291.2	307.0	6 11
GAS LVG AH T	LA	20-027	304.3	279.4	287.4	298.1	291.9	285.3	283.0	301.5	13 27
GAS LVG AH T	LB	20-024	306.7	292.2	294.3	306.5	298.3	298.9	296.6	307.4	13 28
GAS LVG RH PS T		AVE	680.7	644.4	656.1	687.7	642.4	622.1	633.4	657.1	13 17
GAS LVG SH PS T		AVE	665.1	653.4	744.1	781.6	660.6	617.1	639.3	643.0	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	3.5521	3.5598	3.7190	3.6698	3.5677	1.8062	2.5284	2.6025	6 20
O2 LVG ECON	L	11-170	3.3971	3.4376	3.2670	3.3150	3.4837	2.5954	3.3208	2.8324	6 21
O2 IN SEC AIR		06-254	20.65	20.63	18.57	17.49	20.55	20.66	14.77	20.62	13 29
ACCUREX NOX	PPM	06-553	0.0	0.0	533.9	571.9	549.8	0.0	0.0	323.7	13 9
ACCUREX SOX	PPM	06-555	0.0	0.0	1171.1	1207.1	1211.9	0.0	0.0	990.0	13 10
ACCUREX CO	PPM	06-425	0.00	0.00	16.70	14.92	13.48	0.00	0.00	49.00	13 11
ACCUREX O2	%	06-554	0.0000	0.0000	3.9278	3.6730	4.2113	0.0000	0.0000	3.3260	13 12
BRN SEC AIR P	IN WG	06-250	20.78	19.66	20.94	22.10	22.43	20.56	21.66	22.34	14 5
BRN GAS REC P	IN WG	06-252	20.60	19.56	20.92	22.13	22.51	20.16	21.60	22.22	14 6
FURNACE GAS P	IN WG	08-100	21.33	20.38	20.94	22.06	22.10	19.01	19.24	20.90	14 7
BAROMETRIC P	IN HG	PB	0.00	0.00	0.00	0.00	29.08	0.00	0.00	28.92	6 29
REL HUMIDITY	%	TST	0.0000	0.0000	0.0000	0.0000	7.6285	0.0000	0.0000	7.6266	6 30

TEST NO.		BS1	BS2	4	4A	4AA	26T	27T	21A	
TEST SEQ. NO.		1	2	3	4	5	6	7	8	
DATE		11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92	
TIME START		1458	1005	0902	1205	0928	1057	1407	1005	
TIME END		1714	1335	1131	1401	0945	1303	1706	1217	
LOAD MW		110	110	110	111	110	110	110	110	
DATA PAGE NO. 7	**AIR & GAS DATA - B&W**									
AMBIENT AIR TEMP	TC	0.00	0.00	47.82	54.00	59.38	0.00	0.00	78.65	7 1
AIR LVG FD FAN T A	TC	132.8	112.2	126.4	131.3	135.1	124.4	131.1	138.4	7 6
AIR LVG FD FAN T B	TC	134.7	114.6	127.2	131.0	137.8	127.1	131.9	139.6	7 7
AIR ENT AH (T)	GRID	171.8	153.7	127.7	132.0	137.3	174.4	167.9	140.3	7 4
GAS LVG AH (T)	GRID	303.8	285.1	301.9	315.7	295.8	291.7	291.2	300.2	7 10
GAS LVG ECON (T) L	GRID	687.7	660.7	703.3	738.8	657.5	639.2	652.6	676.4	7 14
GAS LVG ECON (T) R	GRID	685.2	658.8	787.0	825.5	673.2	598.3	634.0	633.5	7 15
GAS TEMP LVG GR FAN	GRID	173.2	0.0	181.6	173.7	232.3	0.0	0.0	193.8	13 7
O2 LVG ECON (T) L	GRID	3.5674	3.7232	4.3907	4.2787	4.1140	2.8661	3.0307	3.4845	7 20
O2 LVG ECON (T) R	GRID	3.3730	3.3200	3.9052	3.8823	3.7934	2.6095	2.6287	4.0659	7 21
CO LVG ECON (T) L	GRID	85.7	53.0	108.2	136.8	32.2	81.5	95.1	76.6	13 5
CO LVG ECON (T) R	GRID	160.2	86.0	107.0	186.8	67.1	73.9	111.5	60.9	13 6
CO2 LVG ECON (T) L	GRID	15.49	16.30	14.75	14.50	14.49	16.33	16.06	15.05	7 22
CO2 LVG ECON (T) R	GRID	15.32	16.23	14.81	14.80	14.41	16.08	16.02	14.29	7 23
NOX LVG ECON (T) L	GRID	573.7	581.0	577.4	606.5	586.0	371.7	287.0	335.4	7 24
NOX LVG ECON (T) R	GRID	599.4	552.3	570.4	594.1	0.0	363.8	300.6	0.0	7 25
O2 LVG AH (T)	GRID	5.0000	4.9000	5.3000	5.2800	5.2400	4.2000	3.9100	4.3400	13 1
CO2 LVG AH (T)	GRID	48.09	29.54	30.29	28.33	22.50	37.51	40.97	25.68	13 3
O2 LVG GR FAN (T)	GRID	19.61	19.25	11.55	11.40	0.00	18.59	18.51	0.00	13 4
DRY BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27
DATA PAGE NO. 8	**FW HTR TEMPERATURES F (C) - PLANT**									
FW HTR E EXT T	HW	743.4	743.6	740.8	742.1	743.7	726.9	740.1	741.2	8 1
FW HTR E LVG T	HW	459.9	459.5	459.3	458.3	459.3	457.5	457.6	458.5	8 5
FW HTR E ENT T	HW	385.3	387.1	383.0	383.5	385.2	385.0	383.5	384.0	8 7
FW HTR E DRN T	HW	404.9	404.0	404.5	405.1	404.5	403.6	402.2	405.9	8 13
DATA PAGE NO. 9	**FW HTR TEMPERATURES F (C) - B&W**									
SSH PEND IN LEG 1	10-017	859.2	856.6	848.1	847.1	843.0	837.5	859.3	851.5	9 17
SSH PEND IN LEG 2	10-018	873.3	874.4	865.4	862.5	859.4	853.3	878.0	871.1	9 18
SSH PEND IN LEG 3	10-019	873.0	875.4	866.0	864.0	860.4	850.5	876.5	879.3	9 19
SSH PEND IN LEG 4	10-020	878.1	880.9	875.2	874.7	865.9	862.6	888.0	894.4	9 20
SSH PEND IN LEG 5	10-021	882.8	884.0	862.7	861.8	845.0	868.1	886.2	883.5	9 21
SSH PEND IN LEG 6	10-033	884.7	882.1	874.2	871.7	859.4	886.8	894.3	895.1	9 22
SSH PEND IN LEG 7	10-034	880.8	879.1	875.3	870.9	864.7	892.2	890.3	887.1	9 23
SSH PEND IN LEG 8	10-035	874.9	872.8	866.7	863.8	857.4	880.8	885.6	877.3	9 24
SSH PEND IN LEG 9	10-036	880.0	877.5	869.3	867.6	864.4	871.0	884.9	876.2	9 25
SSH PEND IN LEG 10	10-037	858.2	854.3	851.6	849.8	853.6	836.7	852.7	848.4	9 26
RH PEND IN LEG 1	09-049	938.8	936.6	936.0	939.9	936.8	928.3	950.3	947.7	8 17
RH PEND IN LEG 2	09-050	930.1	927.6	926.9	930.0	925.7	925.4	946.3	943.2	8 18

TEST NO.	BS1	BS2	4	4A	4AA	26T	27T	21A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92
TIME START	1458	1005	0902	1205	0928	1057	1407	1005
TIME END	1714	1335	1131	1401	0945	1303	1706	1217
LOAD MW	110	110	110	111	110	110	110	110

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

RH PEND IN LEG 3	09-051	933.2	930.9	928.7	932.5	929.5	923.4	945.1	942.4	8	19
RH PEND IN LEG 4	09-052	930.7	928.6	926.8	930.1	926.5	923.5	944.8	941.6	8	20
RH PEND IN LEG 5	09-053	923.0	928.3	0.0	0.0	0.0	885.5	912.2	0.0	8	21
RH PEND IN LEG 6	10-001	960.4	955.6	953.5	959.1	953.0	944.7	966.8	963.2	8	22
RH PEND IN LEG 7	10-002	932.1	929.8	924.2	929.5	925.8	913.6	937.4	934.9	8	23
RH PEND IN LEG 8	10-003	932.7	933.0	928.5	934.0	934.7	910.0	935.7	936.9	8	24
RH PEND IN LEG 9	10-004	939.5	937.3	935.2	939.1	935.5	928.2	950.3	947.1	8	25
RH PEND IN LEG 10	10-005	903.6	910.5	902.0	907.0	920.1	867.1	893.0	892.1	8	26
RH INTM HND HOLE R	10-038	936.3	933.6	934.8	938.9	937.6	925.6	947.1	946.3	8	27
RH INTM HND HOLE L	10-039	857.8	864.2	854.5	862.3	875.6	829.7	851.9	849.6	8	28
PSH OUT LEG T	09-017	806.4	788.2	793.7	804.8	800.2	744.0	768.0	756.3	14	11
PSH OUT LEG T	09-018	815.3	794.7	804.5	817.5	809.7	745.8	773.1	760.9	14	12
PSH OUT LEG T	09-019	797.0	773.7	788.3	804.3	793.5	723.0	735.5	720.7	14	13
PSH OUT LEG T	09-020	803.5	781.1	794.0	808.0	797.6	734.0	751.2	734.5	14	14
PSH OUT LEG T	09-021	792.5	775.3	781.8	792.0	788.6	737.3	757.7	744.8	14	15
PSH OUT LEG T	09-022	796.0	780.2	785.5	795.7	792.9	739.3	762.2	752.1	14	16
PSH OUT LEG T	09-023	800.5	779.8	790.2	803.2	795.0	729.4	753.4	738.7	14	17
PSH OUT LEG T	09-024	817.4	798.2	806.7	820.2	812.3	749.5	777.8	767.3	14	18
PSH OUT LEG T	09-025	799.2	779.0	791.7	804.7	795.1	731.6	756.8	747.4	14	19
PSH OUT LEG T	09-026	798.6	783.2	793.4	803.8	800.2	742.5	765.2	763.3	14	20
PSH OUT LEG T	09-027	809.2	793.9	803.7	813.3	808.9	757.7	780.9	777.0	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	31.03	31.70	30.62	31.03	30.95	23.66	24.05	21.46	10	1
CYC B COAL FLOW KLB	07-110	31.02	31.67	30.65	31.07	30.89	23.66	24.05	21.42	10	2
CYC C COAL FLOW KLB	09-110	31.07	31.68	30.62	31.03	30.93	23.67	23.85	21.45	10	3
CYC A SEC AIR FLOW %	06-170	311.1	302.9	305.5	310.8	300.9	212.3	213.5	209.0	10	16
CYC B SEC AIR FLOW %	08-170	292.1	305.8	308.6	313.9	304.5	219.7	226.2	207.9	10	17
CYC C SEC AIR FLOW %	10-170	292.0	270.1	282.5	287.8	283.3	203.7	201.2	208.6	10	18
CYC A SEC AIR T	20-002	544.0	526.2	617.8	644.3	547.1	489.5	516.7	521.8	11	1
CYC B SEC AIR T	20-003	594.5	566.0	610.8	638.9	565.7	549.2	560.5	585.2	11	2
CYC C SEC AIR T	20-004	539.7	513.4	540.4	563.9	522.5	501.2	503.1	536.3	11	3
PULV COAL FLOW KLB	06-314	.09	.08	.07	.07	.06	24.57	24.58	26.11	10	4
PULV PA FLOW	06-275	6.64	6.53	0.00	.92	0.00	52.98	53.98	55.52	10	19
PULV INLET T	09-034	197.2	171.9	103.9	112.3	98.0	486.0	481.5	551.6	11	7
PULV OUTLET T	09-040	108.6	75.1	106.3	104.4	99.5	143.3	148.3	174.8	11	8

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	-.06	-.05	-.02	-.01	-.08	12.49	11.20	14.52	11	9
PULV AMPS	06-276	0.0	0.0	.1	0.0	.1	240.5	246.1	276.3	11	10
PULV PA FAN AMPS	06-277	.05	-.10	-.15	0.00	-.09	56.98	56.78	85.65	11	11

TEST NO.	BS1	BS2	4	4A	4AA	26T	27T	21A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92
TIME START	1458	1005	0902	1205	0928	1057	1407	1005
TIME END	1714	1335	1131	1401	0945	1303	1706	1217
LOAD MW	110	110	110	111	110	110	110	110

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

ROT CLASS AMPS	06-278	1.49	1.85	.03	0.00	21.74	40.16	38.67	48.60	11	12
ROT CLASS RPM	06-270	59.6	4.3	-.2	-.2	66.7	139.6	139.8	159.5	11	13
ROT CLASS DP IN WG	06-345	-.0148	-.0080	-.0189	-.0189	.1775	.3659	.3283	.5371	11	14
COAL SILO LEVEL	06-310	0.00	0.00	12.09	11.83	58.28	80.83	41.77	35.25	11	15
FLAME INTENSITY #1 %	06-279	4.9	7.4	3.4	2.6	3.0	106.2	106.1	106.1	11	16
FLAME INTENSITY #2 %	06-295	16.0	6.9	3.4	3.5	3.5	105.4	105.7	105.9	11	17
FLAME INTENSITY #3 %	06-296	12.9	4.6	3.5	3.0	3.4	106.2	106.2	106.2	11	18
FLAME INTENSITY #4 %	06-297	4.9	3.8	5.4	4.2	4.3	105.8	105.6	106.1	11	19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	26.86	14.50	16.34	23.03	24.17	-5.00	-3.57	8.57	12	1
SH SP VLV POS R	13-190	47.93	46.93	59.98	68.71	73.10	0.00	0.00	15.02	12	3
SH SP VLV POS L	13-191	50.45	50.28	55.81	66.04	65.78	0.00	31.68	27.42	12	4
GR DMPR DEMAND	16-044	-5.0000	-2.3015	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12	9
RECIRC AIR DMPR POS	12-176	27.91	32.09	0.00	0.00	0.00	.08	71.96	0.00	12	13
SH PASS DMPR POS	14-180	100.0	100.0	99.3	99.9	100.0	62.7	100.0	42.1	12	15
RH PASS DMPR POS	14-180	48.5	75.1	76.0	72.3	57.8	100.0	58.4	100.0	12	16
OVRFIRE AIR DMPR POS	06-115	10.07	10.07	15.67	15.67	5.00	37.09	50.04	43.12	12	17
BRN SEC AIR DMPR POS	06-286	10.21	10.17	15.06	15.06	16.23	25.04	13.03	38.26	12	18
HOT PRI AIR DMPR POS	06-556	-.1	-.1	0.0	0.0	0.0	100.0	100.0	100.0	12	19
BRN GAS REC DMPR POS	06-324	-0.00	-5.00	0.00	0.00	0.00	0.00	35.01	0.00	12	20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	660.6	-497.0	-627.4	-658.5	-451.1	-427.0	-420.4	-410.4	15	1
GAS LVG SH PASS 1B	08-004	675.5	665.7	765.6	804.4	659.4	625.7	656.2	648.4	15	2
GAS LVG SH PASS 1C	08-005	0.0	661.6	807.5	846.7	676.9	644.7	685.5	661.0	15	3
GAS LVG SH PASS 1D	08-006	714.5	703.0	785.5	825.8	709.5	662.6	690.6	692.6	15	4
GAS LVG SH PASS 2A	08-017	635.1	621.2	704.8	739.6	623.8	586.5	599.4	604.7	15	5
GAS LVG SH PASS 2B	08-018	658.4	632.5	725.2	760.5	635.5	592.9	608.6	617.3	15	6
GAS LVG SH PASS 2C	08-019	677.0	633.0	712.1	749.2	640.3	590.9	615.3	621.2	15	7
GAS LVG SH PASS 2D	08-020	659.1	671.8	750.0	786.5	677.7	637.6	657.2	663.9	15	8
GAS LVG SH PASS 3A	08-021	644.3	654.5	742.4	779.9	660.4	612.6	620.8	633.1	15	9
GAS LVG SH PASS 3B	08-022	664.2	655.8	731.7	768.7	669.9	613.0	642.4	649.4	15	10
GAS LVG SH PASS 3C	08-023	662.9	634.5	716.0	754.7	652.7	604.8	616.7	638.2	15	11
GAS LVG SH PASS 3D	08-024	663.9	-584.2	-650.1	-681.2	-582.2	-543.0	-541.6	-553.6	15	12
GAS LVG RH PASS 4A	08-033	-502.4	640.4	643.7	674.9	632.1	609.7	617.0	635.9	15	13
GAS LVG RH PASS 4B	08-034	695.1	651.2	656.9	688.7	642.0	626.1	636.0	659.9	15	14
GAS LVG RH PASS 4C	08-035	709.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	15
GAS LVG RH PASS 4D	08-036	738.1	680.0	699.7	736.6	682.1	660.9	686.8	710.1	15	16
GAS LVG RH PASS 5A	08-049	639.9	624.2	629.8	658.3	623.5	594.4	601.4	625.8	15	17
GAS LVG RH PASS 5B	08-050	657.1	637.3	645.5	676.4	630.3	612.3	620.4	643.7	15	18

TEST NO.		BS1	BS2	4	4A	4AA	26T	27T	21A
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		11/21/91	11/25/91	04/03/92	04/03/92	04/29/92	02/21/91	02/21/91	05/01/92
TIME START		1458	1005	0902	1205	0928	1057	1407	1005
TIME END		1714	1335	1131	1401	0945	1303	1706	1217
LOAD MW		110	110	110	111	110	110	110	110

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	5C	08-051	661.2	646.3	659.6	694.4	641.7	629.6	645.0	659.8	15 19
GAS LVG RH PASS	5D	08-052	703.0	632.2	656.7	687.8	635.0	619.4	638.7	659.2	15 20
GAS LVG RH PASS	6A	08-053	666.7	635.2	638.4	668.2	631.8	608.2	614.4	638.1	15 21
GAS LVG RH PASS	6B	08-054	680.2	649.9	656.1	688.1	648.0	628.3	639.2	664.2	15 22
GAS LVG RH PASS	6C	08-055	656.2	644.9	659.1	689.6	641.6	624.8	630.2	658.1	15 23
GAS LVG RH PASS	6D	08-056	-574.6	647.2	671.2	701.8	657.9	629.9	638.7	673.1	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			2.00	3.00	60.00	61.00	88.00	4.00	5.00	92.00	15 28

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TEST NO.	2	2A	2AA	3	3A	3AA	3B	6	6A
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92
TIME START	0741	1912	1040	0735	1158	1133	1503	0825	1057
TIME END	0752	2117	1123	0837	1400	1204	1659	0835	1302
LOAD MW	109	110	110	110	110	110	110	110	110
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

2 SINGLE SCAN : 110 MW : PRE-REBURN BASE
2A AVG SCANS 68-->79 : 110 MW : 13 TPH : 140 RPB : HIGH STOIC
2AA AVG SCANS 14-->17: REPEAT 2A : 13 TPH : HIGH STOIC : 140 RPM
3 SINGLE SCAN : 110 MW : PRE-REBURN BASE
3A AVG SCANS 19-->29 : 110 MW : 13 TPH : 140 RPM : MED STOIC
3AA AVG SCANS 19-->21: REPEAT 3A : 13 TPH : MED STOIC : 140 RPM
3B AVG SCANS 36-->46 : 110 MW : 13 TPH : MED STOIC : HIGH OFA
6 SINGLE SCAN : 110 MW : PRE-REBURN BASE
6A AVG SCANS 18-->29 : 110 MW : 13 TPH : 140 RPM : LOW STOIC

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	109.4	109.6	109.6	110.0	110.3	110.0	109.8	109.8	110.2	2	1
MAIN STEAM FLOW	03-033	785.3	788.6	775.1	793.2	799.6	775.0	794.2	793.0	780.6	2	2
1ST STG STM FLW	CALC	756.5	759.3	770.4	764.0	770.3	771.1	764.7	764.1	771.9	2	23
FW FLOW	12-170	773.2	772.3	778.8	785.6	778.3	784.1	774.0	780.5	780.6	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	9.82	9.65	0.00	21.94	0.00	0.00	3.48	15.51	0.00	2	5
SH SPRAY FLOW L	17-052	27.26	13.89	0.00	17.71	3.72	0.00	3.38	29.40	13.03	2	7
SH SPRAY FLOW R	17-056	27.39	9.25	0.00	21.61	0.00	0.00	1.99	34.75	11.28	2	8
GR FAN AMPS A	16-181	.08	21.92	.08	.08	22.14	.08	21.99	.08	22.71	2	12
GR FAN AMPS B	16-183	-.02	-.02	27.88	-.02	-.02	26.65	-.02	-.02	-.02	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	0.0	52.9	100.6	0.0	50.9	88.7	51.5	0.0	58.6	2	24
GR TO SEC AIR	06-932	-80.5	-151.8	2.8	-50.7	-11.1	2.3	-73.1	-78.6	-85.9	2	25
GR TO SEC AIR	CALC	0.0000	0.0000	2.4542	0.0000	0.0000	2.0270	4.5044	0.0000	9.1005	2	26
GR TO FURN	CALC	0.00	52.89	98.19	0.00	50.88	86.69	46.97	0.00	49.50	2	27
OFA AIR FLOW	06-931	33.9	202.0	204.1	34.4	209.9	215.8	249.5	25.5	245.2	2	28
TMP AIR FLOW	CALC	92.9	78.5	41.1	116.9	55.2	55.5	108.2	80.9	66.4	14	10
SEC AIR FLOW	06-320	28.49	47.72	47.34	28.54	36.97	36.65	36.79	27.96	27.48	2	29
1st STG PRESS	18-128	1052.1	1056.1	1071.9	1062.9	1071.8	1073.0	1063.8	1063.0	1074.1	2	19
OIL FLOW 2A	05-100	.0017	.0018	.0017	.0017	.0017	.0017	.0017	.0017	.0017	2	20
OIL FLOW 2B	07-100	.0017	.0017	.0017	.0017	.0017	.0017	.0017	.0017	.0017	2	21
OIL FLOW 2C	09-100	.0019	.0016	.0016	.0016	.0016	.0016	.0016	.0033	.0032	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.0979	1.0394	1.0883	1.0639	1.0533	1.0549	1.0397	1.1122	1.0515	4	20
REBRN WB STOIC	CALC	100.0	.5	.5	100.0	.4	.4	.4	100.0	.4	4	21
REBRN STOIC	CALC	1.1810	.8945	.8889	1.1746	.8670	.8604	.8713	1.1907	.8347	4	22
LVG FURN STOIC	CALC	1.2231	1.1478	1.1511	1.2166	1.1333	1.1356	1.1864	1.2221	1.1458	4	23

TEST NO.			2	2A	2AA	3	3A	3AA	3B	6	6A	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92	
TIME START			0741	1912	1040	0735	1158	1133	1503	0825	1057	
TIME END			0752	2117	1123	0837	1400	1204	1659	0835	1302	
LOAD MW			109	110	110	110	110	110	110	110	110	
DATA PAGE NO. 2	**FLOWS MLB/HR (MT/HR)**											
LVG ECON STOIC		CALC	1.2327	1.1572	1.1608	1.2263	1.1429	1.1454	1.1959	1.2319	1.1554	4 24
DATA PAGE NO. 3	**FLUID TEMPERATURES F (C) - PLANT**											
SSH OUT T	L	15-152	996.2	997.7	989.2	995.5	998.1	1001.8	998.0	992.2	999.2	3 1
SSH OUT T	R	15-150	996.1	999.0	998.2	996.0	999.1	999.3	999.3	995.4	998.8	3 2
SSH OUT AVE T		13-160	998.2	1000.5	996.6	996.0	1001.3	1003.5	999.9	993.6	1000.9	14 1
LVG SH ATTMP T	L	13-164	686.7	726.4	742.8	729.1	744.2	743.4	754.3	690.1	718.2	3 8
LVG SH ATTMP T	R	13-162	698.0	754.2	759.8	722.3	773.6	755.0	776.7	680.8	741.7	3 9
PRI SH OUT T	L	HW	786.5	772.0	739.5	792.4	755.8	739.9	764.4	799.7	761.8	3 10
PRI SH OUT T	R	HW	798.5	790.6	765.6	802.1	775.1	768.2	789.4	807.0	786.5	3 11
ECON H2O OUT T	L	HW	511.8	506.4	507.3	511.0	506.9	508.9	506.8	515.6	510.2	3 27
ECON H2O OUT T	R	HW	499.5	499.9	508.5	499.3	494.9	510.0	498.8	501.4	497.9	3 28
ECON H2O IN T		20-007	459.6	459.0	456.6	460.6	458.6	457.7	458.3	461.7	459.9	3 5
RH SPRAY H2O T		HW	315.2	313.7	316.0	315.7	316.3	317.3	315.4	317.5	318.4	3 7
LVG RH T		14-150	992.5	999.8	998.2	987.0	1000.5	995.7	1002.6	997.7	1006.5	3 12
ENT RH T		CALC	686.5	685.9	728.2	597.9	710.8	717.2	705.4	652.9	711.6	3 16
COLD RH T		20-006	740.8	743.5	738.0	742.9	745.1	746.5	743.6	744.0	746.6	3 18
DATA PAGE NO. 4	**FLUID TEMPERATURES F (C) - B&W**											
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

TEST NO.		2	2A	2AA	3	3A	3AA	3B	6	6A		
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17		
DATE		04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92		
TIME START		0741	1912	1040	0735	1158	1133	1503	0825	1057		
TIME END		0752	2117	1123	0837	1400	1204	1659	0835	1302		
LOAD MW		109	110	110	110	110	110	110	110	110		
DATA PAGE NO. 5	**FLUID PRESSURES PSIG (KG/CM2)**											
TURB THROT P	03-170	1450.1	1450.0	1451.7	1452.1	1449.9	1450.7	1449.8	1450.1	1449.4	5	1
SEC SH OUT P	CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5	2
DRUM PRESS	04-013	1594.9	1598.8	1609.4	1600.3	1603.5	1607.9	1601.0	1596.4	1601.2	5	3
LVG RH PRESS	15-102	424.5	424.7	423.3	430.4	426.1	425.9	424.1	431.3	428.9	5	4
ENT RH PRESS	15-100	451.5	453.5	452.1	458.7	454.9	455.1	452.6	458.3	456.6	5	5
FW HTR E EXT P	20-035	433.9	433.9	432.0	439.4	434.8	434.8	432.9	440.7	437.8	5	6
FW HTR E EXT P	TRANS	436.2	436.1	434.4	442.0	437.2	437.0	435.3	443.3	440.6	5	7
SEC SH OUT P (T)	TRANS	1494.7	1495.0	1496.8	1495.9	1495.4	1497.7	1495.0	1493.9	1494.9	5	17
DRUM PRESS (T)	TRANS	1585.5	1590.8	1599.4	1590.8	1596.2	1599.5	1594.3	1586.4	1593.6	5	18
LVG RH-1 P (T)	TRANS	428.3	428.8	428.1	434.5	431.0	430.5	429.0	435.5	433.6	5	19
ENT RH-1 P (T)	TRANS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5	20
DATA PAGE NO. 6	**AIR & GAS DATA - PLANT**											
AMBIENT AIR DB TEMP	TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	1
AIR ENT FD FAN T	HW	0.0	0.0	106.4	0.0	0.0	105.4	0.0	93.3	93.7	6	4
AIR LVG FD FAN T A	09-028	118.6	125.2	134.6	124.8	127.0	133.9	128.5	123.2	127.5	7	2
AIR LVG FD FAN T B	09-029	119.4	125.4	138.8	123.5	127.6	138.0	128.3	122.9	128.5	7	3
AIR ENT AH T RA	20-017	122.2	128.1	140.7	126.5	130.2	140.4	131.0	125.3	131.1	6	2
AIR ENT AH T RB	20-018	122.6	128.3	141.5	126.0	130.1	140.9	131.0	125.5	131.1	6	3
AIR ENT AH T LA	20-025	121.9	128.0	138.1	127.4	129.8	137.5	131.2	125.8	130.4	13	25
AIR ENT AH T LB	20-029	122.6	128.8	138.3	128.6	130.8	137.9	132.3	126.6	131.1	13	26
AIR LVG AH T R	HW	662.1	701.3	597.1	655.5	662.9	622.7	684.3	677.2	683.8	6	6
AIR LVG AH T L	HW	570.6	601.0	565.4	562.8	582.9	570.7	583.9	568.5	592.0	6	7
BRN SEC AIR T	08-002	578.0	626.8	544.4	576.9	594.4	548.4	612.8	587.5	607.0	14	2
BRN SA/GR T	08-001	535.6	607.9	524.1	539.4	569.7	524.3	588.0	544.2	571.6	14	3
OFA TEMP	09-002	221.6	572.6	523.6	264.7	547.0	530.9	560.8	201.5	559.8	14	4
GAS LVG AH T RA	20-019	331.7	349.6	324.7	341.1	333.4	323.5	341.5	344.0	346.8	6	10
GAS LVG AH T RB	20-020	303.0	324.1	306.4	312.2	310.4	305.8	315.2	316.6	324.9	6	11
GAS LVG AH T LA	20-027	280.8	294.1	294.4	286.0	286.4	293.4	289.1	286.5	294.2	13	27
GAS LVG AH T LB	20-024	286.7	301.7	299.3	292.8	290.2	298.5	294.1	295.1	299.9	13	28
GAS LVG RH PS T	AVE	652.4	679.1	645.8	637.9	655.4	649.8	657.6	658.3	670.1	13	17
GAS LVG SH PS T	AVE	730.1	769.4	654.8	717.5	723.2	658.2	750.1	756.5	752.2	13	19
GR GAS TEMP A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14	8
GR GAS TEMP B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14	9
O2 LVG ECON R	11-172	4.0795	2.5579	2.7029	3.7875	1.9215	2.4037	3.3819	3.4492	2.8903	6	20
O2 LVG ECON L	11-170	2.6933	2.1353	2.1363	3.2255	2.1888	1.9149	2.6220	3.5583	2.0032	6	21
O2 IN SEC AIR	06-254	0.00	0.00	19.95	20.70	0.00	19.88	18.66	0.00	16.40	13	29
ACCUREX NOX PPM	06-553	-4.6	291.6	290.5	618.6	288.3	267.8	279.1	-3.0	275.7	13	9
ACCUREX SOX PPM	06-555	1552.3	871.4	1142.7	831.3	1303.4	1062.6	1231.9	1717.0	1227.1	13	10
ACCUREX CO PPM	06-425	773.9	58.7	29.0	283.9	18.5	33.4	32.2	682.0	122.0	13	11
ACCUREX O2 %	06-554	13.07	7.42	3.46	.01	2.21	3.32	3.35	9.80	2.59	13	12
BRN SEC AIR P IN WG	06-250	21.43	22.12	22.61	19.75	18.34	20.25	19.91	21.80	19.58	14	5
BRN GAS REC P IN WG	06-252	21.28	21.49	22.25	19.48	18.10	20.18	19.73	21.55	19.66	14	6

TEST NO.	2	2A	2AA	3	3A	3AA	3B	6	6A	
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17	
DATE	04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92	
TIME START	0741	1912	1040	0735	1158	1133	1503	0825	1057	
TIME END	0752	2117	1123	0837	1400	1204	1659	0835	1302	
LOAD MW	109	110	110	110	110	110	110	110	110	

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

FURNACE GAS P	IN WG	08-100	21.53	18.55	19.70	19.46	17.01	19.15	18.47	21.59	18.53	14 7
BAROMETRIC P	IN HG	PB	0.00	0.00	29.10	0.00	0.00	29.11	0.00	29.23	29.24	6 29
REL HUMIDITY	%	TST	0.0000	0.0000	7.6101	0.0000	0.0000	7.5998	0.0000	7.8155	7.7217	6 30

DATA PAGE NO. 7 AIR & GAS DATA - B&W

AMBIENT AIR TEMP		TC	33.44	34.78	64.07	32.19	42.34	66.73	44.70	49.25	57.29	7 1
AIR LVG FD FAN T	A	TC	122.3	128.7	138.2	128.4	130.2	137.5	131.8	126.6	130.7	7 6
AIR LVG FD FAN T	B	TC	122.3	128.2	142.0	126.3	130.2	141.2	130.9	125.8	131.1	7 7
AIR ENT AH	(T)	GRID	123.4	129.4	141.1	128.5	131.2	140.5	132.3	127.0	131.9	7 4
GAS LVG AH	(T)	GRID	292.8	308.4	296.7	298.6	295.5	296.4	300.8	302.2	306.4	7 10
GAS LVG ECON	(T) L	GRID	704.9	739.7	662.9	675.3	709.9	654.3	723.5	653.9	670.2	7 14
GAS LVG ECON	(T) R	GRID	739.5	776.4	663.3	681.8	725.0	659.4	751.5	755.8	750.7	7 15
GAS TEMP LVG GR FAN		GRID	0.0	0.0	428.8	0.0	0.0	504.7	0.0	192.9	573.2	13 7
O2 LVG ECON	(T) L	GRID	3.9743	3.1618	2.9270	4.0267	3.0088	2.7114	3.6524	4.4669	2.9735	7 20
O2 LVG ECON	(T) R	GRID	4.1644	2.7617	3.0280	3.9006	2.4492	2.7490	3.4318	3.5640	2.8399	7 21
CO LVG ECON	(T) L	GRID	92.4	159.3	70.9	96.8	138.9	76.5	125.1	40.2	97.1	13 5
CO LVG ECON	(T) R	GRID	137.9	229.0	59.9	82.5	93.9	65.0	149.9	119.6	117.3	13 6
CO2 LVG ECON	(T) L	GRID	15.16	15.75	15.46	15.31	15.77	15.56	14.87	14.76	15.85	7 22
CO2 LVG ECON	(T) R	GRID	14.66	16.27	14.92	15.05	15.83	15.06	14.77	15.16	15.58	7 23
NOX LVG ECON	(T) L	GRID	563.5	308.5	333.8	535.0	282.2	304.1	294.8	578.9	262.9	7 24
NOX LVG ECON	(T) R	GRID	451.6	333.0	0.0	549.0	306.5	0.0	326.1	570.2	280.4	7 25
O2 LVG AH	(T)	GRID	5.1200	4.1200	3.7400	5.0000	3.9000	3.5500	4.7300	5.3000	4.2100	13 1
CO2 LVG AH	(T)	GRID	231.3	1571.1	23.3	275.1	1856.2	24.9	2872.2	34.1	117.2	13 3
O2 LVG GR FAN	(T)	GRID	5.8825	3.5809	0.0000	7.0633	4.0311	0.0000	5.5542	0.0000	8.4172	13 4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27

DATA PAGE NO. 8 FW HTR TEMPERATURES F (C) - PLANT

FW HTR E EXT T		HW	738.1	739.2	736.9	740.2	743.1	746.3	740.9	742.2	745.2	8 1
FW HTR E LVG T		HW	457.0	456.9	456.5	458.3	457.6	458.0	456.6	460.5	459.5	8 5
FW HTR E ENT T		HW	382.8	380.5	381.7	383.8	383.4	383.4	382.2	386.3	387.6	8 7
FW HTR E DRN T		HW	401.7	399.3	401.7	403.7	402.6	402.9	401.7	408.1	407.1	8 13

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG	1	10-017	840.9	847.3	848.6	848.0	854.8	845.7	852.9	829.6	841.6	9 17
SSH PEND IN LEG	2	10-018	860.1	865.8	871.8	863.1	870.8	869.6	871.4	844.4	863.4	9 18
SSH PEND IN LEG	3	10-019	859.1	872.2	883.1	863.1	876.4	881.8	880.7	843.6	872.7	9 19
SSH PEND IN LEG	4	10-020	868.7	887.1	898.1	870.6	892.9	898.8	895.9	849.8	889.0	9 20
SSH PEND IN LEG	5	10-021	857.9	876.9	885.5	858.3	890.6	888.5	886.9	836.9	880.4	9 21

TEST NO.		2	2A	2AA	3	3A	3AA	3B	6	6A	
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17	
DATE		04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92	
TIME START		0741	1912	1040	0735	1158	1133	1503	0825	1057	
TIME END		0752	2117	1123	0837	1400	1204	1659	0835	1302	
LOAD MW		109	110	110	110	110	110	110	110	110	
DATA PAGE NO. 9	FW HTR TEMPERATURES F (C) - B&W										
SSH PEND IN LEG 6	10-033	864.5	882.1	893.7	871.6	899.2	900.8	893.9	853.6	885.9	9 22
SSH PEND IN LEG 7	10-034	858.5	871.7	882.8	875.2	888.5	893.3	885.0	861.1	872.4	9 23
SSH PEND IN LEG 8	10-035	850.6	868.1	873.5	866.8	880.6	883.2	880.2	850.5	864.4	9 24
SSH PEND IN LEG 9	10-036	854.8	871.2	874.3	868.5	877.8	882.2	882.0	853.8	868.7	9 25
SSH PEND IN LEG 10	10-037	839.7	849.2	849.1	855.4	851.5	853.2	861.4	835.9	847.5	9 26
RH PEND IN LEG 1	09-049	926.8	940.4	944.4	926.1	946.3	940.9	945.6	932.2	946.5	8 17
RH PEND IN LEG 2	09-050	916.0	930.7	940.0	917.6	941.9	936.3	937.3	921.5	938.2	8 18
RH PEND IN LEG 3	09-051	919.2	933.2	939.3	919.2	941.0	936.0	938.9	924.6	939.6	8 19
RH PEND IN LEG 4	09-052	916.7	930.6	938.9	916.7	940.2	935.1	936.9	921.5	937.8	8 20
RH PEND IN LEG 5	09-053	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8 21
RH PEND IN LEG 6	10-001	945.1	959.5	959.2	944.4	961.3	955.6	961.8	949.9	963.1	8 22
RH PEND IN LEG 7	10-002	919.1	933.7	933.3	910.6	934.1	929.7	932.9	919.7	934.9	8 23
RH PEND IN LEG 8	10-003	926.4	940.6	936.6	912.5	936.7	931.6	940.0	922.5	941.8	8 24
RH PEND IN LEG 9	10-004	926.2	939.8	944.5	924.2	945.9	940.5	944.9	930.0	946.0	8 25
RH PEND IN LEG 10	10-005	900.7	897.9	894.8	886.5	895.9	888.9	918.4	892.2	916.2	8 26
RH INTM HND HOLE R	10-038	924.3	939.5	940.1	928.4	944.9	940.4	945.0	935.0	945.5	8 27
RH INTM HND HOLE L	10-039	851.3	842.9	848.1	840.9	846.7	844.4	856.2	849.7	857.3	8 28
PSH OUT LEG T	09-017	801.2	792.5	759.4	807.6	773.1	760.9	786.6	812.9	780.8	14 11
PSH OUT LEG T	09-018	812.1	802.4	770.5	818.9	781.1	772.8	799.3	825.5	793.0	14 12
PSH OUT LEG T	09-019	790.6	759.4	721.6	800.6	740.0	722.3	748.3	809.0	745.5	14 13
PSH OUT LEG T	09-020	796.1	776.6	736.7	803.7	757.0	737.0	764.1	813.0	761.9	14 14
PSH OUT LEG T	09-021	782.9	779.1	745.6	790.2	762.1	746.4	770.4	794.5	766.6	14 15
PSH OUT LEG T	09-022	789.6	785.6	753.6	796.2	766.3	754.6	778.8	799.3	773.6	14 16
PSH OUT LEG T	09-023	794.6	781.1	750.2	800.9	759.7	751.1	778.1	806.8	772.2	14 17
PSH OUT LEG T	09-024	810.7	808.8	776.1	816.9	786.0	778.3	803.1	821.0	798.1	14 18
PSH OUT LEG T	09-025	793.8	789.2	756.9	801.2	768.2	759.6	785.2	805.1	779.8	14 19
PSH OUT LEG T	09-026	796.1	791.1	768.2	801.4	778.7	771.1	790.2	804.5	786.8	14 20
PSH OUT LEG T	09-027	805.1	804.1	781.5	810.3	791.5	784.4	801.5	813.7	799.9	14 21
DATA PAGE NO. 10	PULVERIZER COAL AND PA FLOW										
CYC A COAL FLOW KLB	05-104	30.29	22.00	22.61	30.58	21.87	21.63	21.64	30.99	22.72	10 1
CYC B COAL FLOW KLB	07-110	30.29	21.97	22.57	30.59	21.89	21.59	21.65	30.94	22.69	10 2
CYC C COAL FLOW KLB	09-110	30.31	22.01	22.60	30.60	21.88	21.62	21.64	31.00	22.73	10 3
CYC A SEC AIR FLOW %	06-170	301.7	205.4	210.7	288.6	209.1	206.9	205.0	290.9	199.9	10 16
CYC B SEC AIR FLOW %	08-170	305.1	202.7	210.4	291.4	197.1	205.8	198.7	294.6	209.0	10 17
CYC C SEC AIR FLOW %	10-170	278.3	199.4	199.5	291.6	202.8	195.0	200.3	315.6	202.1	10 18
CYC A SEC AIR T	20-002	608.9	637.2	540.1	600.0	597.7	543.2	613.5	622.8	616.4	11 1
CYC B SEC AIR T	20-003	600.7	648.8	573.4	600.4	617.2	578.0	631.0	616.8	628.5	11 2
CYC C SEC AIR T	20-004	535.2	562.4	523.4	531.1	542.4	527.1	545.0	535.2	550.7	11 3
PULV COAL FLOW KLB	06-314	.05	26.25	26.30	.05	26.33	26.32	26.43	.05	26.22	10 4
PULV PA FLOW	06-275	0.00	54.34	55.95	0.00	54.20	55.97	54.29	0.00	53.51	10 19
PULV INLET T	09-034	96.6	594.0	523.8	98.1	565.8	538.1	576.0	104.9	570.4	11 7
PULV OUTLET T	09-040	71.9	176.7	139.3	113.5	170.9	153.6	173.8	110.0	183.0	11 8

TEST NO.		2	2A	2AA	3	3A	3AA	3B	6	6A		
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17		
DATE		04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92		
TIME START		0741	1912	1040	0735	1158	1133	1503	0825	1057		
TIME END		0752	2117	1123	0837	1400	1204	1659	0835	1302		
LOAD MW		109	110	110	110	110	110	110	110	110		
DATA PAGE NO. 11	**PULVERIZER INLET TEMP AND PA DIFF**											
PULV DIFF P IN WG	06-274	-.01	11.35	14.06	-.14	11.47	14.42	11.73	-.12	11.60	11	9
PULV AMPS	06-276	.1	241.2	255.7	-.1	240.1	273.6	242.6	-.1	233.7	11	10
PULV PA FAN AMPS	06-277	.06	75.11	82.57	-.06	74.63	84.96	74.64	.02	72.87	11	11
ROT CLASS AMPS	06-278	5.48	42.36	48.16	43.87	41.98	48.11	41.24	43.48	41.57	11	12
ROT CLASS RPM	06-270	.1	140.7	158.6	141.0	139.8	158.3	139.8	140.2	138.6	11	13
ROT CLASS DP IN WG	06-345	-.0149	.3544	.5490	.3153	.3653	.5425	.3622	.3106	.3608	11	14
COAL SILO LEVEL	06-310	83.25	34.88	94.18	94.78	51.59	89.57	26.06	93.81	58.10	11	15
FLAME INTENSITY #1 %	06-279	2.1	106.1	106.1	2.6	106.1	106.1	106.1	2.3	106.0	11	16
FLAME INTENSITY #2 %	06-295	2.4	105.8	105.9	3.2	105.6	105.9	105.6	3.3	105.3	11	17
FLAME INTENSITY #3 %	06-296	2.9	106.1	0.0	3.6	106.1	0.0	106.1	2.3	105.7	11	18
FLAME INTENSITY #4 %	06-297	3.6	106.0	106.2	5.3	105.9	106.1	105.7	4.2	105.6	11	19
DATA PAGE NO. 12	**OPERATOR POSITIONS %**											
RH SP VLV POS	15-077	20.67	20.81	-2.97	35.31	10.93	9.20	12.01	29.09	11.65	12	1
SH SP VLV POS R	13-190	75.94	38.49	26.88	59.35	24.31	28.76	28.77	91.88	40.25	12	3
SH SP VLV POS L	13-191	76.90	46.34	0.00	52.09	32.29	0.00	32.16	78.16	43.70	12	4
GR DMPR DEMAND	16-044	-5.0000	-5.0000	-5.0000	1.6000	1.6000	-5.0000	1.6000	-5.0000	-5.0000	12	9
RECIRC AIR DMPR POS	12-176	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12	13
SH PASS DMPR POS	14-180	100.0	100.0	77.6	63.1	52.3	63.5	100.0	100.0	99.7	12	15
RH PASS DMPR POS	14-180	54.4	49.3	100.0	100.0	100.0	100.0	60.6	86.3	66.5	12	16
OVRFIRE AIR DMPR POS	06-115	15.41	52.45	44.49	15.41	53.08	46.67	65.84	15.45	64.31	12	17
BRN SEC AIR DMPR POS	06-286	15.08	34.43	31.55	15.02	24.53	22.76	25.36	15.07	15.96	12	18
HOT PRI AIR DMPR POS	06-556	0.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	82.8	12	19
BRN GAS REC DMPR POS	06-324	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.26	12	20
DATA PAGE NO. 15	**MISCELLANEOUS**											
GAS LVG SH PASS 1A	08-003	-577.0	-571.3	-427.3	-539.9	-508.9	-412.3	-530.7	-608.8	-566.3	15	1
GAS LVG SH PASS 1B	08-004	745.1	789.9	666.0	726.0	747.2	665.2	778.3	767.5	775.8	15	2
GAS LVG SH PASS 1C	08-005	776.6	847.7	675.7	768.0	792.6	677.4	827.3	809.9	824.9	15	3
GAS LVG SH PASS 1D	08-006	771.1	825.8	708.0	763.0	774.1	714.5	816.3	802.2	810.6	15	4
GAS LVG SH PASS 2A	08-017	693.3	709.1	611.3	677.2	673.1	613.7	686.7	712.9	692.0	15	5
GAS LVG SH PASS 2B	08-018	716.7	743.3	627.0	693.9	696.3	630.9	720.3	734.9	724.1	15	6
GAS LVG SH PASS 2C	08-019	700.3	745.2	634.7	684.3	690.9	638.3	719.2	728.4	726.9	15	7
GAS LVG SH PASS 2D	08-020	737.1	785.9	673.7	735.2	746.9	677.9	767.2	769.5	771.6	15	8
GAS LVG SH PASS 3A	08-021	723.1	752.9	641.2	715.1	697.9	643.8	725.7	752.0	727.4	15	9
GAS LVG SH PASS 3B	08-022	721.6	750.7	660.4	708.0	703.6	665.8	730.5	744.1	732.8	15	10
GAS LVG SH PASS 3C	08-023	715.9	743.1	650.4	703.9	709.1	654.8	729.6	743.3	736.4	15	11
GAS LVG SH PASS 3D	08-024	-627.2	-645.9	-566.7	-616.3	-609.6	-576.6	-620.2	-663.5	-644.7	15	12
GAS LVG RH PASS 4A	08-033	647.6	664.2	631.9	633.5	644.2	634.9	645.9	647.2	661.9	15	13
GAS LVG RH PASS 4B	08-034	657.9	689.8	648.4	637.7	657.8	653.1	659.3	657.3	675.5	15	14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	15

TEST NO.	2	2A	2AA	3	3A	3AA	3B	6	6A
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	04/01/92	04/01/92	04/29/92	04/02/92	04/02/92	04/29/92	04/02/92	04/07/92	04/07/92
TIME START	0741	1912	1040	0735	1158	1133	1503	0825	1057
TIME END	0752	2117	1123	0837	1400	1204	1659	0835	1302
LOAD MW	109	110	-110	110	110	110	110	110	110

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS 4D	08-036	683.5	745.0	690.3	669.4	710.4	695.4	717.3	691.3	715.3	15 16
GAS LVG RH PASS 5A	08-049	627.6	635.7	621.7	613.5	619.4	623.2	625.9	634.1	645.6	15 17
GAS LVG RH PASS 5B	08-050	641.4	664.3	635.9	626.3	638.6	639.2	640.0	647.5	659.3	15 18
GAS LVG RH PASS 5C	08-051	652.5	693.1	645.3	635.6	662.3	650.2	660.3	658.3	673.6	15 19
GAS LVG RH PASS 5D	08-052	646.1	685.7	640.7	631.8	659.6	645.6	666.7	655.2	666.2	15 20
GAS LVG RH PASS 6A	08-053	640.0	649.6	629.3	623.8	632.2	631.1	635.9	645.5	651.3	15 21
GAS LVG RH PASS 6B	08-054	658.9	680.1	654.6	646.7	660.2	659.2	660.0	667.9	676.5	15 22
GAS LVG RH PASS 6C	08-055	652.7	679.1	645.7	637.6	652.4	650.0	651.7	662.5	666.8	15 23
GAS LVG RH PASS 6D	08-056	668.7	682.9	659.9	660.9	672.6	665.8	669.9	674.8	678.9	15 24
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W		55.00	56.00	89.00	57.00	58.00	90.00	59.00	64.00	65.00	15 28

RB-369 16 Jun 1992 13:54:47

TEST NO.	8	8A	7	7A	9	9A	10	10A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92
TIME START	0804	1100	0820	1128	0759	1029	0827	1031
TIME END	0814	1247	0830	1330	0810	1331	0838	1256
LOAD MW	110	110	109	110	110	110	110	110
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR
ALPHA1								
ALPHA2								

8 SINGLE SCAN : 110 MW : PRE-REBURN BASE
8A AVG SCANS 21-->31 : 110 MW : 13 TPH : 160 RPM : MED STOIC
7 SINGLE SCAN : 110 MW : PRE-REBURN BASE
7A AVG SCANS 18-->28 : 110 MW : 13 TPH : 160 RPM : LOW STOIC
9 SINGLE SCAN : 110 MW : PRE-REBURN BASE
9A AVG SCANS 5 -->14 : 110 MW : 13 TPH : 100 RPM : MED STOIC
10 SINGLE SCAN : 110 MW : PRE-REBURN BASE
10A AVG SCANS 18-->31 : 110 MW : 13 TPH : 100 RPM : LOW STOIC

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	109.6	109.8	109.3	110.3	110.4	110.5	110.1	109.9	2	1
MAIN STEAM FLOW	03-033	773.4	782.0	771.5	777.8	772.9	781.6	775.1	776.0	2	2
1ST STG STM FLW	CALC	770.2	777.5	767.8	774.0	769.1	777.6	770.9	772.2	2	23
FW FLOW	12-170	785.8	787.7	784.5	786.4	790.2	789.5	790.7	784.0	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	2.81	0.00	9.80	0.00	14.65	0.00	13.52	0.00	2	5
SH SPRAY FLOW L	17-052	20.05	3.11	25.64	6.47	26.65	7.60	17.30	6.29	2	7
SH SPRAY FLOW R	17-056	20.56	1.98	27.43	6.11	30.12	3.21	23.02	0.00	2	8
GR FAN AMPS A	16-181	.08	22.73	.08	22.96	.08	22.83	.08	.08	2	12
GR FAN AMPS B	16-183	-.02	-.02	-.02	-.02	-.03	-.02	-.02	27.84	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	0.0	52.6	0.0	54.8	0.0	53.5	0.0	101.9	2	24
GR TO SEC AIR	06-932	4.39	4.39	-79.49	7.87	4.39	7.92	4.39	9.70	2	25
GR TO SEC AIR	CALC	4.3900	0.0000	0.0000	0.0000	4.3900	0.0000	4.3900	0.0000	2	26
GR TO FURN	CALC	0.0	52.6	0.0	54.8	0.0	53.5	0.0	101.9	2	27
OFA AIR FLOW	06-931	31.5	218.2	33.3	231.3	33.4	221.1	27.3	221.6	2	28
TMP AIR FLOW	CALC	71.67	48.88	97.77	51.44	94.94	57.15	89.12	51.46	14	10
SEC AIR FLOW	06-320	29.57	37.04	28.40	27.60	33.76	37.40	37.18	25.20	2	29
1st STG PRESS	18-128	1071.7	1082.1	1068.3	1077.1	1070.2	1082.3	1072.8	1074.6	2	19
OIL FLOW 2A	05-100	.0017	.0019	.0017	.0029	.0017	.0024	.0017	.0018	2	20
OIL FLOW 2B	07-100	.0033	.0033	.0033	.0023	.0031	.0020	.0033	.0033	2	21
OIL FLOW 2C	09-100	.0033	.0033	.0033	.0024	.0033	.0019	.0033	.0032	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.1077	1.0883	1.0932	1.0744	1.0891	1.0746	1.0931	1.0796	4	20
REBRN WB STOIC	CALC	100.0	.4	100.0	.4	100.0	.4	100.0	.4	4	21
REBRN STOIC	CALC	1.1679	.8841	1.1831	.8569	1.1745	.8775	1.1793	.8732	4	22

TEST NO.			8	8A	7	7A	9	9A	10	10A	
TEST SEQ. NO.			1	2	3	4	5	6	7	8	
DATE			04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92	
TIME START			0804	1100	0820	1128	0759	1029	0827	1031	
TIME END			0814	1247	0830	1330	0810	1331	0838	1256	
LOAD MW			110	110	109	110	110	110	110	110	

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LVG FURN STOIC		CALC	1.2073	1.1601	1.2242	1.1495	1.2155	1.1569	1.2130	1.1550	4	23
LVG ECON STOIC		CALC	1.2171	1.1699	1.2340	1.1593	1.2254	1.1667	1.2228	1.1648	4	24

DATA PAGE NO. 3 FLUID TEMPERATURES F (C) - PLANT

SSH OUT T	L	15-152	1000.7	999.3	1000.6	998.7	997.4	998.9	997.7	999.2	3	1
SSH OUT T	R	15-150	999.2	999.5	999.4	999.1	998.1	999.3	999.0	999.2	3	2
SSH OUT AVE T		13-160	1000.5	1003.3	1000.7	1001.7	998.6	1003.7	1000.9	1003.6	14	1
LVG SH ATTMP T	L	13-164	707.5	741.4	696.4	738.1	700.0	734.0	720.6	736.7	3	8
LVG SH ATTMP T	R	13-162	715.5	759.6	701.3	754.2	698.9	757.9	711.0	766.3	3	9
PRI SH OUT T	L	HW	778.8	750.0	788.4	758.9	797.3	756.5	784.1	757.0	3	10
PRI SH OUT T	R	HW	791.7	778.1	803.6	784.1	808.3	779.0	794.9	773.9	3	11
ECON H2O OUT T	L	HW	512.9	509.7	512.6	512.7	515.9	508.2	514.4	511.1	3	27
ECON H2O OUT T	R	HW	513.5	512.2	496.1	514.0	520.0	511.3	519.6	513.6	3	28
ECON H2O IN T		20-007	459.8	458.6	461.2	459.4	461.0	459.7	462.2	459.1	3	5
RH SPRAY H2O T		HW	316.6	316.4	317.0	316.6	316.2	314.9	316.3	315.0	3	7
LVG RH T		14-150	999.9	1001.1	993.1	1003.7	1002.0	1003.1	993.3	1002.2	3	12
ENT RH T		CALC	703.0	725.6	694.6	716.9	673.3	721.8	682.8	715.6	3	16
COLD RH T		20-006	743.5	746.8	745.8	746.2	744.8	747.4	746.0	746.8	3	18

DATA PAGE NO. 4 FLUID TEMPERATURES F (C) - B&W

AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	19

TEST NO.		8	8A	7	7A	9	9A	10	10A	
TEST SEQ. NO.		1	2	3	4	5	6	7	8	
DATE		04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92	
TIME START		0804	1100	0820	1128	0759	1029	0827	1031	
TIME END		0814	1247	0830	1330	0810	1331	0838	1256	
LOAD MW		110	110	109	110	110	110	110	110	

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

TURB THROT P		03-170	1452.4	1449.7	1449.5	1449.7	1450.5	1449.9	1451.1	1449.7	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1604.5	1608.4	1599.0	1605.1	1600.9	1607.8	1603.8	1606.1	5 3
LVG RH PRESS		15-102	429.8	428.7	429.6	428.5	433.8	430.2	432.0	427.4	5 4
ENT RH PRESS		15-100	454.0	454.1	454.8	455.3	459.7	456.2	457.0	452.7	5 5
FW HTR E EXT P		20-035	437.9	436.0	437.9	436.5	442.3	437.8	440.2	434.6	5 6
FW HTR E EXT P		TRANS	440.8	439.1	440.9	439.3	445.2	440.9	443.5	437.8	5 7
SEC SH OUT P	(T)	TRANS	1496.8	1495.0	1493.3	1494.7	1494.8	1495.3	1494.9	1492.9	5 17
DRUM PRESS	(T)	TRANS	1592.9	1597.7	1588.0	1595.2	1589.4	1597.5	1592.8	1594.3	5 18
LVG RH-1 P	(T)	TRANS	433.5	432.7	433.5	432.8	437.3	434.4	436.2	431.1	5 19
ENT RH-1 P	(T)	TRANS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	80.26	87.86	85.84	91.56	84.13	84.34	74.04	76.33	6 4
AIR LVG FD FAN T	A	09-028	112.9	118.2	116.3	122.2	112.6	111.5	104.1	108.7	7 2
AIR LVG FD FAN T	B	09-029	111.8	119.3	115.5	123.0	114.7	115.9	107.5	112.8	7 3
AIR ENT AH T	RA	20-017	115.2	121.7	118.7	125.7	117.6	118.8	147.2	146.6	6 2
AIR ENT AH T	RB	20-018	115.4	121.9	118.7	125.6	117.7	118.6	131.4	138.6	6 3
AIR ENT AH T	LA	20-025	116.4	121.7	119.2	124.9	116.3	115.6	163.3	166.6	13 25
AIR ENT AH T	LB	20-029	117.4	122.2	120.3	125.9	115.9	115.7	122.9	127.8	13 26
AIR LVG AH T	R	HW	599.5	606.1	643.0	608.6	586.3	608.6	587.3	604.4	6 6
AIR LVG AH T	L	HW	573.0	570.4	578.5	578.2	549.7	567.7	546.1	559.4	6 7
BRN SEC AIR T		08-002	548.4	553.3	575.5	555.9	533.5	553.4	531.2	546.0	14 2
BRN SA/GR T		08-001	511.7	524.6	536.2	534.3	504.3	536.0	496.7	536.7	14 3
OFA TEMP		09-002	220.8	516.3	217.3	523.0	273.9	527.5	485.7	544.2	14 4
GAS LVG AH T	RA	20-019	310.5	311.7	339.7	317.6	303.2	309.2	303.7	304.1	6 10
GAS LVG AH T	RB	20-020	291.8	294.7	314.5	299.6	284.5	292.2	288.2	291.8	6 11
GAS LVG AH T	LA	20-027	284.6	282.6	286.1	288.0	274.9	276.3	270.9	272.2	13 27
GAS LVG AH T	LB	20-024	290.9	286.0	294.7	290.5	281.4	279.7	283.8	284.8	13 28
GAS LVG RH PS T		AVE	658.1	653.9	660.6	659.9	632.6	654.1	638.6	653.5	13 17
GAS LVG SH PS T		AVE	662.8	667.7	706.0	665.7	651.3	669.4	661.4	670.7	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	3.6026	2.3439	3.8108	2.6399	3.6199	2.3682	3.1403	2.5777	6 20
O2 LVG ECON	L	11-170	0.0000	2.3714	3.3941	2.3501	3.1560	2.2460	3.7417	2.7060	6 21
O2 IN SEC AIR		06-254	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 29
ACCUREX NOX	PPM	06-553	598.4	300.1	541.4	281.2	526.4	330.7	1.2	313.5	13 9
ACCUREX SOX	PPM	06-555	1051.6	1131.3	1250.1	1212.6	775.9	1431.0	1431.0	1301.8	13 10
ACCUREX CO	PPM	06-425	19.5	28.2	65.6	30.6	206.2	15.8	0.0	0.0	13 11
ACCUREX O2	%	06-554	3.8231	2.3632	4.2312	2.5177	9.7791	2.5641	3.3774	2.9479	13 12
BRN SEC AIR P	IN WG	06-250	20.46	19.20	20.74	18.97	21.06	20.32	20.92	19.27	14 5
BRN GAS REC P	IN WG	06-252	20.30	18.94	20.56	19.00	20.89	20.08	20.65	19.26	14 6

TEST NO.		8	8A	7	7A	9	9A	10	10A	
TEST SEQ. NO.		1	2	3	4	5	6	7	8	
DATE		04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92	
TIME START		0804	1100	0820	1128	0759	1029	0827	1031	
TIME END		0814	1247	0830	1330	0810	1331	0838	1256	
LOAD MW		110	110	109	110	110	110	110	110	
DATA PAGE NO. 6	AIR & GAS DATA - PLANT									
FURNACE GAS P	IN WG	08-100	20.50	18.14	21.37	18.14	20.49	18.10	20.04	17.74	14 7
BAROMETRIC P	IN HG	PB	29.35	29.30	29.35	29.37	29.19	29.12	29.72	29.68	6 29
REL HUMIDITY	%	TST	7.9691	7.8571	7.8267	7.7488	7.8773	7.8876	7.9211	7.9073	6 30
DATA PAGE NO. 7	AIR & GAS DATA - B&W									
AMBIENT AIR TEMP		TC	42.57	48.68	44.13	55.50	50.11	45.86	35.67	38.93	7 1
AIR LVG FD FAN T	A	TC	117.1	122.1	119.9	125.6	116.0	115.2	107.7	112.2	7 6
AIR LVG FD FAN T	B	TC	115.3	122.3	118.5	126.0	117.8	119.0	110.5	115.7	7 7
AIR ENT AH	(T)	GRID	117.4	123.1	120.0	126.5	118.0	118.2	140.4	144.1	7 4
GAS LVG AH	(T)	GRID	287.1	286.1	300.0	290.8	279.2	281.6	279.6	280.8	7 10
GAS LVG ECON	(T) L	GRID	674.9	655.9	660.7	660.0	648.8	675.3	654.0	665.0	7 14
GAS LVG ECON	(T) R	GRID	666.4	671.2	698.0	670.6	658.4	675.6	665.0	678.0	7 15
GAS TEMP LVG GR FAN		GRID	182.8	514.8	184.8	0.0	215.5	0.0	0.0	0.0	13 7
O2 LVG ECON	(T) L	GRID	3.9078	3.3748	4.2631	3.2225	3.9810	3.0328	4.4399	2.9084	7 20
O2 LVG ECON	(T) R	GRID	3.7650	2.9111	3.9393	2.7596	3.9205	3.1057	3.4735	3.1575	7 21
CO LVG ECON	(T) L	GRID	39.4	92.5	43.1	68.1	33.4	70.0	30.9	107.7	13 5
CO LVG ECON	(T) R	GRID	38.14	55.74	75.82	51.47	36.21	55.12	70.36	61.35	13 6
CO2 LVG ECON	(T) L	GRID	14.77	15.26	14.55	15.49	15.15	15.81	14.99	16.23	7 22
CO2 LVG ECON	(T) R	GRID	14.96	14.94	14.76	15.09	15.09	15.60	15.18	15.38	7 23
NOX LVG ECON	(T) L	GRID	639.2	301.4	576.6	258.8	587.6	287.7	565.3	269.1	7 24
NOX LVG ECON	(T) R	GRID	612.9	309.3	556.9	275.9	558.8	329.9	589.9	310.3	7 25
O2 LVG AH	(T)	GRID	5.2400	4.2500	5.3500	4.3500	4.3000	4.2200	5.2500	4.2500	13 1
CO2 LVG AH	(T)	GRID	.39	22.48	22.81	23.58	32.03	26.01	24.57	21.84	13 3
O2 LVG GR FAN	(T)	GRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27
DATA PAGE NO. 8	FW HTR TEMPERATURES F (C) - PLANT									
FW HTR E EXT T		HW	742.2	744.6	743.6	744.2	742.1	743.4	743.2	743.5	8 1
FW HTR E LVG T		HW	458.8	457.6	476.4	458.0	459.1	456.3	459.0	456.6	8 5
FW HTR E ENT T		HW	383.6	382.6	384.8	386.0	384.7	381.7	383.6	381.7	8 7
FW HTR E DRN T		HW	405.7	405.5	407.0	404.3	405.9	402.9	404.7	402.0	8 13
DATA PAGE NO. 9	FW HTR TEMPERATURES F (C) - B&W									
SSH PEND IN LEG	1	10-017	847.8	848.2	838.3	842.6	836.1	847.3	853.2	858.8	9 17
SSH PEND IN LEG	2	10-018	864.4	869.2	857.3	863.5	852.5	865.9	871.4	879.1	9 18
SSH PEND IN LEG	3	10-019	864.6	880.8	856.7	872.7	854.1	876.0	871.0	883.3	9 19
SSH PEND IN LEG	4	10-020	871.5	898.3	864.7	888.4	860.1	893.5	878.7	896.8	9 20
SSH PEND IN LEG	5	10-021	856.1	894.8	851.1	879.3	843.6	887.8	863.6	890.6	9 21

TEST NO.	8	8A	7	7A	9	9A	10	10A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92
TIME START	0804	1100	0820	1128	0759	1029	0827	1031
TIME END	0814	1247	0830	1330	0810	1331	0838	1256
LOAD MW	110	110	109	110	110	110	110	110

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 6	10-033	864.8	905.4	862.8	892.6	857.1	899.3	880.0	901.7	9	22
SSH PEND IN LEG 7	10-034	865.2	898.4	861.5	886.0	861.0	890.7	884.6	892.8	9	23
SSH PEND IN LEG 8	10-035	860.5	886.8	852.0	877.2	853.6	881.4	873.6	883.8	9	24
SSH PEND IN LEG 9	10-036	866.5	879.7	853.2	875.7	860.1	879.0	874.4	881.3	9	25
SSH PEND IN LEG 10	10-037	848.7	846.8	833.0	846.5	846.3	846.8	855.3	851.3	9	26
RH PEND IN LEG 1	09-049	936.3	950.0	927.1	946.1	935.6	948.4	933.3	950.8	8	17
RH PEND IN LEG 2	09-050	924.6	945.5	918.1	941.0	925.4	943.7	923.9	946.5	8	18
RH PEND IN LEG 3	09-051	927.5	943.7	920.2	940.9	928.4	943.1	926.4	945.4	8	19
RH PEND IN LEG 4	09-052	925.2	943.8	918.1	939.8	925.8	942.6	923.9	944.5	8	20
RH PEND IN LEG 5	09-053	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8	21
RH PEND IN LEG 6	10-001	955.1	965.6	945.6	961.5	953.6	963.1	951.3	967.5	8	22
RH PEND IN LEG 7	10-002	927.1	936.5	916.7	934.9	924.7	936.9	924.2	937.8	8	23
RH PEND IN LEG 8	10-003	933.6	933.7	920.5	937.3	930.3	937.9	928.4	937.1	8	24
RH PEND IN LEG 9	10-004	935.6	949.6	926.5	945.9	934.8	948.3	932.5	950.6	8	25
RH PEND IN LEG 10	10-005	913.6	890.5	889.5	894.2	910.3	897.6	895.6	895.2	8	26
RH INTM HND HOLE R	10-038	934.3	948.0	925.6	945.4	935.4	946.8	933.5	950.1	8	27
RH INTM HND HOLE L	10-039	865.3	846.2	842.4	846.5	862.7	850.1	852.3	849.2	8	28
PSH OUT LEG T	09-017	786.9	772.3	798.3	780.7	810.3	777.7	793.4	776.0	14	11
PSH OUT LEG T	09-018	797.5	783.9	808.8	791.6	821.8	788.2	803.2	781.7	14	12
PSH OUT LEG T	09-019	778.9	731.7	786.5	740.6	799.9	738.9	784.1	739.0	14	13
PSH OUT LEG T	09-020	782.2	747.6	791.9	756.8	804.7	757.4	789.2	757.3	14	14
PSH OUT LEG T	09-021	774.9	757.4	784.2	765.2	796.1	764.9	780.1	764.4	14	15
PSH OUT LEG T	09-022	781.1	766.3	792.2	773.3	802.2	771.2	784.9	769.2	14	16
PSH OUT LEG T	09-023	781.8	761.4	794.4	769.9	804.5	766.3	787.1	761.1	14	17
PSH OUT LEG T	09-024	800.7	790.7	811.9	795.4	821.9	793.4	806.0	786.3	14	18
PSH OUT LEG T	09-025	782.5	770.9	793.3	776.6	804.2	773.7	787.8	767.7	14	19
PSH OUT LEG T	09-026	790.8	779.4	802.9	784.4	807.3	782.2	791.6	776.6	14	20
PSH OUT LEG T	09-027	799.7	793.2	812.3	797.4	815.2	796.1	801.1	791.3	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	30.60	22.82	30.89	23.22	31.50	21.82	30.21	22.19	10	1
CYC B COAL FLOW KLB	07-110	30.62	22.83	30.92	23.26	31.43	21.75	30.26	22.21	10	2
CYC C COAL FLOW KLB	09-110	30.61	22.83	30.93	23.24	31.47	21.79	30.27	22.22	10	3
CYC A SEC AIR FLOW %	06-170	292.8	210.8	293.0	206.9	294.5	209.5	293.2	208.5	10	16
CYC B SEC AIR FLOW %	08-170	296.3	211.2	296.4	213.8	295.6	208.4	296.7	208.3	10	17
CYC C SEC AIR FLOW %	10-170	297.5	210.7	293.9	205.5	297.8	209.5	297.0	208.0	10	18
CYC A SEC AIR T	20-002	544.0	547.8	587.5	553.5	533.6	550.6	528.0	541.4	11	1
CYC B SEC AIR T	20-003	579.0	585.4	601.8	588.3	560.2	583.9	559.8	576.6	11	2
CYC C SEC AIR T	20-004	534.9	529.6	541.8	537.0	516.3	526.8	508.1	515.7	11	3
PULV COAL FLOW KLB	06-314	.05	26.48	.06	26.31	.05	26.28	.03	26.26	10	4
PULV PA FLOW	06-275	0.00	54.74	0.00	54.34	0.00	54.53	0.00	54.31	10	19
PULV INLET T	09-034	99.0	544.0	99.4	547.3	96.5	535.4	82.8	524.0	11	7
PULV OUTLET T	09-040	99.2	158.6	113.7	150.8	110.0	154.9	66.6	146.7	11	8

TEST NO.	8	8A	7	7A	9	9A	10	10A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92
TIME START	0804	1100	0820	1128	0759	1029	0827	1031
TIME END	0814	1247	0830	1330	0810	1331	0838	1256
LOAD MW	110	110	109	110	110	110	110	110

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	-.02	15.73	-.16	13.99	-.03	9.38	-.09	9.21	11 9
PULV AMPS	06-276	0.0	284.8	.1	270.2	-0.0	232.7	0.0	236.5	11 10
PULV PA FAN AMPS	06-277	-.06	79.02	-.06	74.50	-.06	69.08	6.61	67.83	11 11
ROT CLASS AMPS	06-278	.03	47.67	44.63	47.23	.03	37.17	41.69	37.95	11 12
ROT CLASS RPM	06-270	-.2	156.6	160.6	159.3	-.2	99.4	99.7	99.7	11 13
ROT CLASS DP IN WG	06-345	.0073	.5514	.3978	.5558	.0074	.1801	.2031	.1863	11 14
COAL SILO LEVEL	06-310	62.67	76.28	66.42	82.28	92.37	73.06	95.19	82.16	11 15
FLAME INTENSITY #1 %	06-279	3.7	105.6	3.1	105.9	3.0	105.6	18.3	105.6	11 16
FLAME INTENSITY #2 %	06-295	5.9	104.9	3.6	105.1	6.8	105.0	58.8	104.9	11 17
FLAME INTENSITY #3 %	06-296	3.1	105.7	2.4	106.1	2.7	103.7	18.2	105.7	11 18
FLAME INTENSITY #4 %	06-297	4.5	105.1	4.7	105.4	5.8	105.2	19.3	105.2	11 19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	15.80	4.60	20.60	8.74	26.91	6.90	25.42	8.97	12 1
SH SP VLV POS R	13-190	61.58	30.53	73.51	34.31	77.24	31.87	67.54	27.46	12 3
SH SP VLV POS L	13-191	58.80	31.94	71.31	35.24	73.29	36.08	54.17	35.23	12 4
GR DMPR DEMAND	16-044	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12 9
RECIRC AIR DMPR POS	12-176	0.00	0.00	0.00	0.00	0.00	0.00	22.45	27.68	12 13
SH PASS DMPR POS	14-180	100.0	87.8	64.3	100.0	100.0	100.0	89.2	100.0	12 15
RH PASS DMPR POS	14-180	53.4	99.5	100.0	47.6	21.3	71.1	100.0	67.3	12 16
OVRFIRE AIR DMPR POS	06-115	15.49	53.51	15.48	56.58	0.00	54.36	14.28	56.59	12 17
BRN SEC AIR DMPR POS	06-286	16.00	22.63	15.01	14.04	10.72	23.85	21.92	11.68	12 18
HOT PRI AIR DMPR POS	06-556	0.0	100.0	0.0	100.0	0.0	100.0	0.0	99.8	12 19
BRN GAS REC DMPR POS	06-324	0.00	0.00	0.00	25.08	0.00	25.21	0.00	32.70	12 20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-496.3	-477.9	-569.9	-472.3	-482.7	-484.0	-500.2	-481.6	15 1
GAS LVG SH PASS 1B	08-004	665.7	673.8	712.1	674.9	643.6	677.7	660.6	679.5	15 2
GAS LVG SH PASS 1C	08-005	682.5	691.2	753.6	681.7	665.4	702.0	673.5	696.8	15 3
GAS LVG SH PASS 1D	08-006	723.0	735.0	757.8	728.3	699.1	722.0	710.2	722.0	15 4
GAS LVG SH PASS 2A	08-017	625.9	623.1	668.9	627.8	613.6	626.2	625.6	631.6	15 5
GAS LVG SH PASS 2B	08-018	639.1	637.4	683.6	640.3	627.6	639.3	636.0	642.6	15 6
GAS LVG SH PASS 2C	08-019	640.4	647.8	679.7	645.9	632.2	648.8	640.0	650.1	15 7
GAS LVG SH PASS 2D	08-020	675.7	683.9	727.8	681.8	674.3	692.0	677.6	691.7	15 8
GAS LVG SH PASS 3A	08-021	657.2	657.1	699.2	659.5	654.4	657.2	667.0	661.4	15 9
GAS LVG SH PASS 3B	08-022	663.3	671.6	690.5	667.5	663.5	669.4	671.5	672.5	15 10
GAS LVG SH PASS 3C	08-023	655.2	656.0	687.2	649.6	639.3	659.1	651.9	658.8	15 11
GAS LVG SH PASS 3D	08-024	-616.8	-616.6	-627.7	-598.5	-599.5	-618.7	-617.9	-619.6	15 12
GAS LVG RH PASS 4A	08-033	650.6	635.8	653.0	647.9	623.4	639.9	623.3	633.6	15 13
GAS LVG RH PASS 4B	08-034	660.2	653.9	662.7	665.8	632.3	658.2	637.9	654.7	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15

TEST NO.	8	8A	7	7A	9	9A	10	10A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/09/92	04/09/92	04/08/92	04/08/92	04/10/92	04/10/92	04/13/92	04/13/92
TIME START	0804	1100	0820	1128	0759	1029	0827	1031
TIME END	0814	1247	0830	1330	0810	1331	0838	1256
LOAD MW	110	110	109	110	110	110	110	110

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	4D	08-036	699.8	707.0	695.4	709.8	664.9	701.3	673.6	699.5	15 16
GAS LVG RH PASS	5A	08-049	636.1	620.4	639.4	627.1	611.2	624.1	615.7	626.0	15 17
GAS LVG RH PASS	5B	08-050	646.8	640.7	653.1	648.4	619.8	641.4	627.5	641.1	15 18
GAS LVG RH PASS	5C	08-051	656.7	659.6	660.7	665.1	630.3	659.1	643.4	658.9	15 19
GAS LVG RH PASS	5D	08-052	649.7	656.3	655.6	658.1	627.8	651.0	632.1	652.2	15 20
GAS LVG RH PASS	6A	08-053	648.0	634.6	646.3	640.9	621.1	633.0	625.8	634.8	15 21
GAS LVG RH PASS	6B	08-054	664.4	660.5	665.8	663.9	640.7	660.7	645.0	659.9	15 22
GAS LVG RH PASS	6C	08-055	656.8	654.6	662.4	659.2	633.9	654.5	641.5	655.3	15 23
GAS LVG RH PASS	6D	08-056	669.8	670.2	671.8	672.5	653.3	672.2	658.5	672.9	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			68.00	69.00	66.00	67.00	70.00	71.00	72.00	73.00	15 28

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TEST NO.	16A	1BM	3T	4T	10B	10C	5T	7T	18T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91
TIME START	1110	1039	1710	1915	1524	1822	1408	1009	0919
TIME END	1311	1200	1741	2008	1647	1914	1604	1024	0929
LOAD MW	111	110	110	110	110	111	111	111	109
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR
ALPHA1									
ALPHA2									

16A AVG SCANS 4 -->15 : 110 MW : ALL CONTROLS AUTOMATIC :OPTIMUM
1BM AVG SCANS 14-->18 : 110 MW : 13 TPH : LOW REBRN STOIC
3T AVG SCANS 48-->50 : 110 MW : 13.7 TPH REBURN : NO GR TO BNRS
4T AVG SCANS 60-->64 : 110 MW : 13.7 TPH REBURN : W/ GR TO BNRS
10B AVG SCANS 42-->45 : 110 MW : 14 TPH : 140 RPM : OPTIMUM
10C AVG SCANS 55-->59 : 110 MW : 14 TPH : 160 RPM : OPTIMUM
5T AVG SCANS 34-->44 : 110 MW : 14.1 TPH REBURN : NO GR TO BNRS
7T AVG SCANS 8 --> 8 : 110 MW : 14 TPH REBURN : NO GR TO BNRS
18T AVG SCANS 10-->10 : 110 MW : 14 TPH REBRN : NO GR TO BRNRS

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	110.8	110.5	109.7	110.0	110.1	110.6	110.5	110.6	109.4	2	1
MAIN STEAM FLOW	03-033	773.4	779.8	798.7	799.3	771.8	773.4	805.6	810.1	782.3	2	2
1ST STG STM FLW	CALC	769.5	775.3	769.4	769.9	767.4	769.7	775.4	778.8	752.7	2	23
FW FLOW	12-170	785.1	788.3	781.0	778.8	784.8	787.0	778.2	787.3	752.9	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	5.21	0.00	0.00	0.00	9.41	10.92	0.00	0.00	0.00	2	5
SH SPRAY FLOW L	17-052	15.23	1.97	2.96	1.48	10.43	11.98	4.83	0.00	19.88	2	7
SH SPRAY FLOW R	17-056	16.69	7.23	1.96	2.65	5.74	10.19	2.69	0.00	11.45	2	8
GR FAN AMPS A	16-181	23.63	.08	21.86	24.13	.08	.08	21.83	21.73	22.54	2	12
GR FAN AMPS B	16-183	-.02	27.98	-.02	-.02	26.63	26.63	-.02	-.02	-.02	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	59.8	101.4	44.1	64.2	92.5	91.8	43.6	40.5	47.3	2	24
GR TO SEC AIR	06-932	9.61	10.92	0.00	0.00	6.37	6.37	0.00	0.00	0.00	2	25
GR TO SEC AIR	CALC	9.61	11.26	.94	18.90	0.00	0.00	.75	.50	.29	2	26
GR TO FURN	CALC	50.16	90.74	43.19	45.31	92.52	91.83	42.89	39.99	46.97	2	27
OFA AIR FLOW	06-931	230.3	217.3	178.1	226.6	224.7	224.0	223.9	231.5	93.9	2	28
TMP AIR FLOW	CALC	65.59	56.20	35.16	30.48	67.13	69.69	39.11	35.05	0.00	14	10
SEC AIR FLOW	06-320	32.90	31.03	52.79	27.63	32.04	31.95	49.53	49.73	51.46	2	29
1st STG PRESS	18-128	1070.7	1079.0	1070.6	1071.3	1067.7	1071.0	1079.1	1084.0	1046.7	2	19
OIL FLOW 2A	05-100	.0017	.0017	.0017	.0017	.0024	.0025	.0017	.0017	.0017	2	20
OIL FLOW 2B	07-100	.0017	.0021	.0017	.0017	.0025	.0018	.0018	.0033	.0033	2	21
OIL FLOW 2C	09-100	.0016	.0016	.0016	.0016	.0026	.0016	.0016	.0016	.0016	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.0652	1.0646	1.1095	1.1266	1.0592	1.0538	1.1015	1.1062	1.4071	4	20
REBRN WB STOIC	CALC	.4207	.4160	.4896	.3825	.3848	.3903	.4768	.4706	.4811	4	21

TEST NO.			16A	1BM	3T	4T	10B	10C	5T	7T	18T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91	
TIME START			1110	1039	1710	1915	1524	1822	1408	1009	0919	
TIME END			1311	1200	1741	2008	1647	1914	1604	1024	0929	
LOAD MW			111	110	110	110	110	111	111	111	109	
DATA PAGE NO. 2		**FLOWS MLB/HR (MT/HR)**										
REBRN STOIC		CALC	.8673	.8715	.9385	.8871	.8721	.8715	.8754	.8685	1.0313	4 22
LVG FURN STOIC		CALC	1.1580	1.1459	1.1641	1.1754	1.1532	1.1507	1.1615	1.1604	1.1523	4 23
LVG ECON STOIC		CALC	1.1678	1.1557	1.1736	1.1850	1.1630	1.1605	1.1710	1.1701	1.1620	4 24
DATA PAGE NO. 3		**FLUID TEMPERATURES F (C) - PLANT**										
SSH OUT T	L	15-152	999.9	997.8	997.5	998.3	1000.1	999.1	998.6	975.8	1019.7	3 1
SSH OUT T	R	15-150	996.3	997.4	977.2	984.0	999.4	999.4	996.7	985.0	995.4	3 2
SSH OUT AVE T		13-160	1002.1	1000.5	989.2	993.7	1004.7	1003.4	1000.5	982.6	1008.0	14 1
LVG SH ATTMP T	L	13-164	713.1	745.4	733.8	744.2	731.5	732.5	747.7	726.2	712.7	3 8
LVG SH ATTMP T	R	13-162	730.4	743.3	749.8	754.8	761.0	755.6	764.5	751.5	746.1	3 9
PRI SH OUT T	L	HW	764.6	751.0	745.8	746.4	766.3	772.6	747.9	726.5	785.6	3 10
PRI SH OUT T	R	HW	792.8	774.7	755.9	749.9	790.0	796.4	750.1	726.6	795.5	3 11
ECON H2O OUT T	L	HW	512.2	510.3	510.5	515.3	512.4	521.2	508.9	516.1	515.8	3 27
ECON H2O OUT T	R	HW	516.2	513.4	511.9	512.6	517.2	525.2	513.0	503.3	519.3	3 28
ECON H2O IN T		20-007	460.2	459.5	457.0	457.0	459.8	460.7	457.1	457.6	458.3	3 5
RH SPRAY H2O T		HW	315.0	316.6	316.7	316.9	315.7	316.2	316.6	317.4	314.3	3 7
LVG RH T		14-150	1003.3	1003.5	992.9	1001.6	1003.9	1007.9	1005.1	997.2	1022.9	3 12
ENT RH T		CALC	703.0	719.7	706.8	719.0	698.7	693.5	739.4	722.9	706.3	3 16
COLD RH T		20-006	746.8	743.4	733.7	736.3	748.8	749.0	741.9	727.9	743.7	3 18
DATA PAGE NO. 4		**FLUID TEMPERATURES F (C) - B&W**										
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

TEST NO.		16A	1BM	3T	4T	10B	10C	5T	7T	18T		
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17		
DATE		04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91		
TIME START		1110	1039	1710	1915	1524	1822	1408	1009	0919		
TIME END		1311	1200	1741	2008	1647	1914	1604	1024	0929		
LOAD MW		111	110	110	110	110	111	111	111	109		
DATA PAGE NO. 5	FLUID PRESSURES PSIG (KG/CM2)											
TURB THROT P		03-170	1450.1	1450.0	1453.1	1452.4	1448.6	1450.0	1456.0	1450.8	1456.8	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1605.4	1607.0	1606.8	1609.6	1601.8	1602.7	1614.5	1610.7	1599.7	5 3
LVG RH PRESS		15-102	429.9	427.4	426.2	426.4	428.7	431.1	426.4	429.6	420.2	5 4
ENT RH PRESS		15-100	456.5	453.0	456.4	455.8	455.3	457.9	456.0	459.6	449.5	5 5
FW HTR E EXT P		20-035	438.9	433.3	436.0	435.6	436.8	439.6	435.5	438.2	431.1	5 6
FW HTR E EXT P		TRANS	441.7	436.2	437.8	437.3	439.9	442.5	437.2	440.5	434.5	5 7
SEC SH OUT P	(T)	TRANS	1493.8	1492.7	1501.2	1499.1	1492.8	1493.9	1504.4	1498.1	1500.4	5 17
DRUM PRESS	(T)	TRANS	1592.2	1594.6	1601.0	1600.0	1591.8	1593.1	1606.6	1602.7	1592.7	5 18
LVG RH-1 P	(T)	TRANS	434.3	431.4	431.5	430.9	432.8	435.2	430.7	434.3	427.5	5 19
ENT RH-1 P	(T)	TRANS	0.0	0.0	452.0	451.6	0.0	0.0	451.5	455.1	447.7	5 20
DATA PAGE NO. 6	AIR & GAS DATA - PLANT											
AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	89.74	86.47	0.00	0.00	80.72	81.49	0.00	0.00	0.00	6 4
AIR LVG FD FAN T	A	09-028	121.6	118.5	124.6	123.0	113.7	114.7	126.2	126.0	122.3	7 2
AIR LVG FD FAN T	B	09-029	125.6	121.5	127.7	125.9	117.0	117.9	127.5	124.3	125.1	7 3
AIR ENT AH T	RA	20-017	127.6	123.9	151.3	154.0	133.8	131.7	156.3	160.9	166.6	6 2
AIR ENT AH T	RB	20-018	128.3	124.2	151.1	149.8	138.5	137.9	150.5	147.0	147.8	6 3
AIR ENT AH T	LA	20-025	125.5	122.1	184.4	184.6	166.9	165.4	186.9	185.4	182.7	13 25
AIR ENT AH T	LB	20-029	125.5	122.4	155.8	157.1	124.9	124.4	161.2	165.2	164.7	13 26
AIR LVG AH T	R	HW	599.2	596.9	592.4	584.0	627.1	625.6	580.6	551.2	561.2	6 6
AIR LVG AH T	L	HW	562.7	551.3	580.6	581.5	578.4	575.4	576.3	552.8	537.0	6 7
BRN SEC AIR T		08-002	545.3	540.2	543.9	537.8	569.9	568.6	535.4	517.0	507.3	14 2
BRN SA/GR T		08-001	525.4	526.6	532.0	565.4	557.5	557.0	521.5	502.5	491.2	14 3
OFA TEMP		09-002	526.6	521.1	544.9	539.6	565.9	564.3	535.4	517.3	467.9	14 4
GAS LVG AH T	RA	20-019	309.8	309.6	319.7	315.9	316.7	318.9	314.6	305.9	300.0	6 10
GAS LVG AH T	RB	20-020	293.5	292.9	301.0	298.3	304.4	306.5	295.4	287.5	281.9	6 11
GAS LVG AH T	LA	20-027	280.2	279.0	288.3	286.4	282.2	282.6	285.5	281.3	271.3	13 27
GAS LVG AH T	LB	20-024	284.3	284.3	301.6	300.2	294.6	295.9	299.5	295.0	283.7	13 28
GAS LVG RH PS T		AVE	649.3	633.1	653.8	654.2	673.6	668.1	650.1	647.7	624.6	13 17
GAS LVG SH PS T		AVE	663.6	658.5	656.0	650.1	695.8	691.3	655.2	617.9	637.2	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	2.8919	2.7915	1.5781	1.7642	2.5331	2.3765	2.2565	3.4222	3.5539	6 20
O2 LVG ECON	L	11-170	2.4435	2.9608	2.6886	3.2939	2.4313	2.2878	3.3211	3.9052	3.4208	6 21
O2 IN SEC AIR		06-254	16.86	16.26	20.22	13.50	0.00	0.00	20.26	20.35	20.42	13 29
ACCUREX NOX	PPM	06-553	273.8	291.1	0.0	0.0	296.4	280.1	0.0	0.0	0.0	13 9
ACCUREX SOX	PPM	06-555	1049.7	1190.1	0.0	0.0	1170.8	1175.9	0.0	0.0	0.0	13 10
ACCUREX CO	PPM	06-425	19.76	70.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13 11
ACCUREX O2	%	06-554	3.7190	3.0382	0.0000	0.0000	2.5946	2.5612	0.0000	0.0000	0.0000	13 12
BRN SEC AIR P	IN WG	06-250	21.35	21.79	24.49	24.59	19.86	19.91	23.57	25.21	23.89	14 5
BRN GAS REC P	IN WG	06-252	21.21	21.59	23.79	24.47	19.82	19.79	23.01	24.72	23.25	14 6

TEST NO.			16A	1BM	3T	4T	10B	10C	5T	7T	18T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91	
TIME START			1110	1039	1710	1915	1524	1822	1408	1009	0919	
TIME END			1311	1200	1741	2008	1647	1914	1604	1024	0929	
LOAD MW			111	110	110	110	110	111	111	111	109	
DATA PAGE NO. 6	AIR & GAS DATA - PLANT											
FURNACE GAS P	IN WG	08-100	19.45	19.15	20.28	21.21	18.22	18.33	20.39	22.18	20.80	14 7
BAROMETRIC P	IN HG	PB	29.30	29.48	0.00	0.00	29.56	29.54	0.00	0.00	0.00	6 29
REL HUMIDITY	%	TST	7.7840	7.8107	0.0000	0.0000	7.8698	7.8657	0.0000	0.0000	0.0000	6 30
DATA PAGE NO. 7	AIR & GAS DATA - B&W											
AMBIENT AIR TEMP		TC	45.76	50.88	0.00	0.00	42.88	43.21	0.00	0.00	0.00	7 1
AIR LVG FD FAN T	A	TC	125.3	122.2	127.3	125.6	117.3	118.4	128.9	128.8	124.7	7 6
AIR LVG FD FAN T	B	TC	128.5	124.7	129.7	127.8	119.8	120.7	129.4	126.5	127.1	7 7
AIR ENT AH	(T)	GRID	128.0	124.3	157.8	158.8	139.3	138.4	161.3	162.9	164.4	7 4
GAS LVG AH	(T)	GRID	283.6	282.4	295.6	293.5	290.8	291.9	292.7	286.7	279.9	7 10
GAS LVG ECON	(T) L	GRID	669.7	660.7	673.7	673.4	664.5	658.6	670.8	661.7	643.2	7 14
GAS LVG ECON	(T) R	GRID	669.6	663.1	664.6	658.9	702.8	698.2	655.1	626.9	629.9	7 15
GAS TEMP LVG GR FAN		GRID	542.3	537.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 7
O2 LVG ECON	(T) L	GRID	3.1170	2.9197	3.3074	3.4541	3.0197	2.9945	3.2015	3.1191	3.0000	7 20
O2 LVG ECON	(T) R	GRID	3.0360	2.8212	3.0726	3.2678	3.0104	2.9556	3.0865	3.1352	3.0000	7 21
CO LVG ECON	(T) L	GRID	78.4	78.9	199.7	146.8	74.1	62.2	164.2	85.0	90.0	13 5
CO LVG ECON	(T) R	GRID	52.9	41.9	99.1	93.8	65.6	66.7	133.4	80.0	92.0	13 6
CO2 LVG ECON	(T) L	GRID	15.59	16.65	15.90	15.82	16.08	16.04	5.01	16.47	15.65	7 22
CO2 LVG ECON	(T) R	GRID	15.19	15.58	15.90	15.85	15.49	15.49	15.59	15.99	15.19	7 23
NOX LVG ECON	(T) L	GRID	242.5	310.0	318.9	258.9	274.4	271.6	263.6	278.6	284.0	7 24
NOX LVG ECON	(T) R	GRID	127.6	6.6	324.7	266.7	305.0	287.4	287.9	311.3	284.0	7 25
O2 LVG AH	(T)	GRID	3.9700	3.8900	4.3000	4.4500	4.2000	4.1300	4.4000	4.3500	4.1000	13 1
CO2 LVG AH	(T)	GRID	24.6	1728.7	1070.6	1919.8	21.3	24.8	497.3	1223.3	2169.3	13 3
O2 LVG GR FAN	(T)	GRID	0.00	3.82	2.51	4.08	0.00	0.00	15.17	2.94	4.58	13 4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27
DATA PAGE NO. 8	FW HTR TEMPERATURES F (C) - PLANT											
FW HTR E EXT T		HW	743.0	741.7	733.3	736.2	745.7	746.0	741.7	726.7	743.8	8 1
FW HTR E LVG T		HW	456.9	458.0	455.7	421.3	457.4	458.1	419.7	402.0	458.3	8 5
FW HTR E ENT T		HW	382.2	383.0	383.2	383.3	383.0	383.8	386.9	383.2	383.1	8 7
FW HTR E DRN T		HW	402.4	434.0	401.7	401.9	402.9	403.6	401.1	402.1	400.9	8 13
DATA PAGE NO. 9	FW HTR TEMPERATURES F (C) - B&W											
SSH PEND IN LEG	1	10-017	831.4	843.8	838.7	843.0	852.2	848.1	854.1	846.8	844.2	9 17
SSH PEND IN LEG	2	10-018	852.3	867.6	857.9	864.6	870.2	867.6	877.9	874.6	861.8	9 18
SSH PEND IN LEG	3	10-019	863.1	876.7	863.1	873.2	877.5	876.2	885.5	880.6	857.4	9 19
SSH PEND IN LEG	4	10-020	878.5	889.7	877.4	888.3	895.7	893.4	899.6	887.7	866.5	9 20
SSH PEND IN LEG	5	10-021	868.7	876.7	875.4	885.6	890.3	885.7	896.3	878.0	864.8	9 21

TEST NO.	16A	1BM	3T	4T	10B	10C	5T	7T	18T	
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17	
DATE	04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91	
TIME START	1110	1039	1710	1915	1524	1822	1408	1009	0919	
TIME END	1311	1200	1741	2008	1647	1914	1604	1024	0929	
LOAD MW	111	110	110	110	110	111	111	111	109	

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 6	10-033	880.3	892.6	881.4	891.7	900.9	896.9	899.6	874.3	873.8	9	22
SSH PEND IN LEG 7	10-034	874.1	894.6	877.5	885.1	888.9	886.4	887.1	862.7	870.1	9	23
SSH PEND IN LEG 8	10-035	864.4	886.3	874.4	878.6	878.5	876.3	875.8	858.4	870.9	9	24
SSH PEND IN LEG 9	10-036	865.0	882.1	879.1	882.9	876.3	875.4	880.0	863.3	868.6	9	25
SSH PEND IN LEG 10	10-037	837.6	852.5	866.1	870.1	846.5	846.9	872.9	842.1	833.4	9	26
RH PEND IN LEG 1	09-049	943.4	950.7	934.5	943.4	949.2	952.2	947.6	944.8	962.7	8	17
RH PEND IN LEG 2	09-050	937.1	945.7	923.1	933.9	944.6	946.8	941.1	939.9	955.1	8	18
RH PEND IN LEG 3	09-051	936.9	945.1	927.4	936.8	943.8	946.7	942.2	939.0	955.9	8	19
RH PEND IN LEG 4	09-052	936.0	944.3	924.4	934.9	943.0	945.6	941.2	939.3	954.6	8	20
RH PEND IN LEG 5	09-053	0.0	0.0	944.4	959.5	0.0	0.0	965.1	943.2	928.6	8	21
RH PEND IN LEG 6	10-001	958.8	965.4	951.2	959.4	966.5	969.3	959.3	958.3	985.6	8	22
RH PEND IN LEG 7	10-002	932.3	938.6	923.9	930.1	939.0	943.4	927.8	929.0	953.0	8	23
RH PEND IN LEG 8	10-003	935.8	938.5	933.0	939.1	939.8	946.2	938.5	935.3	951.0	8	24
RH PEND IN LEG 9	10-004	942.6	949.7	933.8	943.4	949.1	952.0	947.5	945.2	963.0	8	25
RH PEND IN LEG 10	10-005	894.4	895.5	925.3	947.4	895.0	899.8	954.2	927.0	908.0	8	26
RH INTM HND HOLE R	10-038	941.4	950.5	934.3	940.6	948.1	951.0	945.5	937.2	950.4	8	27
RH INTM HND HOLE L	10-039	841.9	852.7	865.8	882.0	845.7	849.8	892.8	864.4	862.6	8	28
PSH OUT LEG T	09-017	786.6	773.4	764.6	765.1	785.4	792.7	766.7	746.6	798.8	14	11
PSH OUT LEG T	09-018	799.7	782.8	774.2	777.0	795.4	803.0	780.4	751.5	799.3	14	12
PSH OUT LEG T	09-019	744.3	734.0	728.0	726.2	746.6	754.4	731.7	708.4	770.6	14	13
PSH OUT LEG T	09-020	762.0	748.8	744.8	741.0	765.7	772.7	746.0	718.6	785.4	14	14
PSH OUT LEG T	09-021	770.9	757.0	751.1	750.4	773.7	780.5	752.1	733.6	790.3	14	15
PSH OUT LEG T	09-022	779.2	766.7	757.8	760.5	778.2	785.3	760.2	744.4	797.0	14	16
PSH OUT LEG T	09-023	778.2	761.6	751.8	754.1	771.7	778.5	760.0	732.4	786.3	14	17
PSH OUT LEG T	09-024	804.3	787.4	779.9	785.8	802.8	810.4	786.4	758.3	805.9	14	18
PSH OUT LEG T	09-025	785.1	768.4	758.8	762.3	783.5	790.8	767.5	736.7	781.8	14	19
PSH OUT LEG T	09-026	793.1	775.7	771.5	779.5	792.2	798.8	778.6	760.0	790.1	14	20
PSH OUT LEG T	09-027	804.8	789.7	783.1	790.6	806.0	811.9	791.8	773.4	805.9	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	21.80	21.49	22.46	22.49	22.54	22.36	22.40	22.93	22.68	10	1
CYC B COAL FLOW KLB	07-110	21.78	21.48	22.45	22.48	22.56	22.37	22.42	22.86	22.66	10	2
CYC C COAL FLOW KLB	09-110	21.78	21.49	22.48	22.51	22.57	22.38	22.48	22.91	22.67	10	3
CYC A SEC AIR FLOW %	06-170	208.9	207.2	200.3	200.4	203.3	203.4	204.2	208.9	260.6	10	16
CYC B SEC AIR FLOW %	08-170	207.1	205.4	210.0	212.3	201.4	201.2	206.8	212.6	264.3	10	17
CYC C SEC AIR FLOW %	10-170	208.6	208.4	217.4	222.6	204.0	204.3	201.0	205.3	245.4	10	18
CYC A SEC AIR T	20-002	542.0	541.4	530.8	518.7	562.1	560.7	518.4	498.0	511.1	11	1
CYC B SEC AIR T	20-003	575.1	566.9	578.1	573.0	600.3	596.9	569.6	552.1	538.2	11	2
CYC C SEC AIR T	20-004	521.1	509.6	520.4	518.1	534.6	533.2	515.4	505.4	484.3	11	3
PULV COAL FLOW KLB	06-314	26.06	25.99	27.79	27.71	28.40	28.37	28.34	28.24	28.31	10	4
PULV PA FLOW	06-275	55.42	55.31	59.13	57.62	56.85	58.13	61.67	59.64	60.67	10	19
PULV INLET T	09-034	528.6	520.7	508.0	503.0	553.3	552.9	502.2	487.1	465.9	11	7
PULV OUTLET T	09-040	160.8	156.8	149.4	146.7	163.7	170.0	149.2	135.9	129.2	11	8

TEST NO.		16A	1BM	3T	4T	10B	10C	5T	7T	18T	
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17	
DATE		04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91	
TIME START		1110	1039	1710	1915	1524	1822	1408	1009	0919	
TIME END		1311	1200	1741	2008	1647	1914	1604	1024	0929	
LOAD MW		111	110	110	110	110	111	111	111	109	
DATA PAGE NO. 11	PULVERIZER INLET TEMP AND PA DIFF										
PULV DIFF P IN WG	06-274	14.57	12.72	12.04	12.39	12.52	16.54	11.69	12.42	11.02	11 9
PULV AMPS	06-276	270.0	255.5	257.7	264.3	251.4	281.5	253.2	264.4	244.8	11 10
PULV PA FAN AMPS	06-277	75.27	72.46	78.05	74.95	85.20	86.66	88.33	81.60	79.67	11 11
ROT CLASS AMPS	06-278	48.93	46.52	39.68	40.32	42.64	50.00	39.15	39.83	40.77	11 12
ROT CLASS RPM	06-270	158.1	153.3	140.7	140.7	138.6	160.0	139.9	139.7	140.8	11 13
ROT CLASS DP IN WG	06-345	.5445	.4752	.3671	.3797	.3930	.5725	.3571	.3862	.3663	11 14
COAL SILO LEVEL	06-310	44.58	36.85	68.45	32.36	82.82	57.78	83.74	71.88	80.82	11 15
FLAME INTENSITY #1 %	06-279	106.2	105.7	106.1	106.1	105.8	105.9	106.1	106.2	106.1	11 16
FLAME INTENSITY #2 %	06-295	105.5	105.0	105.5	102.7	105.2	105.2	106.0	106.1	105.8	11 17
FLAME INTENSITY #3 %	06-296	106.1	105.8	106.2	104.4	94.2	105.2	106.2	0.0	106.2	11 18
FLAME INTENSITY #4 %	06-297	105.8	105.1	106.1	105.2	105.4	105.5	106.1	0.0	0.0	11 19
DATA PAGE NO. 12	OPERATOR POSITIONS %										
RH SP VLV POS	15-077	16.90	7.06	8.70	5.10	20.54	22.01	-5.00	-5.00	12.40	12 1
SH SP VLV POS R	13-190	51.05	35.27	29.95	30.29	34.93	39.70	27.83	0.00	41.16	12 3
SH SP VLV POS L	13-191	49.37	30.97	31.87	28.58	40.87	42.87	24.61	0.00	59.19	12 4
GR DMPR DEMAND	16-044	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	1.0364	12 9
RECIRC AIR DMPR POS	12-176	0.00	0.00	22.59	33.68	20.63	18.88	36.37	56.46	31.61	12 13
SH PASS DMPR POS	14-180	100.0	100.0	65.1	52.1	100.0	100.0	100.0	35.0	100.0	12 15
RH PASS DMPR POS	14-180	-4.5	45.2	100.0	100.0	3.0	0.0	47.8	100.0	53.2	12 16
OVRFIRE AIR DMPR POS	06-115	49.37	46.39	47.05	60.19	58.88	58.61	59.11	58.12	28.26	12 17
BRN SEC AIR DMPR POS	06-286	19.84	18.30	35.88	14.17	19.62	19.66	32.41	32.01	32.11	12 18
HOT PRI AIR DMPR POS	06-556	100.0	100.0	100.0	100.0	99.9	99.6	100.0	100.0	100.0	12 19
BRN GAS REC DMPR POS	06-324	24.28	28.70	-5.00	39.99	21.06	21.06	-5.00	-5.00	-5.00	12 20
DATA PAGE NO. 15	MISCELLANEOUS										
GAS LVG SH PASS 1A	08-003	-443.9	-468.8	-411.0	-397.8	-492.8	-477.5	-407.7	-393.0	-427.2	15 1
GAS LVG SH PASS 1B	08-004	673.5	668.5	664.6	656.7	706.7	698.4	660.7	616.4	643.9	15 2
GAS LVG SH PASS 1C	08-005	691.5	681.9	696.1	703.8	732.3	727.0	680.1	627.0	659.1	15 3
GAS LVG SH PASS 1D	08-006	713.5	713.1	720.8	717.5	751.9	750.8	722.2	661.3	681.7	15 4
GAS LVG SH PASS 2A	08-017	618.8	617.6	608.9	595.9	646.4	638.7	604.8	580.6	603.2	15 5
GAS LVG SH PASS 2B	08-018	633.2	631.0	624.1	612.6	665.2	662.2	624.3	596.9	616.7	15 6
GAS LVG SH PASS 2C	08-019	643.2	638.6	635.6	628.5	676.4	676.0	640.6	601.2	615.0	15 7
GAS LVG SH PASS 2D	08-020	682.4	683.3	684.4	680.4	720.6	717.1	678.5	642.1	659.5	15 8
GAS LVG SH PASS 3A	08-021	650.0	652.2	635.7	627.5	680.7	675.1	635.7	619.6	638.6	15 9
GAS LVG SH PASS 3B	08-022	671.1	658.5	658.2	652.6	695.4	690.6	662.3	621.0	633.5	15 10
GAS LVG SH PASS 3C	08-023	658.7	652.1	632.2	625.8	682.2	677.5	643.1	612.4	621.1	15 11
GAS LVG SH PASS 3D	08-024	-600.4	-586.3	-554.5	-552.3	-636.6	-636.1	-552.9	-529.0	-532.3	15 12
GAS LVG RH PASS 4A	08-033	636.0	617.5	649.6	653.3	649.1	648.2	646.9	642.2	610.4	15 13
GAS LVG RH PASS 4B	08-034	650.6	634.8	665.5	664.7	674.8	668.2	656.7	652.5	625.1	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15

TEST NO.		16A	18M	3T	4T	10B	10C	5T	7T	18T
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17
DATE		04/24/92	05/05/92	02/13/91	02/13/91	04/13/92	04/13/92	02/14/91	02/15/91	02/18/91
TIME START		1110	1039	1710	1915	1524	1822	1408	1009	0919
TIME END		1311	1200	1741	2008	1647	1914	1604	1024	0929
LOAD MW		111	110	110	110	110	111	111	111	109
DATA PAGE NO. 15	MISCELLANEOUS									
GAS LVG RH PASS 4D	08-036	696.4	672.4	704.7	714.5	732.9	722.3	691.8	685.1	656.0	15 16
GAS LVG RH PASS 5A	08-049	624.1	610.1	627.3	630.7	644.3	639.4	633.4	629.9	605.5	15 17
GAS LVG RH PASS 5B	08-050	640.2	621.3	645.1	643.8	660.5	660.1	636.3	637.4	615.1	15 18
GAS LVG RH PASS 5C	08-051	645.2	636.8	661.6	654.8	685.3	672.3	649.4	648.0	626.7	15 19
GAS LVG RH PASS 5D	08-052	646.3	628.7	646.8	649.8	674.3	669.2	645.7	637.5	616.3	15 20
GAS LVG RH PASS 6A	08-053	630.9	619.9	638.1	635.2	649.6	645.7	638.5	635.9	618.3	15 21
GAS LVG RH PASS 6B	08-054	658.1	645.2	658.3	657.5	677.4	674.9	657.9	654.6	634.7	15 22
GAS LVG RH PASS 6C	08-055	647.9	636.3	643.2	641.5	670.7	662.9	640.8	646.9	629.5	15 23
GAS LVG RH PASS 6D	08-056	666.5	656.3	652.0	650.5	691.0	686.0	653.2	654.2	632.9	15 24
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W		84.00	93.00	6.00	7.00	74.00	75.00	8.00	9.00	11.00	15 28

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TEST NO.	22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START	1132	0951	1604	1044	1614	1143	1045	1658
TIME END	1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW	110	110	111	110	110	110	110	110
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

22T AVG SCANS 17-->32 : 110 MW : 14 TPH REBRN : NO GR TO BRNRS
24T AVG SCANS 9 -->10 : 110 MW : 14 TPH REBRN : NO GR TO BRNRS
6T AVG SCANS 45-->61 : 110 MW : 14 TPH REBURN : NO GR TO BNRS
15T AVG SCANS 9 -->10 : 110 MW : 14.5 TPH REBRN: NO GR TO BRNRS
10T AVG SCANS 40-->51 : 110 MW : 14 TPH REBURN : W/ GR TO BNRS
8T AVG SCANS 15-->16 : 110 MW : 14 TPH REBURN : W/ GR TO BNRS
19T AVG SCANS 15-->41 : 110 MW : 14 TPH REBRN : W/ GR TO BRNRS
23T AVG SCANS 43-->53 : 110 MW : 14 TPH REBRN : W/ GR TO BRNRS

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW		20-005	110.3	109.6	110.6	109.9	109.6	109.6	109.8	110.4	2 1
MAIN STEAM FLOW		03-033	813.9	818.3	808.0	804.9	799.3	799.2	802.1	807.3	2 2
1ST STG STM FLW		CALC	783.1	788.4	777.5	775.3	769.7	769.8	772.2	777.5	2 23
FW FLOW		12-170	798.6	799.3	781.6	780.3	778.6	774.9	775.9	782.9	2 3
BLOW DOWN FLOW		EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 4
RH SPRAY FLOW		14-192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 5
SH SPRAY FLOW	L	17-052	1.4078	0.0000	2.9283	0.0000	0.0000	0.0000	2.9492	.9944	2 7
SH SPRAY FLOW	R	17-056	0.0000	0.0000	4.9988	0.0000	2.5535	0.0000	0.0000	0.0000	2 8
GR FAN AMPS	A	16-181	.08	.08	21.80	22.44	25.46	25.66	24.35	25.63	2 12
GR FAN AMPS	B	16-183	-.0206	-.0206	-.0206	-.0206	-.0206	-.0206	-.0206	-.0206	2 13
GR FAN BUS VOLT		EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2 14
TOTAL GR FLOW		CALC	0.00	0.00	43.99	45.61	76.64	77.42	63.96	75.34	2 24
GR TO SEC AIR		06-932	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 25
GR TO SEC AIR		CALC	0.00	0.00	.43	1.34	54.48	48.59	9.99	14.37	2 26
GR TO FURN		CALC	0.00	0.00	43.56	44.27	22.17	28.83	53.97	60.97	2 27
OFA AIR FLOW		06-931	175.4	172.2	218.5	206.2	235.2	237.7	226.4	223.3	2 28
TMP AIR FLOW		CALC	34.94	23.88	33.19	8.21	17.14	16.13	30.95	23.09	14 10
SEC AIR FLOW		06-320	37.54	37.61	48.93	44.29	27.39	28.27	32.19	27.11	2 29
1st STG PRESS		18-128	1090.2	1097.7	1082.1	1079.0	1071.0	1071.2	1074.6	1082.1	2 19
OIL FLOW 2A		05-100	.0020	.0033	.0017	.0017	.0024	.0018	.0026	.0023	2 20
OIL FLOW 2B		07-100	.0033	.0033	.0017	.0033	.0017	.0031	.0026	.0026	2 21
OIL FLOW 2C		09-100	.0016	.0019	.0016	.0016	.0016	.0016	.0016	.0016	2 22
% PWDR RVR BASN COAL		USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 30
CYCLONE STOIC		CALC	1.0840	1.1039	1.1054	1.1345	1.1170	1.1257	1.1038	1.1029	4 20
REBRN WB STOIC		CALC	.5678	.5684	.4732	.4325	.3960	.3944	.3987	.3788	4 21
REBRN STOIC		CALC	.9176	.9267	.8798	.8932	.8485	.8534	.8649	.8595	4 22
LVG FURN STOIC		CALC	1.1379	1.1440	1.1576	1.1549	1.1488	1.1563	1.1533	1.1422	4 23
LVG ECON STOIC		CALC	1.1477	1.1538	1.1672	1.1646	1.1585	1.1659	1.1630	1.1519	4 24

TEST NO.			22T	24T	6T	15T	10T	8T	19T	23T	
TEST SEQ. NO.			1	2	3	4	5	6	7	8	
DATE			02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91	
TIME START			1132	0951	1604	1044	1614	1143	1045	1658	
TIME END			1513	1012	1903	1103	1809	1204	1644	1854	
LOAD MW			110	110	111	110	110	110	110	110	
DATA PAGE NO. 3		**FLUID TEMPERATURES F (C) - PLANT**									
SSH OUT T	L	15-152	965.8	964.1	998.0	990.4	993.4	991.0	998.5	996.8	3 1
SSH OUT T	R	15-150	942.0	967.3	996.3	999.8	977.3	1000.0	993.9	991.7	3 2
SSH OUT AVE T		13-160	955.8	970.7	999.4	998.7	986.7	997.9	999.2	996.0	14 1
LVG SH ATTMP T	L	13-164	706.9	722.5	753.0	745.5	743.1	744.0	740.4	746.9	3 8
LVG SH ATTMP T	R	13-162	725.9	740.9	763.3	761.1	750.1	763.2	767.0	766.4	3 9
PRI SH OUT T	L	HW	707.8	722.9	762.6	744.9	740.8	742.2	748.6	746.0	3 10
PRI SH OUT T	R	HW	727.1	742.8	764.3	767.3	740.8	742.2	771.8	765.9	3 11
ECON H2O OUT T	L	HW	515.3	504.0	506.6	510.3	512.0	512.2	508.7	508.6	3 27
ECON H2O OUT T	R	HW	492.5	503.2	519.7	510.1	512.0	514.9	514.2	512.5	3 28
ECON H2O IN T		20-007	457.9	457.0	458.4	457.9	457.6	457.1	457.6	458.5	3 5
RH SPRAY H2O T		HW	318.0	316.6	316.8	317.1	316.7	316.5	316.6	325.0	3 7
LVG RH T		14-150	985.3	958.9	999.2	994.9	997.3	1002.2	998.1	1000.0	3 12
ENT RH T		CALC	703.3	712.0	736.6	735.9	718.3	734.4	736.1	734.2	3 16
COLD RH T		20-006	707.3	715.9	740.8	740.4	731.7	739.5	740.6	740.1	3 18
DATA PAGE NO. 4		**FLUID TEMPERATURES F (C) - B&W**									
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19
DATA PAGE NO. 5		**FLUID PRESSURES PSIG (KG/CM2)**									
TURB THROT P		03-170	1450.1	1457.5	1463.4	1454.5	1451.1	1450.2	1452.9	1450.6	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1609.9	1620.7	1621.6	1612.8	1606.6	1606.7	1609.9	1610.3	5 3
LVG RH PRESS		15-102	432.8	431.2	427.3	425.5	424.7	423.8	424.3	426.9	5 4

TEST NO.	22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START	1132	0951	1604	1044	1614	1143	1045	1658
TIME END	1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW	110	110	111	110	110	110	110	110

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

ENT RH PRESS		15-100	461.6	458.7	457.1	454.5	455.2	452.9	452.6	456.1	5 5
FW HTR E EXT P		20-035	440.7	437.9	436.5	434.0	434.7	432.6	432.6	435.1	5 6
FW HTR E EXT P		TRANS	442.9	440.6	438.1	436.0	436.3	434.3	434.6	437.3	5 7
SEC SH OUT P	(T)	TRANS	1497.1	1506.7	1512.4	1503.2	1499.4	1499.0	1500.8	1497.9	5 17
DRUM PRESS	(T)	TRANS	1600.6	1610.6	1613.9	1604.5	1599.8	1599.4	1601.7	1600.7	5 18
LVG RH-1 P	(T)	TRANS	436.8	434.8	431.6	429.7	429.9	428.0	428.3	431.3	5 19
ENT RH-1 P	(T)	TRANS	457.6	455.6	452.4	450.1	450.1	448.5	448.7	451.6	5 20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 4
AIR LVG FD FAN T	A	09-028	124.7	122.3	124.3	120.2	133.6	127.8	126.9	124.0	7 2
AIR LVG FD FAN T	B	09-029	124.7	124.6	127.2	124.1	133.0	125.2	126.6	123.7	7 3
AIR ENT AH T	RA	20-017	166.1	178.2	152.4	170.6	148.6	160.9	162.1	166.7	6 2
AIR ENT AH T	RB	20-018	149.4	149.8	149.6	148.9	151.8	148.9	150.5	148.5	6 3
AIR ENT AH T	LA	20-025	185.6	186.0	184.8	182.8	187.7	188.4	187.2	186.1	13 25
AIR ENT AH T	LB	20-029	161.5	167.5	156.2	167.1	155.4	168.3	168.8	171.5	13 26
AIR LVG AH T	R	HW	544.5	551.7	593.9	591.7	583.3	570.9	574.2	565.6	6 6
AIR LVG AH T	L	HW	557.8	539.2	592.4	543.5	583.3	571.0	548.4	547.7	6 7
BRN SEC AIR T		08-002	513.8	507.7	545.1	508.8	539.2	523.9	521.4	518.0	14 2
BRN SA/GR T		08-001	485.6	484.8	530.6	493.7	574.1	552.3	530.8	492.3	14 3
OFA TEMP		09-002	516.4	509.8	542.1	511.6	543.0	527.1	523.8	521.1	14 4
GAS LVG AH T	RA	20-019	304.8	310.4	318.7	301.6	322.2	308.4	309.5	304.6	6 10
GAS LVG AH T	RB	20-020	290.0	292.8	299.1	283.4	302.8	290.3	290.6	288.0	6 11
GAS LVG AH T	LA	20-027	290.8	284.6	285.3	274.4	292.7	284.6	280.5	285.8	13 27
GAS LVG AH T	LB	20-024	302.5	297.7	300.5	287.9	305.6	298.0	293.8	298.0	13 28
GAS LVG RH PS T		AVE	634.3	610.1	644.2	626.3	655.5	639.9	626.2	622.2	13 17
GAS LVG SH PS T		AVE	587.9	610.2	671.6	622.7	648.2	644.6	641.9	634.3	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	2.3943	2.0672	2.8912	3.0479	4.2619	4.0184	2.9961	2.6780	6 20
O2 LVG ECON	L	11-170	2.3258	2.8728	3.4287	3.0353	3.1616	3.7717	2.9221	2.3977	6 21
O2 IN SEC AIR		06-254	20.71	20.65	20.37	20.01	8.70	9.37	16.37	14.38	13 29
ACCUREX NOX	PPM	06-553	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 9
ACCUREX SOX	PPM	06-555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 10
ACCUREX CO	PPM	06-425	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 11
ACCUREX O2	%	06-554	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 12
BRN SEC AIR P	IN WG	06-250	22.39	20.96	24.61	22.45	25.19	26.79	23.16	22.56	14 5
BRN GAS REC P	IN WG	06-252	22.12	20.55	24.01	21.98	25.15	26.72	23.00	22.47	14 6
FURNACE GAS P	IN WG	08-100	21.30	19.93	21.34	20.26	20.69	20.88	20.22	20.21	14 7
BAROMETRIC P	IN HG	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 29
REL HUMIDITY	%	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 30

TEST NO.		22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START		1132	0951	1604	1044	1614	1143	1045	1658
TIME END		1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW		110	110	111	110	110	110	110	110

DATA PAGE NO. 7 AIR & GAS DATA - B&W

AMBIENT AIR TEMP	TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 1
AIR LVG FD FAN T A	TC	127.7	125.3	126.9	121.9	136.3	130.3	129.8	126.7	7 6
AIR LVG FD FAN T B	TC	127.0	127.0	129.1	126.1	135.3	127.4	128.9	126.0	7 7
AIR ENT AH (T)	GRID	166.3	172.1	158.0	166.7	158.0	164.9	166.9	168.9	7 4
GAS LVG AH (T)	GRID	292.8	292.2	294.8	281.8	300.0	290.1	289.9	290.4	7 10
GAS LVG ECON (T) L	GRID	653.0	627.4	671.8	645.2	677.2	660.4	649.4	671.0	7 14
GAS LVG ECON (T) R	GRID	577.7	586.3	671.0	612.2	654.6	649.5	633.3	626.4	7 15
GAS TEMP LVG GR FAN	GRID	164.0	0.0	0.0	0.0	0.0	0.0	0.0	514.0	13 7
O2 LVG ECON (T) L	GRID	2.5630	2.9817	3.1325	3.0326	2.6087	2.8637	3.1423	2.7219	7 20
O2 LVG ECON (T) R	GRID	2.9456	2.7023	3.0375	3.0462	3.2706	3.2283	2.8817	2.9375	7 21
CO LVG ECON (T) L	GRID	74.0	72.6	144.1	99.9	146.8	101.3	65.4	66.8	13 5
CO LVG ECON (T) R	GRID	69.6	71.0	137.1	80.7	81.8	132.1	111.1	104.4	13 6
CO2 LVG ECON (T) L	GRID	16.07	15.98	5.01	16.09	17.02	16.56	15.94	15.78	7 22
CO2 LVG ECON (T) R	GRID	15.73	16.02	15.58	15.70	15.92	15.73	15.70	15.70	7 23
NOX LVG ECON (T) L	GRID	299.6	314.4	285.5	286.0	279.6	289.3	266.7	254.3	7 24
NOX LVG ECON (T) R	GRID	296.8	286.8	301.5	306.5	309.9	311.4	277.3	271.5	7 25
O2 LVG AH (T)	GRID	4.0000	3.9600	4.1000	4.2500	4.2000	4.1500	4.2500	4.0000	13 1
CO2 LVG AH (T)	GRID	34.5	31.7	238.3	1556.3	1812.2	2478.2	480.5	42.0	13 3
O2 LVG GR FAN (T)	GRID	18.29	18.12	12.04	3.54	9.50	5.01	13.53	18.22	13 4
DRY BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27

DATA PAGE NO. 8 FW HTR TEMPERATURES F (C) - PLANT

FW HTR E EXT T	HW	706.6	714.8	739.9	739.9	730.5	738.8	740.2	739.1	8 1
FW HTR E LVG T	HW	459.2	456.6	407.3	457.7	401.4	403.9	457.2	457.9	8 5
FW HTR E ENT T	HW	382.9	381.1	382.9	383.5	383.0	382.8	383.6	383.1	8 7
FW HTR E DRN T	HW	402.3	400.7	401.3	401.8	401.4	401.0	401.3	402.0	8 13

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 1	10-017	813.9	830.8	855.6	853.8	841.1	858.1	854.9	857.9	9 17
SSH PEND IN LEG 2	10-018	834.1	853.7	877.8	878.9	865.4	885.3	875.5	880.2	9 18
SSH PEND IN LEG 3	10-019	834.8	860.3	883.9	884.4	874.2	893.7	878.8	880.6	9 19
SSH PEND IN LEG 4	10-020	845.7	876.4	894.9	896.5	884.0	901.3	891.8	891.1	9 20
SSH PEND IN LEG 5	10-021	841.9	878.6	888.7	893.6	875.6	889.7	889.2	884.4	9 21
SSH PEND IN LEG 6	10-033	851.4	886.5	893.8	899.9	883.0	889.0	895.6	891.0	9 22
SSH PEND IN LEG 7	10-034	853.0	878.9	887.7	895.4	881.4	880.1	888.7	888.5	9 23
SSH PEND IN LEG 8	10-035	852.0	864.7	880.2	885.8	877.4	874.8	883.9	885.3	9 24
SSH PEND IN LEG 9	10-036	852.6	855.0	884.3	880.4	881.1	878.5	883.7	885.7	9 25
SSH PEND IN LEG 10	10-037	824.6	821.7	869.8	847.0	861.9	863.2	854.9	856.4	9 26
RH PEND IN LEG 1	09-049	932.6	910.4	942.4	944.8	942.6	946.9	944.9	947.2	8 17
RH PEND IN LEG 2	09-050	923.7	908.3	935.0	942.6	934.7	940.7	940.1	941.2	8 18

TEST NO.	22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START	1132	0951	1604	1044	1614	1143	1045	1658
TIME END	1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW	110	110	111	110	110	110	110	110

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

RH PEND IN LEG 3	09-051	926.0	905.9	936.4	940.5	936.4	941.5	940.0	941.6	8 19
RH PEND IN LEG 4	09-052	923.6	906.0	935.2	941.0	934.7	940.4	939.4	940.4	8 20
RH PEND IN LEG 5	09-053	911.5	861.3	950.1	900.0	948.0	955.9	917.9	918.7	8 21
RH PEND IN LEG 6	10-001	951.6	924.9	955.9	959.7	958.8	960.4	960.0	964.9	8 22
RH PEND IN LEG 7	10-002	925.8	896.7	925.7	932.9	928.3	928.5	932.0	936.8	8 23
RH PEND IN LEG 8	10-003	931.4	891.6	934.7	929.9	934.4	935.5	933.7	937.3	8 24
RH PEND IN LEG 9	10-004	932.5	909.9	942.1	945.1	942.4	946.8	944.9	947.2	8 25
RH PEND IN LEG 10	10-005	888.5	844.2	934.3	881.3	933.2	943.7	896.0	895.5	8 26
RH INTM HND HOLE R	10-038	930.7	916.2	940.1	941.1	940.8	945.6	943.2	945.7	8 27
RH INTM HND HOLE L	10-039	844.0	817.0	877.6	842.3	873.1	882.2	850.2	849.1	8 28
PSH OUT LEG T	09-017	730.6	740.0	778.1	764.2	758.9	760.0	767.8	763.1	14 11
PSH OUT LEG T	09-018	733.9	744.0	792.6	771.5	772.0	772.2	777.0	771.2	14 12
PSH OUT LEG T	09-019	689.2	706.5	750.8	725.2	727.5	727.5	728.7	732.4	14 13
PSH OUT LEG T	09-020	699.2	719.6	764.8	739.0	739.6	739.0	744.5	745.2	14 14
PSH OUT LEG T	09-021	718.6	728.3	761.5	749.3	745.4	746.0	752.6	750.5	14 15
PSH OUT LEG T	09-022	730.6	736.5	768.8	759.1	753.1	754.2	761.1	756.9	14 16
PSH OUT LEG T	09-023	711.1	728.4	775.5	752.1	749.8	751.9	757.9	751.4	14 17
PSH OUT LEG T	09-024	742.0	750.3	794.5	777.0	779.2	778.3	780.8	775.3	14 18
PSH OUT LEG T	09-025	711.8	733.7	779.4	757.3	758.4	758.1	761.2	754.9	14 19
PSH OUT LEG T	09-026	732.9	742.1	782.8	766.5	773.6	773.3	769.2	764.6	14 20
PSH OUT LEG T	09-027	745.4	754.7	795.7	781.3	787.0	787.4	784.1	779.9	14 21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	23.78	23.38	22.32	22.65	22.89	22.76	22.68	23.54	10 1
CYC B COAL FLOW KLB	07-110	23.77	23.36	22.34	22.63	22.85	22.72	22.66	23.53	10 2
CYC C COAL FLOW KLB	09-110	23.31	23.38	22.40	22.66	22.89	22.77	22.67	23.52	10 3
CYC A SEC AIR FLOW %	06-170	208.4	205.6	205.2	204.3	202.4	204.6	207.5	208.7	10 16
CYC B SEC AIR FLOW %	08-170	207.9	209.3	207.4	215.8	216.1	214.0	209.8	213.1	10 17
CYC C SEC AIR FLOW %	10-170	193.5	200.6	205.9	206.8	203.7	210.2	199.4	199.4	10 18
CYC A SEC AIR T	20-002	475.4	482.7	530.0	499.7	527.1	515.2	515.5	507.9	11 1
CYC B SEC AIR T	20-003	556.0	540.3	578.0	543.0	575.0	558.4	556.0	554.4	11 2
CYC C SEC AIR T	20-004	511.9	495.4	515.0	492.2	524.8	507.2	498.5	500.1	11 3
PULV COAL FLOW KLB	06-314	28.25	28.41	28.34	29.33	28.19	28.24	28.26	28.29	10 4
PULV PA FLOW	06-275	59.62	60.43	61.42	60.00	59.60	58.87	59.61	59.81	10 19
PULV INLET T	09-034	506.7	486.8	503.7	479.3	507.9	492.1	485.7	489.8	11 7
PULV OUTLET T	09-040	138.2	132.9	152.1	133.5	140.7	135.6	138.6	138.6	11 8

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	14.33	13.31	11.92	13.89	12.91	13.55	13.52	13.59	11 9
PULV AMPS	06-276	277.7	268.9	254.3	283.5	256.3	272.6	275.0	273.7	11 10
PULV PA FAN AMPS	06-277	86.51	85.12	88.03	86.76	83.37	81.41	83.30	83.58	11 11

TEST NO.	22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START	1132	0951	1604	1044	1614	1143	1045	1658
TIME END	1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW	110	110	111	110	110	110	110	110

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

ROT CLASS AMPS	06-278	40.21	41.07	39.42	41.09	39.78	39.64	39.86	39.43	11 12
ROT CLASS RPM	06-270	139.5	140.6	139.9	140.5	139.9	139.8	139.3	139.6	11 13
ROT CLASS DP IN WG	06-345	.3747	.3993	.3580	.4116	.3732	.3811	.3750	.3734	11 14
COAL SILO LEVEL	06-310	62.03	79.32	63.62	92.91	64.03	81.21	71.64	74.21	11 15
FLAME INTENSITY #1 %	06-279	106.1	106.0	106.1	106.1	106.1	106.1	106.1	106.1	11 16
FLAME INTENSITY #2 %	06-295	105.6	105.3	106.0	105.9	105.6	106.0	105.9	105.7	11 17
FLAME INTENSITY #3 %	06-296	106.1	106.1	0.0	106.1	98.9	0.0	106.1	106.2	11 18
FLAME INTENSITY #4 %	06-297	105.8	105.8	105.7	106.2	104.9	106.1	106.1	106.1	11 19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	-5.0000	-5.0000	-5.0000	-5.0000	-.2406	-5.0000	-5.0000	-5.0000	12 1
SH SP VLV POS R	13-190	0.00	0.00	31.15	26.17	30.10	26.44	23.94	0.00	12 3
SH SP VLV POS L	13-191	0.00	0.00	31.61	0.00	12.86	0.00	30.47	27.68	12 4
GR DMPR DEMAND	16-044	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12 9
RECIRC AIR DMPR POS	12-176	27.63	.07	32.32	44.82	23.37	83.92	53.28	43.91	12 13
SH PASS DMPR POS	14-180	21.8	53.2	100.0	60.1	67.4	71.1	91.5	100.0	12 15
RH PASS DMPR POS	14-180	100.0	100.0	15.2	100.0	100.0	100.0	54.7	42.2	12 16
OVRFIRE AIR DMPR POS	06-115	45.06	44.15	65.50	50.64	60.45	61.00	55.56	55.02	12 17
BRN SEC AIR DMPR POS	06-286	22.06	22.04	32.41	27.45	14.45	15.55	18.04	12.05	12 18
HOT PRI AIR DMPR POS	06-556	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12 19
BRN GAS REC DMPR POS	06-324	-5.00	0.00	-5.00	-5.00	47.91	50.34	35.01	34.01	12 20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-379.1	-419.3	-433.1	-395.6	-401.4	-418.4	-414.0	-404.1	15 1
GAS LVG SH PASS 1B	08-004	591.5	623.7	689.1	623.8	646.4	637.6	650.1	639.2	15 2
GAS LVG SH PASS 1C	08-005	609.1	628.0	702.9	642.5	674.2	658.8	668.7	684.3	15 3
GAS LVG SH PASS 1D	08-006	618.4	652.8	739.8	673.1	711.8	700.4	698.7	698.5	15 4
GAS LVG SH PASS 2A	08-017	557.5	579.9	619.0	582.0	600.6	600.0	598.8	589.6	15 5
GAS LVG SH PASS 2B	08-018	571.6	589.1	638.0	599.3	614.2	620.4	617.5	604.2	15 6
GAS LVG SH PASS 2C	08-019	575.4	588.1	655.0	601.3	626.5	627.5	622.8	610.0	15 7
GAS LVG SH PASS 2D	08-020	610.3	628.5	693.5	649.9	677.5	671.3	665.0	655.5	15 8
GAS LVG SH PASS 3A	08-021	581.9	604.8	644.4	620.6	632.2	643.0	632.0	621.8	15 9
GAS LVG SH PASS 3B	08-022	585.1	608.8	672.6	623.6	660.9	651.6	642.7	629.7	15 10
GAS LVG SH PASS 3C	08-023	578.9	598.8	661.5	610.8	637.3	635.2	622.6	610.0	15 11
GAS LVG SH PASS 3D	08-024	-481.7	-524.7	-598.8	-526.3	-554.7	-549.4	-540.5	-523.2	15 12
GAS LVG RH PASS 4A	08-033	622.3	597.9	638.1	608.8	652.5	640.0	613.7	612.4	15 13
GAS LVG RH PASS 4B	08-034	647.3	616.6	648.3	631.6	664.2	640.9	631.1	630.8	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15
GAS LVG RH PASS 4D	08-036	673.8	646.0	687.7	663.0	700.4	678.7	664.1	663.2	15 16
GAS LVG RH PASS 5A	08-049	611.3	585.2	623.1	605.7	641.9	623.5	602.2	597.5	15 17
GAS LVG RH PASS 5B	08-050	629.1	602.9	628.8	619.4	644.1	624.1	615.9	611.9	15 18

TEST NO.		22T	24T	6T	15T	10T	8T	19T	23T
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		02/19/91	02/20/91	02/14/91	02/17/91	02/15/91	02/15/91	02/18/91	02/19/91
TIME START		1132	0951	1604	1044	1614	1143	1045	1658
TIME END		1513	1012	1903	1103	1809	1204	1644	1854
LOAD MW		110	110	111	110	110	110	110	110

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	5C	08-051	641.2	614.0	644.7	629.6	652.2	637.6	631.4	626.6	15 19
GAS LVG RH PASS	5D	08-052	627.9	604.2	645.4	620.6	649.4	639.1	623.5	621.5	15 20
GAS LVG RH PASS	6A	08-053	621.1	598.4	631.6	614.9	643.1	628.1	615.3	608.5	15 21
GAS LVG RH PASS	6B	08-054	640.3	616.8	654.3	635.8	661.1	645.1	632.4	623.7	15 22
GAS LVG RH PASS	6C	08-055	631.4	613.0	636.2	628.9	645.7	636.3	627.0	620.0	15 23
GAS LVG RH PASS	6D	08-056	632.1	616.2	647.6	630.9	655.9	645.3	631.6	628.3	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			12.00	13.00	14.00	20.00	16.00	15.00	17.00	18.00	15 28

RB-369 16 Jun 1992 14:17:51

TEST NO.	16T	9T	17T	3BM	50T	25T	31T	32T	17A
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92
TIME START	1142	1513	1658	1444	1030	1248	1057	1504	1130
TIME END	1245	1542	1812	1517	1112	1447	1226	1702	1400
LOAD MW	110	109	110	110	110	111	111	111	110
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

16T AVG SCANS 16-->21 : 110 MW : 14.5 TPH REBRN : W/ GR TO BRNRS
9T AVG SCANS 35-->36 : 110 MW : 14 TPH REBURN : W/ GR TO BNRS
17T AVG SCANS 46-->52 : 110 MW : 14.5 TPH REBRN : W/ GR TO BRNRS
3BM AVG SCANS 34-->35 : 110 MW : 14 TPH
50T AVG SCANS 14-->17 : 110 MW : 14 TPH REBRN : HIGH CLASS RPM
25T AVG SCANS 24-->35 : 110 MW : 16 TPH REBRN : NO GR TO BRNRS
31T AVG SCANS 20-->28 : 110 MW : 16 TPH REBRN : NO GR TO BRNRS
32T AVG SCANS 44-->53 : 110 MW : 16 TPH REBRN : W/ GR TO BRNRS
17A AVG SCANS 14-->20 : 110 MW : 15 TPH REBRN

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW		20-005	109.8	109.4	109.6	110.5	109.9	110.5	111.2	110.8	110.1	2 1
MAIN STEAM FLOW		03-033	800.4	803.5	797.4	776.1	800.9	821.1	823.9	810.4	773.8	2 2
1ST STG STM FLW		CALC	770.9	773.8	768.1	772.1	771.2	788.7	791.0	779.2	770.2	2 23
FW FLOW		12-170	778.0	784.3	777.8	790.1	774.0	793.7	800.6	783.0	783.4	2 3
BLOW DOWN FLOW		EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 4
RH SPRAY FLOW		14-192	0.0000	0.0000	0.0000	8.6863	0.0000	0.0000	0.0000	0.0000	0.0000	2 5
SH SPRAY FLOW	L	17-052	0.00	0.00	1.76	10.64	7.46	1.66	1.36	1.93	6.10	2 7
SH SPRAY FLOW	R	17-056	6.61	3.66	0.00	13.07	12.12	5.62	0.00	2.23	8.76	2 8
GR FAN AMPS	A	16-181	24.68	22.18	24.73	.08	23.91	.08	.08	24.60	24.29	2 12
GR FAN AMPS	B	16-183	-.02	-.02	-.02	27.81	-.02	-.02	-.02	-.02	-.02	2 13
GR FAN BUS VOLT		EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2 14
TOTAL GR FLOW		CALC	67.09	46.27	67.52	0.00	61.91	0.00	0.00	65.76	68.62	2 24
GR TO SEC AIR		06-932	0.00	0.00	0.00	11.79	9.71	0.00	0.00	0.00	13.30	2 25
GR TO SEC AIR		CALC	10.24	2.92	11.80	0.00	8.83	0.00	0.00	11.60	12.81	2 26
GR TO FURN		CALC	56.85	43.35	55.73	0.00	53.08	0.00	0.00	54.16	55.81	2 27
OFA AIR FLOW		06-931	228.1	226.7	222.9	234.1	237.2	189.7	208.2	245.7	257.2	2 28
TMP AIR FLOW		CALC	22.84	19.25	31.53	0.00	50.43	9.41	18.64	3.08	51.78	14 10
SEC AIR FLOW		06-320	33.87	44.06	31.70	31.35	30.58	39.68	39.85	28.29	26.75	2 29
1st STG PRESS		18-128	1072.7	1076.9	1068.7	1074.4	1073.1	1098.1	1101.4	1084.6	1071.7	2 19
OIL FLOW 2A		05-100	.0017	.0022	.0017	.0027	.0017	.0023	.0017	.0032	.0021	2 20
OIL FLOW 2B		07-100	.0032	.0017	.0033	.0017	.0017	.0033	.0017	.0017	.0017	2 21
OIL FLOW 2C		09-100	.0016	.0016	.0016	.0016	.0016	.0017	.0016	.0016	.0016	2 22
% PWDR RVR BASN COAL		USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2 30
CYCLONE STOIC		CALC	1.1122	1.1004	1.1027	0.0000	1.0785	1.1243	1.1005	1.1228	1.0571	4 20
REBRN WB STOIC		CALC	.3944	.4463	.3869	0.0000	.3832	.5248	.5192	.3459	.3555	4 21
REBRN STOIC		CALC	.8609	.8455	.8683	0.0000	.8504	.9057	.8726	.8255	.8051	4 22
LVG FURN STOIC		CALC	1.1513	1.1349	1.1530	0.0000	1.1528	1.1462	1.1338	1.1367	1.1331	4 23

TEST NO.			16T	9T	17T	38M	50T	25T	31T	32T	17A	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92	
TIME START			1142	1513	1658	1444	1030	1248	1057	1504	1130	
TIME END			1245	1542	1812	1517	1112	1447	1226	1702	1400	
LOAD MW			110	109	110	110	110	111	111	111	110	
DATA PAGE NO. 2	FLOWS MLB/HR (MT/HR)											
LVG ECON STOIC		CALC	1.1609	1.1446	1.1627	0.0000	1.1622	1.1560	1.1436	1.1464	1.1428	4 24
DATA PAGE NO. 3	FLUID TEMPERATURES F (C) - PLANT											
SSH OUT T	L	15-152	999.1	986.4	999.1	998.5	998.9	990.8	968.0	998.1	999.4	3 1
SSH OUT T	R	15-150	994.9	970.1	990.7	998.1	1000.9	991.4	979.2	997.9	996.7	3 2
SSH OUT AVE T		13-160	999.6	979.6	998.4	1000.4	1001.6	996.0	979.4	1002.1	999.4	14 1
LVG SH ATTMP T	L	13-164	753.5	738.4	734.6	726.1	740.1	717.8	715.1	729.8	735.4	3 8
LVG SH ATTMP T	R	13-162	749.7	740.6	762.8	739.8	744.9	739.3	745.8	755.0	740.8	3 9
PRI SH OUT T	L	HW	751.5	737.4	740.8	761.2	763.6	721.5	714.6	732.0	756.6	3 10
PRI SH OUT T	R	HW	775.8	737.5	746.5	789.3	788.7	744.5	743.5	761.5	778.6	3 11
ECON H2O OUT T	L	HW	510.7	509.7	510.9	510.4	505.9	506.2	507.8	508.8	512.8	3 27
ECON H2O OUT T	R	HW	513.3	509.7	511.5	514.2	510.0	504.0	498.1	507.2	516.1	3 28
ECON H2O IN T		20-007	458.2	457.4	458.1	460.4	457.3	458.6	458.8	459.1	459.1	3 5
RH SPRAY H2O T		HW	316.6	316.3	317.2	316.9	314.6	317.0	315.6	315.3	316.1	3 7
LVG RH T		14-150	996.1	987.5	997.5	996.3	1003.9	979.2	982.2	1002.8	1000.4	3 12
ENT RH T		CALC	726.0	719.4	721.6	696.2	736.6	735.7	718.6	735.4	713.8	3 16
COLD RH T		20-006	742.5	724.6	741.4	746.3	744.1	740.5	726.0	745.8	744.2	3 18
DATA PAGE NO. 4	FLUID TEMPERATURES F (C) - B&W											
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

TEST NO.		16T	9T	17T	3BM	50T	25T	31T	32T	17A		
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17		
DATE		02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92		
TIME START		1142	1513	1658	1444	1030	1248	1057	1504	1130		
TIME END		1245	1542	1812	1517	1112	1447	1226	1702	1400		
LOAD MW		110	109	110	110	110	111	111	111	110		
DATA PAGE NO. 5	FLUID PRESSURES PSIG (KG/CM2)											
TURB THROT P		03-170	1452.8	1447.1	1453.4	1449.3	1449.7	1453.1	1464.6	1451.5	1450.0	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1607.8	1605.8	1607.0	1599.8	1603.1	1616.5	1627.9	1611.1	1605.0	5 3
LVG RH PRESS		15-102	425.3	425.5	425.2	430.9	424.2	430.7	434.1	428.3	426.8	5 4
ENT RH PRESS		15-100	454.1	456.1	454.7	460.1	453.7	460.0	463.9	458.4	454.1	5 5
FW HTR E EXT P		20-035	434.0	434.8	434.3	440.3	433.7	438.9	442.4	437.3	435.4	5 6
FW HTR E EXT P		TRANS	435.9	436.5	436.1	442.4	435.7	441.0	444.6	439.2	437.9	5 7
SEC SH OUT P	(T)	TRANS	1500.4	1494.6	1501.4	1493.9	1496.6	1502.8	1513.8	1499.7	1495.6	5 17
DRUM PRESS	(T)	TRANS	1600.2	1596.2	1600.3	1593.3	1596.4	1607.0	1618.4	1602.2	1596.0	5 18
LVG RH-1 P	(T)	TRANS	429.4	430.2	429.5	435.3	428.9	434.8	438.4	432.6	431.3	5 19
ENT RH-1 P	(T)	TRANS	449.8	450.5	449.9	0.0	449.1	455.5	459.5	453.4	0.0	5 20
DATA PAGE NO. 6	AIR & GAS DATA - PLANT											
AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	0.0	0.0	0.0	101.2	0.0	0.0	0.0	0.0	98.8	6 4
AIR LVG FD FAN T	A	09-028	121.4	134.9	121.1	132.4	136.3	127.2	124.3	129.7	128.4	7 2
AIR LVG FD FAN T	B	09-029	125.9	133.0	127.8	134.9	141.0	130.0	124.4	129.2	131.3	7 3
AIR ENT AH T	RA	20-017	165.3	149.5	157.1	138.0	146.7	180.3	161.2	162.5	133.5	6 2
AIR ENT AH T	RB	20-018	150.0	152.3	151.5	137.9	151.5	154.7	148.0	152.6	134.1	6 3
AIR ENT AH T	LA	20-025	183.5	188.5	182.6	135.5	143.2	189.6	182.2	188.8	131.7	13 25
AIR ENT AH T	LB	20-029	164.5	157.5	157.4	136.3	140.3	169.2	155.6	167.0	132.4	13 26
AIR LVG AH T	R	HW	567.0	580.4	573.5	599.9	609.1	555.8	551.7	560.6	618.9	6 6
AIR LVG AH T	L	HW	548.3	580.4	571.8	561.2	552.5	544.9	553.5	553.0	585.9	6 7
BRN SEC AIR T		08-002	519.0	536.5	525.9	546.5	546.7	513.9	518.4	515.9	563.9	14 2
BRN SA/GR T		08-001	526.9	523.9	544.9	552.6	526.7	488.4	493.0	522.5	549.1	14 3
OFA TEMP		09-002	521.0	537.1	527.7	529.0	546.0	515.5	520.3	521.8	546.9	14 4
GAS LVG AH T	RA	20-019	306.4	321.7	313.4	319.1	327.8	310.2	309.6	308.5	322.8	6 10
GAS LVG AH T	RB	20-020	287.9	301.5	295.2	302.0	311.2	294.1	293.2	290.8	305.5	6 11
GAS LVG AH T	LA	20-027	277.0	289.7	279.3	288.8	279.4	287.3	288.6	284.6	292.2	13 27
GAS LVG AH T	LB	20-024	290.4	303.1	293.1	293.8	283.0	300.1	298.5	295.6	296.6	13 28
GAS LVG RH PS T		AVE	631.0	650.0	635.8	0.0	628.1	619.8	632.7	632.4	667.0	13 17
GAS LVG SH PS T		AVE	637.9	647.9	633.0	0.0	669.7	613.4	611.2	627.0	679.3	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	3.1386	3.8764	3.1360	2.7931	2.6919	2.5216	2.6393	3.1770	3.2504	6 20
O2 LVG ECON	L	11-170	2.7128	3.2703	2.4638	3.1003	2.7254	2.1109	2.3182	1.9623	2.4321	6 21
O2 IN SEC AIR		06-254	16.45	19.42	15.76	16.04	16.59	20.68	20.67	15.35	14.97	13 29
ACCUREX NOX	PPM	06-553	0.0	0.0	0.0	277.8	0.0	0.0	0.0	0.0	229.2	13 9
ACCUREX SOX	PPM	06-555	0.0	0.0	0.0	1245.1	0.0	0.0	0.0	0.0	1257.1	13 10
ACCUREX CO	PPM	06-425	0.00	0.00	0.00	90.94	0.00	0.00	0.00	0.00	34.15	13 11
ACCUREX O2	%	06-554	0.0000	0.0000	0.0000	2.9953	0.0000	0.0000	0.0000	0.0000	3.1360	13 12
BRN SEC AIR P	IN WG	06-250	23.21	23.90	23.28	22.88	22.52	21.20	22.09	21.93	21.39	14 5
BRN GAS REC P	IN WG	06-252	23.04	23.54	23.16	22.88	22.28	20.89	21.75	21.87	21.47	14 6

TEST NO.		16T	9T	17T	3BM	50T	25T	31T	32T	17A	
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17	
DATE		02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92	
TIME START		1142	1513	1658	1444	1030	1248	1057	1504	1130	
TIME END		1245	1542	1812	1517	1112	1447	1226	1702	1400	
LOAD MW		110	109	110	110	110	111	111	111	110	

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

FURNACE GAS P	IN WG	08-100	19.80	20.37	19.66	19.07	20.02	19.82	20.58	19.38	19.05	14 7
BAROMETRIC P	IN HG	PB	0.00	0.00	0.00	29.50	0.00	0.00	0.00	0.00	29.55	6 29
REL HUMIDITY	%	TST	0.0000	0.0000	0.0000	7.6412	0.0000	0.0000	0.0000	0.0000	7.6735	6 30

DATA PAGE NO. 7 AIR & GAS DATA - B&W

AMBIENT AIR TEMP		TC	0.00	0.00	0.00	72.54	52.66	0.00	36.12	37.84	51.21	7 1
AIR LVG FD FAN T	A	TC	124.3	137.8	123.7	136.0	139.9	130.1	127.8	132.9	132.0	7 6
AIR LVG FD FAN T	B	TC	127.9	135.5	129.6	138.0	143.9	132.4	127.1	131.8	134.5	7 7
AIR ENT AH	(T)	GRID	165.3	158.9	159.9	137.8	146.7	175.4	162.9	168.4	134.3	7 4
GAS LVG AH	(T)	GRID	285.0	298.5	288.9	292.1	294.5	293.8	292.9	291.3	294.7	7 10
GAS LVG ECON	(T) L	GRID	651.1	671.4	657.1	660.0	657.6	637.6	651.0	653.2	709.2	7 14
GAS LVG ECON	(T) R	GRID	629.2	652.5	625.0	649.1	669.9	588.3	592.7	621.9	686.9	7 15
GAS TEMP LVG GR FAN		GRID	0.0	0.0	0.0	577.2	544.8	0.0	159.7	557.9	571.5	13 7
O2 LVG ECON	(T) L	GRID	2.9058	2.4632	2.9623	2.8381	3.1178	2.7404	2.7997	2.6522	2.7240	7 20
O2 LVG ECON	(T) R	GRID	3.0547	3.0371	3.0516	2.7098	2.9107	3.0586	2.6108	2.8555	2.6437	7 21
CO LVG ECON	(T) L	GRID	114.7	162.3	88.7	94.7	103.3	92.4	73.9	71.3	89.4	13 5
CO LVG ECON	(T) R	GRID	118.3	99.1	95.0	82.6	230.7	92.3	74.5	84.1	121.6	13 6
CO2 LVG ECON	(T) L	GRID	16.15	17.09	16.52	15.90	15.03	16.02	15.46	15.41	15.89	7 22
CO2 LVG ECON	(T) R	GRID	15.67	16.04	15.39	15.52	15.24	15.54	15.54	15.24	15.58	7 23
NOX LVG ECON	(T) L	GRID	249.7	269.4	257.1	310.8	233.8	279.1	244.7	228.8	237.0	7 24
NOX LVG ECON	(T) R	GRID	277.4	305.5	272.0	0.0	253.4	274.0	157.6	243.0	0.0	7 25
O2 LVG AH	(T)	GRID	4.1500	3.9000	4.2500	4.0000	4.2000	4.1000	3.8800	3.9000	5.1100	13 1
CO2 LVG AH	(T)	GRID	1456.3	2756.5	1401.3	1812.0	40.4	35.1	30.8	32.5	21.1	13 3
O2 LVG GR FAN	(T)	GRID	3.37	5.43	3.27	3.96	20.58	17.97	18.42	18.45	0.00	13 4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27

DATA PAGE NO. 8 FW HTR TEMPERATURES F (C) - PLANT

FW HTR E EXT T	HW	741.2	723.1	741.0	744.1	742.3	739.6	722.9	743.0	742.1	8 1
FW HTR E LVG T	HW	461.6	400.6	417.1	458.3	455.8	457.9	456.1	458.5	457.3	8 5
FW HTR E ENT T	HW	383.3	382.1	383.9	383.8	387.2	382.4	381.1	384.6	382.3	8 7
FW HTR E DRN T	HW	401.7	400.6	402.1	404.8	399.9	401.6	400.6	400.8	402.1	8 13

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG	1	10-017	847.4	834.9	848.2	838.8	844.5	844.9	832.2	848.6	850.1	9 17
SSH PEND IN LEG	2	10-018	873.1	859.2	875.0	860.0	871.3	873.9	860.4	876.7	871.7	9 18
SSH PEND IN LEG	3	10-019	877.4	866.4	883.3	867.7	878.9	879.5	874.8	885.5	876.9	9 19
SSH PEND IN LEG	4	10-020	887.3	875.6	898.2	882.7	893.3	896.2	896.5	902.6	886.2	9 20
SSH PEND IN LEG	5	10-021	882.6	867.2	894.4	867.9	888.9	896.9	897.4	898.8	870.6	9 21

TEST NO.	16T	9T	17T	38M	50T	25T	31T	32T	17A
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92
TIME START	1142	1513	1658	1444	1030	1248	1057	1504	1130
TIME END	1245	1542	1812	1517	1112	1447	1226	1702	1400
LOAD MW	110	109	110	110	110	111	111	111	110

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 6	10-033	894.2	875.9	895.2	880.8	896.8	902.2	897.6	901.2	883.4	9 22
SSH PEND IN LEG 7	10-034	898.5	876.7	881.2	876.3	895.4	891.2	879.6	886.4	876.6	9 23
SSH PEND IN LEG 8	10-035	891.0	872.9	876.8	869.7	887.4	879.3	866.2	878.8	866.1	9 24
SSH PEND IN LEG 9	10-036	889.2	877.3	881.2	869.5	884.6	873.7	856.6	877.8	875.5	9 25
SSH PEND IN LEG 10	10-037	859.3	856.1	858.1	842.7	852.1	838.5	819.9	846.1	874.5	9 26
RH PEND IN LEG 1	09-049	943.8	932.9	942.4	936.6	950.4	927.2	933.4	947.5	938.7	8 17
RH PEND IN LEG 2	09-050	939.2	927.0	935.4	930.5	946.3	925.9	932.2	941.8	931.1	8 18
RH PEND IN LEG 3	09-051	938.8	927.7	936.4	930.8	945.1	923.7	929.5	942.5	932.5	8 19
RH PEND IN LEG 4	09-052	938.3	926.7	935.2	929.6	945.1	924.4	930.5	941.6	930.9	8 20
RH PEND IN LEG 5	09-053	908.5	938.2	923.1	0.0	919.3	888.9	893.2	927.7	0.0	8 21
RH PEND IN LEG 6	10-001	957.7	949.4	958.2	953.1	964.7	940.6	946.4	962.1	948.5	8 22
RH PEND IN LEG 7	10-002	932.3	919.1	934.7	928.5	933.8	914.1	919.1	937.5	922.3	8 23
RH PEND IN LEG 8	10-003	932.6	925.4	938.4	931.3	934.1	912.1	917.0	940.4	937.6	8 24
RH PEND IN LEG 9	10-004	943.2	934.0	942.1	936.1	949.7	927.7	933.3	947.5	937.8	8 25
RH PEND IN LEG 10	10-005	886.9	922.6	899.5	887.1	898.2	869.6	874.6	903.9	945.0	8 26
RH INTM HND HOLE R	10-038	943.9	929.1	940.0	934.7	948.7	924.8	930.9	945.4	938.3	8 27
RH INTM HND HOLE L	10-039	844.5	858.4	848.7	837.2	852.8	830.8	833.6	852.2	881.4	8 28
PSH OUT LEG T	09-017	771.8	751.5	762.2	782.8	785.3	738.7	737.6	754.6	772.0	14 11
PSH OUT LEG T	09-018	781.5	762.7	776.7	795.7	796.8	747.5	747.9	768.1	781.7	14 12
PSH OUT LEG T	09-019	734.7	723.3	723.8	742.6	749.1	706.0	698.6	718.3	742.3	14 13
PSH OUT LEG T	09-020	747.7	734.4	736.8	758.7	762.7	717.6	709.4	730.9	756.0	14 14
PSH OUT LEG T	09-021	755.7	740.8	745.3	766.6	766.4	727.4	723.6	740.5	759.8	14 15
PSH OUT LEG T	09-022	765.1	746.9	756.5	775.5	777.3	735.1	734.7	750.3	765.1	14 16
PSH OUT LEG T	09-023	761.7	743.2	753.0	774.2	780.8	728.0	726.2	745.4	761.4	14 17
PSH OUT LEG T	09-024	786.1	770.1	784.3	800.5	799.9	754.2	755.9	776.0	787.4	14 18
PSH OUT LEG T	09-025	766.5	751.5	761.8	782.2	782.2	735.3	734.9	753.2	770.3	14 19
PSH OUT LEG T	09-026	774.3	765.1	774.9	789.8	785.8	747.6	752.3	767.4	781.5	14 20
PSH OUT LEG T	09-027	788.4	778.1	788.4	801.7	800.7	761.2	765.6	780.2	793.9	14 21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	22.59	22.66	22.41	20.81	21.37	21.68	21.75	21.31	20.32	10 1
CYC B COAL FLOW KLB	07-110	22.56	23.23	22.38	20.79	21.38	21.68	21.74	21.33	20.33	10 2
CYC C COAL FLOW KLB	09-110	22.60	23.04	22.42	20.80	21.39	21.68	21.65	21.34	20.29	10 3
CYC A SEC AIR FLOW %	06-170	200.0	199.8	200.0	202.9	201.1	195.4	192.9	195.3	191.2	10 16
CYC B SEC AIR FLOW %	08-170	210.2	209.0	209.1	200.1	205.4	204.5	202.2	210.1	185.4	10 17
CYC C SEC AIR FLOW %	10-170	202.2	204.7	195.7	202.3	195.9	188.8	192.9	191.3	191.9	10 18
CYC A SEC AIR T	20-002	512.6	528.0	513.8	546.3	551.6	484.2	485.4	506.5	560.2	11 1
CYC B SEC AIR T	20-003	553.2	569.7	562.4	574.7	576.0	547.5	554.1	553.8	595.2	11 2
CYC C SEC AIR T	20-004	498.3	517.1	504.9	520.2	509.5	499.9	510.3	505.7	541.7	11 3
PULV COAL FLOW KLB	06-314	29.26	28.16	29.24	27.98	28.21	32.08	32.07	32.07	31.17	10 4
PULV PA FLOW	06-275	60.18	59.14	60.28	57.58	57.53	64.06	62.37	62.02	62.43	10 19
PULV INLET T	09-034	486.5	498.6	493.6	473.7	504.5	496.5	507.6	497.4	550.6	11 7
PULV OUTLET T	09-040	134.9	133.4	144.9	146.1	144.3	138.5	139.2	140.0	159.6	11 8

TEST NO.		16T	9T	17T	3BM	50T	25T	31T	32T	17A		
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17		
DATE		02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92		
TIME START		1142	1513	1658	1444	1030	1248	1057	1504	1130		
TIME END		1245	1542	1812	1517	1112	1447	1226	1702	1400		
LOAD MW		110	109	110	110	110	111	111	111	110		
DATA PAGE NO. 11	**PULVERIZER INLET TEMP AND PA DIFF**											
PULV DIFF P IN WG	06-274	13.79	13.24	13.67	13.40	14.73	16.36	15.87	17.13	16.50	11	9
PULV AMPS	06-276	285.8	279.5	276.1	277.0	290.6	303.8	302.8	325.2	275.1	11	10
PULV PA FAN AMPS	06-277	87.7	83.0	88.3	80.0	95.1	94.5	100.2	100.5	96.0	11	11
ROT CLASS AMPS	06-278	40.58	40.03	40.18	45.38	44.24	41.04	42.18	41.14	49.88	11	12
ROT CLASS RPM	06-270	140.4	139.9	140.4	150.7	150.7	140.1	139.6	139.6	158.4	11	13
ROT CLASS DP IN WG	06-345	.4014	.4065	.3821	.4706	.4940	.4008	.4173	.4154	.5746	11	14
COAL SILO LEVEL	06-310	79.54	95.19	66.89	45.09	46.05	42.60	83.95	54.00	78.17	11	15
FLAME INTENSITY #1 %	06-279	106.1	106.2	106.1	106.2	106.1	106.1	106.1	106.1	106.2	11	16
FLAME INTENSITY #2 %	06-295	105.9	105.5	106.0	105.7	105.9	105.7	105.6	105.8	105.6	11	17
FLAME INTENSITY #3 %	06-296	106.0	0.0	104.3	106.2	106.2	106.1	106.1	104.7	106.1	11	18
FLAME INTENSITY #4 %	06-297	106.1	104.1	106.1	106.1	106.2	105.7	105.9	106.0	105.9	11	19
DATA PAGE NO. 12	**OPERATOR POSITIONS %**											
RH SP VLV POS	15-077	2.58	-5.00	8.10	20.31	-5.00	-5.00	-5.00	-2.30	10.30	12	1
SH SP VLV POS R	13-190	32.60	30.74	27.26	44.32	41.01	22.60	0.00	26.76	37.81	12	3
SH SP VLV POS L	13-191	18.66	0.00	30.23	40.69	36.42	26.35	0.00	29.94	35.15	12	4
GR DMPR DEMAND	16-044	-5.0000	-5.0000	-5.0000	-.0002	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12	9
RECIRC AIR DMPR POS	12-176	46.45	22.75	31.38	0.00	.08	.04	25.60	35.56	0.00	12	13
SH PASS DMPR POS	14-180	94.0	54.1	63.6	100.0	100.0	51.2	36.8	62.1	77.4	12	15
RH PASS DMPR POS	14-180	84.1	100.0	100.0	44.5	26.0	100.0	100.0	100.0	100.0	12	16
OVRFIRE AIR DMPR POS	06-115	56.07	58.05	55.97	50.39	60.28	47.71	51.67	62.08	58.50	12	17
BRN SEC AIR DMPR POS	06-286	20.03	29.10	18.03	4.81	17.07	24.03	24.42	13.25	14.61	12	18
HOT PRI AIR DMPR POS	06-556	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12	19
BRN GAS REC DMPR POS	06-324	35.01	11.15	38.00	34.44	30.22	0.00	0.00	35.06	34.45	12	20
DATA PAGE NO. 15	**MISCELLANEOUS**											
GAS LVG SH PASS 1A	08-003	-405.1	-422.2	-384.3	-431.4	-446.3	-397.1	-406.8	-387.1	-480.6	15	1
GAS LVG SH PASS 1B	08-004	641.1	643.5	628.5	666.7	694.3	612.8	614.8	621.1	692.9	15	2
GAS LVG SH PASS 1C	08-005	664.2	666.0	671.2	685.0	716.0	639.8	630.6	654.6	701.2	15	3
GAS LVG SH PASS 1D	08-006	692.6	699.1	700.8	714.3	713.1	658.1	647.0	683.7	737.9	15	4
GAS LVG SH PASS 2A	08-017	593.8	609.2	586.1	613.4	618.4	578.7	576.8	584.1	638.0	15	5
GAS LVG SH PASS 2B	08-018	612.9	621.3	604.6	627.2	640.8	593.3	587.2	599.7	650.3	15	6
GAS LVG SH PASS 2C	08-019	617.7	628.7	614.9	635.1	646.8	595.5	593.9	607.0	657.7	15	7
GAS LVG SH PASS 2D	08-020	666.5	674.8	662.4	679.1	687.5	636.5	634.6	655.8	696.9	15	8
GAS LVG SH PASS 3A	08-021	629.1	640.1	618.9	650.8	665.3	607.1	614.5	623.1	670.9	15	9
GAS LVG SH PASS 3B	08-022	640.9	660.2	628.8	658.1	667.2	612.1	611.2	629.2	682.0	15	10
GAS LVG SH PASS 3C	08-023	619.9	636.1	614.0	650.1	647.5	600.3	601.5	611.2	668.1	15	11
GAS LVG SH PASS 3D	08-024	-530.5	-550.2	-530.0	-555.4	-547.3	-518.7	-520.8	-530.1	-610.6	15	12
GAS LVG RH PASS 4A	08-033	616.8	652.7	622.4	626.2	619.8	607.5	617.0	624.1	661.2	15	13
GAS LVG RH PASS 4B	08-034	636.8	654.3	648.6	647.1	629.9	624.1	638.9	641.8	673.7	15	14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	15

TEST NO.		16T	9T	17T	3BM	50T	25T	31T	32T	17A
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17
DATE		02/17/91	02/15/91	02/17/91	05/07/92	03/05/91	02/20/91	02/24/91	02/24/91	04/27/92
TIME START		1142	1513	1658	1444	1030	1248	1057	1504	1130
TIME END		1245	1542	1812	1517	1112	1447	1226	1702	1400
LOAD MW		110	109	110	110	110	111	111	111	110

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	4D	08-036	671.2	694.2	690.0	692.7	660.1	666.8	673.9	672.6	716.2	15 16
GAS LVG RH PASS	5A	08-049	606.6	633.3	609.5	619.1	607.1	593.1	607.4	611.2	650.9	15 17
GAS LVG RH PASS	5B	08-050	623.8	639.5	629.3	630.5	619.4	609.5	626.3	624.2	655.0	15 18
GAS LVG RH PASS	5C	08-051	637.5	646.2	643.0	642.4	630.6	624.4	640.1	635.9	664.1	15 19
GAS LVG RH PASS	5D	08-052	627.7	643.0	637.5	644.0	624.8	621.5	632.0	625.4	665.5	15 20
GAS LVG RH PASS	6A	08-053	616.9	637.0	619.5	625.4	617.9	605.0	619.0	624.0	655.8	15 21
GAS LVG RH PASS	6B	08-054	640.3	655.4	639.5	650.3	633.2	625.4	639.9	639.9	670.1	15 22
GAS LVG RH PASS	6C	08-055	628.2	642.3	623.2	639.4	629.4	616.6	628.7	626.0	656.1	15 23
GAS LVG RH PASS	6D	08-056	634.7	651.6	631.5	659.1	637.1	624.0	636.4	631.1	674.5	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			21.00	10.00	22.00	95.00	19.00	23.00	24.00	25.00	86.00	15 28

RB-369 16 Jun 1992 14:40:23

TEST NO.	18A	45T	5A	11A	11B	11C	12A	13A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92
TIME START	1636	1605	1300	2130	0042	0236	2047	2202
TIME END	1820	1658	1506	2339	0215	0327	2229	2304
LOAD MW	90	86	82	82	82	82	83	82
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

18A AVG SCANS 24-->34 : 90 MW : 3 CYCLONES : 11TPH
45T AVG SCANS 42-->46 : 86 MW : 12 TPH REBRN : W/ GR TO BRNRS
5A AVG SCANS 61-->72 : 82 MW : NO REBURN : BASE : ACUREX TRAV
11A AVG SCANS 3 -->10 : 82 MW : 11.5 TPH : 160 RPM : LOW STOIC
11B AVG SCANS 16-->24 : 82 MW : 11.5 TPH : 160 RPM : OPTIMUM
11C AVG SCANS 27-->31 : 82 MW : 11.5 TPH : 160 RPM : HIGH OFA
12A AVG SCANS 11-->19 : 82 MW : 11.5 TPH : 160 RPM : MED STOIC
13A AVG SCANS 34-->38 : 82 MW : 11.5 TPH : 160 RPM : HIGH STOIC

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	90.35	86.01	82.29	82.12	82.08	82.11	82.67	82.05	2	1
MAIN STEAM FLOW	03-033	626.4	594.1	553.3	560.7	560.1	558.9	565.6	558.8	2	2
1ST STG STM FLW	CALC	603.6	569.3	538.7	540.3	539.4	539.7	543.9	539.1	2	23
FW FLOW	12-170	614.4	574.6	543.2	554.3	553.7	552.8	556.9	548.9	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	5
SH SPRAY FLOW L	17-052	1.7926	2.4359	7.5115	0.0000	0.0000	0.0000	0.0000	4.8295	2	7
SH SPRAY FLOW R	17-056	5.2034	2.2265	3.9935	0.0000	0.0000	0.0000	3.4955	4.9052	2	8
GR FAN AMPS A	16-181	26.38	37.36	29.79	29.03	28.53	23.90	.08	.08	2	12
GR FAN AMPS B	16-183	-.02	-.02	-.02	-.02	-.02	-.02	38.16	41.92	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	82.5	203.7	121.6	104.6	101.2	56.1	212.6	268.8	2	24
GR TO SEC AIR	06-932	10.01	0.00	-81.95	21.27	10.31	10.08	4.15	2.64	2	25
GR TO SEC AIR	CALC	9.91	10.06	0.00	21.98	10.26	10.01	4.03	2.41	2	26
GR TO FURN	CALC	72.6	193.6	121.6	82.7	90.9	46.0	208.6	266.4	2	27
OFA AIR FLOW	06-931	196.5	170.4	32.0	174.1	175.1	219.2	160.6	151.0	2	28
TMP AIR FLOW	CALC	61.96	8.69	10.13	23.67	35.98	69.53	42.05	25.20	14	10
SEC AIR FLOW	06-320	32.13	39.39	29.22	25.08	32.88	33.36	37.29	46.58	2	29
1st STG PRESS	18-128	833.8	784.7	741.0	743.2	742.0	742.4	748.4	741.5	2	19
OIL FLOW 2A	05-100	.0017	.0020	.0017	.0017	.0017	.0017	.0018	.0017	2	20
OIL FLOW 2B	07-100	.0017	.0017	.0017	.0017	.0017	.0017	.0017	.0017	2	21
OIL FLOW 2C	09-100	.0016	.0016	.0016	.0016	.0016	.0016	.0032	.0016	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.0419	1.1241	1.1940	1.0983	1.0909	1.0913	1.0735	1.1174	4	20
REBRN WB STOIC	CALC	.5	.5	100.0	.4	.5	.5	.5	.5	4	21
REBRN STOIC	CALC	.8423	.8669	1.1687	.8513	.8645	.8458	.8835	.9135	4	22
LVG FURN STOIC	CALC	1.1501	1.1506	1.2239	1.1514	1.1649	1.2233	1.1574	1.1729	4	23
LVG ECON STOIC	CALC	1.1610	1.1622	1.2361	1.1634	1.1767	1.2354	1.1693	1.1850	4	24

TEST NO.			18A	45T	5A	11A	11B	11C	12A	13A	
TEST SEQ. NO.			1	2	3	4	5	6	7	8	
DATE			04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92	
TIME START			1636	1605	1300	2130	0042	0236	2047	2202	
TIME END			1820	1658	1506	2339	0215	0327	2229	2304	
LOAD MW			90	86	82	82	82	82	83	82	
DATA PAGE NO. 3		**FLUID TEMPERATURES F (C) - PLANT**									
SSH OUT T	L	15-152	999.4	998.3	998.4	986.4	984.2	989.6	999.2	996.0	3 1
SSH OUT T	R	15-150	999.7	996.8	999.8	997.8	998.7	997.6	999.3	997.6	3 2
SSH OUT AVE T		13-160	1000.7	998.4	999.0	994.8	993.6	994.7	999.5	999.4	14 1
LVG SH ATTMP T	L	13-164	740.3	736.1	717.7	717.2	725.7	734.9	735.0	718.2	3 8
LVG SH ATTMP T	R	13-162	732.6	752.9	732.9	739.9	731.1	748.1	722.4	730.9	3 9
PRI SH OUT T	L	HW	746.4	737.7	756.2	715.4	722.9	731.5	732.8	747.3	3 10
PRI SH OUT T	R	HW	769.0	766.1	769.9	740.5	747.1	752.2	750.1	771.6	3 11
ECON H2O OUT T	L	HW	499.0	508.2	502.6	501.4	507.2	497.0	508.4	507.7	3 27
ECON H2O OUT T	R	HW	490.1	487.8	471.0	467.0	473.6	479.8	472.8	476.8	3 28
ECON H2O IN T		20-007	437.2	432.8	428.8	428.8	428.6	428.7	429.8	428.4	3 5
RH SPRAY H2O T		HW	302.1	300.9	294.4	294.9	294.5	294.3	295.6	291.9	3 7
LVG RH T		14-150	999.6	1000.5	999.6	1000.0	1000.2	1002.6	1001.4	996.2	3 12
ENT RH T		CALC	693.6	685.4	675.6	671.8	672.6	671.1	678.2	674.0	3 16
COLD RH T		20-006	700.9	693.4	683.5	679.2	678.3	679.3	685.5	682.5	3 18
DATA PAGE NO. 4		**FLUID TEMPERATURES F (C) - B&W**									
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19
DATA PAGE NO. 5		**FLUID PRESSURES PSIG (KG/CM2)**									
TURB THROT P		03-170	1450.1	1449.9	1450.2	1450.4	1450.0	1450.3	1449.9	1449.1	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1547.5	1534.4	1527.2	1529.0	1527.9	1528.4	1529.0	1527.6	5 3
LVG RH PRESS		15-102	336.6	317.0	301.8	302.4	302.4	302.1	304.3	301.4	5 4

TEST NO.	18A	45T	5A	11A	11B	11C	12A	13A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92
TIME START	1636	1605	1300	2130	0042	0236	2047	2202
TIME END	1820	1658	1506	2339	0215	0327	2229	2304
LOAD MW	90	86	82	82	82	82	83	82

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

ENT RH PRESS		15-100	358.3	340.7	320.3	320.8	320.4	320.0	321.4	317.0	5 5
FW HTR E EXT P		20-035	342.8	324.6	307.1	307.8	307.7	307.3	309.6	306.9	5 6
FW HTR E EXT P		TRANS	345.3	326.3	309.9	310.5	310.4	310.2	312.5	309.9	5 7
SEC SH OUT P	(T)	TRANS	1478.4	1477.0	1472.6	1472.9	1472.4	1471.6	1471.7	1469.6	5 17
DRUM PRESS	(T)	TRANS	1540.0	1530.9	1519.3	1521.8	1520.3	1520.7	1520.9	1518.0	5 18
LVG RH-1 P	(T)	TRANS	340.0	321.9	305.3	306.4	306.3	306.1	308.1	305.7	5 19
ENT RH-1 P	(T)	TRANS	0.0	337.4	0.0	0.0	0.0	0.0	0.0	0.0	5 20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	95.8	0.0	102.0	92.8	92.6	92.5	90.2	86.9	6 4
AIR LVG FD FAN T	A	09-028	134.5	149.7	131.8	126.0	125.7	125.3	126.2	119.3	7 2
AIR LVG FD FAN T	B	09-029	136.4	150.9	133.4	129.2	128.5	128.1	127.1	124.2	7 3
AIR ENT AH T	RA	20-017	138.3	154.5	136.3	156.3	159.3	159.2	157.3	127.3	6 2
AIR ENT AH T	RB	20-018	138.7	157.4	135.8	148.6	148.9	149.3	148.0	126.6	6 3
AIR ENT AH T	LA	20-025	137.5	167.4	134.3	169.8	170.9	173.5	172.9	122.6	13 25
AIR ENT AH T	LB	20-029	138.3	155.9	135.6	143.1	143.6	143.1	146.1	123.6	13 26
AIR LVG AH T	R	HW	576.4	562.4	615.9	550.1	547.2	546.1	554.6	571.4	6 6
AIR LVG AH T	L	HW	555.2	560.0	583.7	556.2	551.8	535.3	561.0	591.2	6 7
BRN SEC AIR T		08-002	531.5	528.0	581.6	559.9	559.7	542.3	564.6	592.3	14 2
BRN SA/GR T		08-001	534.0	532.6	551.3	554.4	549.1	538.7	539.4	570.1	14 3
OFA TEMP		09-002	514.0	529.5	282.1	532.3	528.9	518.5	535.0	537.5	14 4
GAS LVG AH T	RA	20-019	304.3	318.2	321.8	294.2	291.2	291.4	293.1	301.0	6 10
GAS LVG AH T	RB	20-020	289.0	301.0	304.9	283.9	280.7	281.7	283.0	287.5	6 11
GAS LVG AH T	LA	20-027	277.1	285.8	282.6	276.0	272.2	271.0	280.9	283.1	13 27
GAS LVG AH T	LB	20-024	281.7	291.9	287.6	286.3	282.9	282.2	290.0	286.7	13 28
GAS LVG RH PS T		AVE	630.0	624.9	654.1	631.5	630.3	611.2	634.2	662.7	13 17
GAS LVG SH PS T		AVE	625.2	597.1	658.5	564.5	565.9	591.4	566.2	582.8	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	2.8347	3.1249	3.6665	2.5333	2.8264	3.4777	2.5913	2.9789	6 20
O2 LVG ECON	L	11-170	2.5722	2.0078	3.2910	2.3834	2.8700	3.7017	2.3658	2.3561	6 21
O2 IN SEC AIR		06-254	16.65	16.96	0.00	12.49	16.67	16.97	19.14	20.02	13 29
ACCUREX NOX	PPM	06-553	237.9	0.0	424.8	202.9	216.6	218.6	224.6	258.2	13 9
ACCUREX SOX	PPM	06-555	1204.2	0.0	1026.4	1093.4	1133.4	1069.6	1136.6	1131.1	13 10
ACCUREX CO	PPM	06-425	43.48	0.00	76.42	51.92	64.85	23.76	46.38	37.17	13 11
ACCUREX O2	%	06-554	3.5838	0.0000	3.8192	3.6579	3.5442	4.3843	3.3640	3.8609	13 12
BRN SEC AIR P	IN WG	06-250	15.77	17.46	13.41	14.57	13.91	14.11	14.02	16.93	14 5
BRN GAS REC P	IN WG	06-252	15.76	17.29	13.36	14.65	13.82	13.96	13.84	16.42	14 6
FURNACE GAS P	IN WG	08-100	13.85	13.87	13.30	12.40	12.41	12.44	12.77	14.19	14 7
BAROMETRIC P	IN HG	PB	29.23	0.00	29.19	29.16	29.10	29.07	29.28	28.88	6 29
REL HUMIDITY	%	TST	7.6956	0.0000	7.6419	7.8762	7.8317	7.8357	7.7984	7.8061	6 30

TEST NO.		18A	45T	5A	11A	11B	11C	12A	13A	
TEST SEQ. NO.		1	2	3	4	5	6	7	8	
DATE		04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92	
TIME START		1636	1605	1300	2130	0042	0236	2047	2202	
TIME END		1820	1658	1506	2339	0215	0327	2229	2304	
LOAD MW		90	86	82	82	82	82	83	82	

DATA PAGE NO. 7 AIR & GAS DATA - B&W

AMBIENT AIR TEMP	TC	61.36	61.06	69.02	52.15	50.09	50.93	47.82	36.82	7 1
AIR LVG FD FAN T A	TC	137.9	152.9	135.2	129.1	128.8	128.4	129.4	123.0	7 6
AIR LVG FD FAN T B	TC	139.2	153.7	136.3	131.9	131.0	130.6	129.6	127.1	7 7
AIR ENT AH (T)	GRID	139.2	159.8	136.6	154.3	155.6	155.9	156.1	126.2	7 4
GAS LVG AH (T)	GRID	279.4	291.9	289.4	277.5	274.7	274.2	279.4	280.5	7 10
GAS LVG ECON (T) L	GRID	646.8	643.5	703.5	647.7	645.8	624.5	648.6	715.1	7 14
GAS LVG ECON (T) R	GRID	635.2	613.7	673.0	597.9	596.4	607.3	595.2	610.1	7 15
GAS TEMP LVG GR FAN	GRID	588.3	599.5	615.7	0.0	0.0	0.0	581.7	595.7	13 7
O2 LVG ECON (T) L	GRID	2.9286	2.7280	4.3069	3.0589	3.2139	4.1750	3.0599	3.2974	7 20
O2 LVG ECON (T) R	GRID	2.8325	3.3441	3.9450	2.9879	3.2622	3.9403	3.1876	3.4349	7 21
CO LVG ECON (T) L	GRID	71.9	97.1	103.2	120.9	164.0	51.7	77.1	81.4	13 5
CO LVG ECON (T) R	GRID	68.6	100.8	40.1	63.6	62.8	58.4	59.2	52.7	13 6
CO2 LVG ECON (T) L	GRID	15.42	16.21	14.97	15.67	15.53	14.68	15.76	15.57	7 22
CO2 LVG ECON (T) R	GRID	15.11	15.25	14.70	15.38	15.09	14.48	15.34	15.15	7 23
NOX LVG ECON (T) L	GRID	259.2	250.5	537.0	206.0	213.4	214.8	233.4	270.0	7 24
NOX LVG ECON (T) R	GRID	0.0	281.3	527.6	256.3	266.5	257.9	286.9	314.7	7 25
O2 LVG AH (T)	GRID	4.4200	4.2500	5.3000	4.5100	4.7600	5.5100	4.5800	4.7700	13 1
CO2 LVG AH (T)	GRID	22.69	41.09	46.41	21.35	24.98	26.55	23.23	18.20	13 3
O2 LVG GR FAN (T)	GRID	0.00	18.51	0.00	0.00	0.00	0.00	0.00	0.00	13 4
DRY BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27

DATA PAGE NO. 8 FW HTR TEMPERATURES F (C) - PLANT

FW HTR E EXT T	HW	699.8	692.5	681.6	678.1	676.6	677.5	684.2	678.4	8 1
FW HTR E LVG T	HW	437.1	432.4	427.7	427.9	427.5	427.2	429.0	425.3	8 5
FW HTR E ENT T	HW	370.1	363.6	359.9	359.8	359.6	359.3	360.8	357.3	8 7
FW HTR E DRN T	HW	383.1	377.9	375.2	376.4	375.2	375.0	376.7	373.2	8 13

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 1	10-017	841.4	850.6	864.1	844.7	840.1	850.0	851.4	842.9	9 17
SSH PEND IN LEG 2	10-018	865.2	880.5	882.6	869.7	867.6	874.3	868.3	867.9	9 18
SSH PEND IN LEG 3	10-019	872.7	887.9	881.3	873.6	873.5	877.5	866.9	870.6	9 19
SSH PEND IN LEG 4	10-020	881.9	903.5	890.1	885.4	883.0	884.2	872.5	880.5	9 20
SSH PEND IN LEG 5	10-021	865.1	899.1	874.7	876.0	868.9	868.2	858.4	863.8	9 21
SSH PEND IN LEG 6	10-033	879.5	905.9	886.3	888.1	881.5	878.9	879.8	871.4	9 22
SSH PEND IN LEG 7	10-034	881.8	898.1	880.0	876.9	876.5	872.0	891.1	865.6	9 23
SSH PEND IN LEG 8	10-035	872.8	890.3	874.3	862.3	862.9	863.8	879.9	859.5	9 24
SSH PEND IN LEG 9	10-036	875.3	885.5	877.9	857.3	859.4	867.7	876.4	866.3	9 25
SSH PEND IN LEG 10	10-037	854.3	847.0	853.0	830.0	833.4	850.8	848.8	850.8	9 26
RH PEND IN LEG 1	09-049	940.8	953.2	944.1	948.4	948.6	946.9	950.4	937.2	8 17
RH PEND IN LEG 2	09-050	934.4	948.6	934.8	940.2	941.1	938.4	941.4	928.6	8 18

TEST NO.	18A	45T	5A	11A	11B	11C	12A	13A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92
TIME START	1636	1605	1300	2130	0042	0236	2047	2202
TIME END	1820	1658	1506	2339	0215	0327	2229	2304
LOAD MW	90	86	82	82	82	82	83	82

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

RH PEND IN LEG 3	09-051	935.1	948.3	937.9	941.4	941.9	940.6	942.9	930.1	8	19
RH PEND IN LEG 4	09-052	934.0	947.8	935.2	938.6	939.6	938.1	940.1	928.5	8	20
RH PEND IN LEG 5	09-053	0.0	906.9	0.0	0.0	0.0	0.0	0.0	0.0	8	21
RH PEND IN LEG 6	10-001	953.2	970.9	961.7	971.2	970.6	962.1	974.2	953.2	8	22
RH PEND IN LEG 7	10-002	928.0	944.0	931.0	938.5	938.1	930.3	942.9	926.7	8	23
RH PEND IN LEG 8	10-003	938.8	941.9	938.7	938.7	938.6	940.6	941.1	939.9	8	24
RH PEND IN LEG 9	10-004	940.3	953.3	944.0	948.0	948.2	946.1	950.1	937.3	8	25
RH PEND IN LEG 10	10-005	907.0	884.0	910.2	882.9	882.2	919.1	886.5	901.2	8	26
RH INTM HND HOLE R	10-038	938.3	949.2	942.9	946.9	946.1	946.8	947.2	929.5	8	27
RH INTM HND HOLE L	10-039	844.3	836.8	858.3	831.3	828.4	847.6	835.0	835.9	8	28
PSH OUT LEG T	09-017	768.5	764.3	775.0	744.3	750.7	757.3	757.9	770.7	14	11
PSH OUT LEG T	09-018	773.8	772.7	777.2	747.0	753.1	761.5	757.5	773.4	14	12
PSH OUT LEG T	09-019	727.9	715.6	745.0	692.0	701.0	710.0	711.9	717.6	14	13
PSH OUT LEG T	09-020	740.7	727.3	755.1	703.9	712.7	723.0	723.3	731.6	14	14
PSH OUT LEG T	09-021	756.2	750.7	766.0	731.3	739.4	744.3	746.7	758.2	14	15
PSH OUT LEG T	09-022	764.8	763.9	773.2	747.4	754.0	756.6	760.4	773.7	14	16
PSH OUT LEG T	09-023	751.3	745.2	754.3	719.5	725.9	737.4	731.3	748.4	14	17
PSH OUT LEG T	09-024	780.7	783.1	784.3	758.5	766.6	769.4	768.7	783.7	14	18
PSH OUT LEG T	09-025	757.9	751.1	756.7	724.6	732.9	736.6	734.2	750.9	14	19
PSH OUT LEG T	09-026	774.6	775.4	777.9	750.0	756.1	758.6	757.1	777.8	14	20
PSH OUT LEG T	09-027	787.1	788.8	788.9	761.0	766.9	772.0	767.1	787.1	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	17.44	15.74	34.47	24.34	23.60	23.10	24.52	24.71	10	1
CYC B COAL FLOW KLB	07-110	17.46	15.76	-.01	-.01	-.01	-.01	-.01	-.01	10	2
CYC C COAL FLOW KLB	09-110	17.43	15.76	34.49	24.38	23.64	23.13	24.56	24.70	10	3
CYC A SEC AIR FLOW %	06-170	161.4	151.6	344.8	218.5	215.8	214.2	220.1	221.2	10	16
CYC B SEC AIR FLOW %	08-170	155.6	149.7	5.6	4.5	3.8	4.7	3.4	3.8	10	17
CYC C SEC AIR FLOW %	10-170	160.7	155.5	347.7	211.9	215.4	213.9	209.5	220.2	10	18
CYC A SEC AIR T	20-002	524.9	517.1	575.9	497.1	493.8	496.3	500.0	520.8	11	1
CYC B SEC AIR T	20-003	560.1	564.2	577.1	552.5	549.7	538.1	555.5	579.8	11	2
CYC C SEC AIR T	20-004	512.5	515.8	548.9	520.0	514.9	501.9	523.0	550.6	11	3
PULV COAL FLOW KLB	06-314	22.78	24.29	.06	23.32	23.31	23.30	23.19	23.24	10	4
PULV PA FLOW	06-275	51.56	51.25	0.00	51.16	51.91	52.22	52.06	52.04	10	19
PULV INLET T	09-034	507.8	497.5	131.4	514.2	514.8	503.9	516.8	493.0	11	7
PULV OUTLET T	09-040	157.8	150.5	126.8	144.6	160.0	163.3	147.8	138.2	11	8

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	13.55	12.03	-.01	15.75	15.06	14.96	13.53	14.28	11	9
PULV AMPS	06-276	241.1	244.5	-.1	266.7	254.9	254.5	251.7	259.8	11	10
PULV PA FAN AMPS	06-277	60.41	59.34	-.10	61.27	62.17	62.20	60.00	59.08	11	11

TEST NO.	18A	45T	5A	11A	11B	11C	12A	13A
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92
TIME START	1636	1605	1300	2130	0042	0236	2047	2202
TIME END	1820	1658	1506	2339	0215	0327	2229	2304
LOAD MW	90	86	82	82	82	82	83	82

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

ROT CLASS AMPS	06-278	46.53	39.98	0.00	48.92	48.73	49.01	48.55	48.65	11	12
ROT CLASS RPM	06-270	158.3	140.9	-.3	160.5	160.3	160.1	156.4	159.8	11	13
ROT CLASS DP IN WG	06-345	.4913	.3862	-.0150	.5612	.5326	.5274	.4957	.5242	11	14
COAL SILO LEVEL	06-310	77.03	88.29	83.82	76.74	41.50	38.27	79.59	62.58	11	15
FLAME INTENSITY #1 %	06-279	106.1	106.2	6.1	106.1	106.0	106.0	105.9	105.8	11	16
FLAME INTENSITY #2 %	06-295	105.8	106.1	20.5	105.5	105.3	105.3	105.2	105.1	11	17
FLAME INTENSITY #3 %	06-296	105.4	0.0	2.0	106.1	106.1	106.1	106.1	106.0	11	18
FLAME INTENSITY #4 %	06-297	105.5	106.1	3.9	105.7	105.6	105.6	105.5	105.3	11	19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	-5.0000	-5.0000	-4.7012	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12	1
SH SP VLV POS R	13-190	37.20	29.00	37.31	26.44	29.62	25.49	33.37	38.59	12	3
SH SP VLV POS L	13-191	31.10	20.46	41.00	0.00	0.00	0.00	21.30	36.61	12	4
GR DMPR DEMAND	16-044	27.16	65.54	51.50	38.19	40.89	10.73	59.21	73.36	12	9
RECIRC AIR DMPR POS	12-176	0.00	.08	0.00	13.38	14.26	15.68	13.88	0.00	12	13
SH PASS DMPR POS	14-180	34.71	24.42	22.48	0.00	14.41	23.65	0.00	19.95	12	15
RH PASS DMPR POS	14-180	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12	16
OVRFIRE AIR DMPR POS	06-115	43.06	45.09	15.45	0.00	0.00	0.00	0.00	37.05	12	17
BRN SEC AIR DMPR POS	06-286	18.72	25.04	15.01	10.91	18.44	18.44	23.19	31.96	12	18
HOT PRI AIR DMPR POS	06-556	100.0	100.0	0.0	100.0	100.0	100.0	100.0	77.9	12	19
BRN GAS REC DMPR POS	06-324	25.89	30.01	0.00	38.17	21.50	21.50	9.24	0.00	12	20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-394.9	-343.6	-449.6	-358.4	-360.9	-389.9	-366.9	-407.1	15	1
GAS LVG SH PASS 1B	08-004	623.7	596.9	671.1	561.1	561.6	588.1	566.9	583.5	15	2
GAS LVG SH PASS 1C	08-005	648.7	614.5	700.6	576.9	573.6	605.6	578.7	596.2	15	3
GAS LVG SH PASS 1D	08-006	665.8	629.6	693.7	590.7	591.8	626.9	588.8	616.8	15	4
GAS LVG SH PASS 2A	08-017	584.5	561.7	619.1	534.9	535.5	556.5	539.6	544.8	15	5
GAS LVG SH PASS 2B	08-018	601.5	575.3	636.8	547.2	549.1	573.7	550.5	556.8	15	6
GAS LVG SH PASS 2C	08-019	606.6	584.2	636.4	548.7	550.0	573.4	550.1	560.7	15	7
GAS LVG SH PASS 2D	08-020	647.6	623.5	677.5	585.5	590.9	613.7	587.7	606.9	15	8
GAS LVG SH PASS 3A	08-021	618.5	599.3	650.7	561.1	561.0	588.6	562.1	581.8	15	9
GAS LVG SH PASS 3B	08-022	632.5	597.9	652.3	573.2	577.0	596.7	573.1	598.2	15	10
GAS LVG SH PASS 3C	08-023	622.6	587.7	646.8	565.5	568.6	590.3	564.4	582.3	15	11
GAS LVG SH PASS 3D	08-024	-550.6	-462.2	-529.8	-478.9	-494.2	-518.5	-484.9	-534.1	15	12
GAS LVG RH PASS 4A	08-033	620.4	603.1	641.1	613.5	608.9	603.4	619.2	652.5	15	13
GAS LVG RH PASS 4B	08-034	634.7	633.3	657.4	634.2	633.5	608.6	639.8	683.3	15	14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15	15
GAS LVG RH PASS 4D	08-036	665.0	673.6	696.3	667.7	666.8	645.9	675.6	707.1	15	16
GAS LVG RH PASS 5A	08-049	613.8	595.8	623.7	604.9	600.4	588.5	603.4	634.2	15	17
GAS LVG RH PASS 5B	08-050	617.2	615.0	642.6	622.9	618.2	598.0	627.6	654.4	15	18

TEST NO.		18A	45T	5A	11A	11B	11C	12A	13A
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		04/28/92	03/02/91	04/06/92	04/15/92	04/16/92	04/16/92	04/16/92	04/21/92
TIME START		1636	1605	1300	2130	0042	0236	2047	2202
TIME END		1820	1658	1506	2339	0215	0327	2229	2304
LOAD MW		90	86	82	82	82	82	83	82

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	5C	08-051	625.7	631.1	663.3	632.2	634.1	602.9	640.2	671.6	15 19
GAS LVG RH PASS	5D	08-052	623.3	622.9	655.1	627.3	629.2	604.5	629.2	664.2	15 20
GAS LVG RH PASS	6A	08-053	616.2	610.7	636.9	616.2	613.7	601.0	616.2	639.6	15 21
GAS LVG RH PASS	6B	08-054	636.9	633.8	660.7	643.9	640.2	620.6	642.5	663.8	15 22
GAS LVG RH PASS	6C	08-055	631.9	622.5	654.9	639.9	642.3	617.2	640.0	655.6	15 23
GAS LVG RH PASS	6D	08-056	644.8	631.6	663.1	643.3	646.4	632.5	642.3	662.8	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			87.00	36.00	63.00	76.00	77.00	78.00	79.00	81.00	15 28

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TEST NO.	24B	11T	12T	13T	14T	33T	34T	28T	29T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91
TIME START	1723	0814	1229	1508	1814	2158	2250	1101	1504
TIME END	1803	0814	1457	1759	2004	2209	2306	1257	1610
LOAD MW	82	81	82	82	82	83	83	83	83
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

24B AVG SCANS 36-->37 : 82 MW : 11.5 TPH
11T AVG SCANS 1 --> 1 : 81 MW : NO REBURN : NO GR TO BNRS
12T AVG SCANS 22-->35 : 82 MW : 11.5 TPH REBURN : W/ GR TO BNRS
13T AVG SCANS 37-->45 : 82.5 MW : 11.5 TPH REBURN : W/GR TO BNRS
14T AVG SCANS 47-->57 : 82 MW : 11.5 TPH : HIGHER CLASSIFIER RPM
33T AVG SCANS 81-->81 : 82 MW : NO REBURN
34T AVG SCANS 83-->85 : 82 MW : 11.5 TPH REBRN : W/ GR TO BRNRS
28T AVG SCANS 13-->23 : 82 MW : 11.5 TPH REBRN : W/ GR TO BRNRS
29T AVG SCANS 36-->39 : 82 MW : 11.5 TPH REBRN : W/ GR TO BRNRS

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	82.25	81.41	81.94	82.26	81.97	83.10	82.66	82.77	83.33	2	1
MAIN STEAM FLOW	03-033	562.1	548.2	558.9	555.2	550.2	569.6	563.9	567.0	575.3	2	2
1ST STG STM FLW	CALC	541.4	532.9	543.2	540.8	536.3	551.4	547.3	549.4	555.3	2	23
FW FLOW	12-170	552.5	541.3	552.7	548.7	542.6	560.3	551.5	555.8	564.3	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	5
SH SPRAY FLOW L	17-052	5.69	2.81	0.00	1.10	2.14	10.03	0.00	3.71	3.90	2	7
SH SPRAY FLOW R	17-056	11.44	2.91	7.29	3.67	1.50	13.75	0.00	9.18	9.52	2	8
GR FAN AMPS A	16-181	.08	37.32	38.18	37.43	36.44	34.58	39.79	39.75	39.37	2	12
GR FAN AMPS B	16-183	37.28	-.02	-.02	-.02	-.02	-.02	-.02	-.02	-.02	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	195.4	198.4	210.7	203.0	191.4	165.1	230.9	232.6	228.6	2	24
GR TO SEC AIR	06-932	12.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2	25
GR TO SEC AIR	CALC	13.43	2.02	11.74	12.17	13.35	2.60	11.78	11.20	10.25	2	26
GR TO FURN	CALC	183.0	196.4	198.9	190.9	178.1	162.5	219.1	221.4	218.3	2	27
OFA AIR FLOW	06-931	162.9	24.0	162.4	166.8	166.7	23.2	169.6	164.5	168.2	2	28
TMP AIR FLOW	CALC	29.80	24.39	0.00	13.12	3.89	90.45	9.98	5.06	14.65	14	10
SEC AIR FLOW	06-320	30.54	26.28	30.46	30.20	30.03	53.06	30.73	30.57	31.02	2	29
1st STG PRESS	18-128	744.9	732.7	747.4	744.0	737.6	759.1	753.2	756.2	764.8	2	19
OIL FLOW 2A	05-100	.0018	.0017	.0017	.0017	.0017	.0017	.0027	.0017	.0017	2	20
OIL FLOW 2B	07-100	.0017	.0033	.0017	.0017	.0017	.0017	.0017	.0033	.0017	2	21
OIL FLOW 2C	09-100	.0016	.0016	.0016	.0016	.0016	.0016	.0016	.0016	.0016	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.0825	1.1274	1.1470	1.1284	1.1295	1.0120	1.1209	1.1336	1.1081	4	20
REBRN WB STOIC	CALC	.5	100.0	.5	.5	.5	4.0	.4	.5	.5	4	21
REBRN STOIC	CALC	.8419	1.1406	.8753	.8744	.8586	1.1403	.8595	.8723	.8614	4	22
LVG FURN STOIC	CALC	1.1462	1.1823	1.1572	1.1636	1.1488	1.1801	1.1503	1.1545	1.1449	4	23

TEST NO.			24B	11T	12T	13T	14T	33T	34T	28T	29T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91	
TIME START			1723	0814	1229	1508	1814	2158	2250	1101	1504	
TIME END			1803	0814	1457	1759	2004	2209	2306	1257	1610	
LOAD MW			82	81	82	82	82	83	83	83	83	
DATA PAGE NO. 2		FLOWS MLB/HR (MT/HR)										
LVG ECON STOIC		CALC	1.1582	1.1946	1.1693	1.1757	1.1609	1.1924	1.1625	1.1665	1.1567	4 24
DATA PAGE NO. 3		FLUID TEMPERATURES F (C) - PLANT										
SSH OUT T	L	15-152	996.7	1000.4	967.8	984.3	999.2	971.6	988.8	997.5	998.5	3 1
SSH OUT T	R	15-150	999.0	992.0	996.2	998.1	997.7	980.5	999.0	999.5	999.6	3 2
SSH OUT AVE T		13-160	994.1	996.8	979.4	989.8	997.2	974.6	995.3	997.1	992.5	14 1
LVG SH ATTMP T	L	13-164	723.1	721.4	738.4	735.7	728.6	712.4	722.1	744.1	747.8	3 8
LVG SH ATTMP T	R	13-162	706.2	720.5	707.7	725.9	741.3	693.3	734.0	725.1	721.1	3 9
PRI SH OUT T	L	HW	755.8	741.5	736.5	737.2	742.2	736.1	719.5	763.7	769.6	3 10
PRI SH OUT T	R	HW	771.5	741.5	736.1	737.6	742.2	753.2	747.1	768.9	769.6	3 11
ECON H2O OUT T	L	HW	501.2	515.1	511.4	512.9	509.4	498.1	508.6	505.8	504.1	3 27
ECON H2O OUT T	R	HW	480.9	480.0	477.9	478.8	482.6	479.3	474.7	493.9	495.7	3 28
ECON H2O IN T		20-007	429.4	427.3	428.4	428.6	428.4	431.4	429.2	429.2	430.3	3 5
RH SPRAY H2O T		HW	294.5	295.0	295.4	295.6	295.3	293.6	293.2	295.6	296.8	3 7
LVG RH T		14-150	996.8	996.2	976.0	994.4	1000.8	978.9	989.3	979.1	970.9	3 12
ENT RH T		CALC	673.1	674.9	663.2	670.9	675.8	661.3	672.5	678.3	676.8	3 16
COLD RH T		20-006	681.9	679.5	669.1	676.5	681.3	671.3	680.2	683.8	682.3	3 18
DATA PAGE NO. 4		FLUID TEMPERATURES F (C) - B&W										
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

TEST NO.			24B	11T	12T	13T	14T	33T	34T	28T	29T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91	
TIME START			1723	0814	1229	1508	1814	2158	2250	1101	1504	
TIME END			1803	0814	1457	1759	2004	2209	2306	1257	1610	
LOAD MW			82	81	82	82	82	83	83	83	83	
DATA PAGE NO. 5		**FLUID PRESSURES PSIG (KG/CM2)**										
TURB THROT P		03-170	1450.7	1449.9	1443.5	1450.5	1450.0	1457.9	1449.8	1450.1	1450.5	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1525.5	1525.9	1521.3	1526.5	1525.6	1539.6	1531.4	1531.3	1531.9	5 3
LVG RH PRESS		15-102	304.2	299.1	303.3	302.6	300.3	309.5	305.0	305.9	308.9	5 4
ENT RH PRESS		15-100	324.4	319.3	324.2	323.5	320.9	328.7	323.9	326.3	330.5	5 5
FW HTR E EXT P		20-035	310.7	304.6	309.9	309.4	307.0	316.7	309.7	312.0	315.5	5 6
FW HTR E EXT P		TRANS	312.6	306.4	311.6	310.8	308.7	318.6	313.1	314.2	317.6	5 7
SEC SH OUT P	(T)	TRANS	1471.9	1473.9	1468.6	1474.5	1474.3	1483.3	1473.1	1473.4	1475.2	5 17
DRUM PRESS	(T)	TRANS	1519.6	1518.6	1515.7	1521.0	1520.1	1531.1	1521.7	1522.2	1525.9	5 18
LVG RH-1 P	(T)	TRANS	308.0	302.0	307.2	306.4	304.4	313.8	308.8	309.6	313.0	5 19
ENT RH-1 P	(T)	TRANS	0.0	316.8	322.3	321.4	319.2	329.7	324.0	324.9	328.3	5 20
DATA PAGE NO. 6		**AIR & GAS DATA - PLANT**										
AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	104.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 4
AIR LVG FD FAN T	A	09-028	138.8	140.7	144.7	144.2	142.8	130.4	130.5	141.1	145.7	7 2
AIR LVG FD FAN T	B	09-029	143.1	140.4	144.8	144.7	143.8	131.7	131.7	141.8	146.0	7 3
AIR ENT AH T	RA	20-017	145.8	182.4	170.8	168.9	167.4	172.7	177.1	191.7	195.8	6 2
AIR ENT AH T	RB	20-018	145.3	164.9	166.6	165.7	165.1	155.8	154.9	168.9	172.9	6 3
AIR ENT AH T	LA	20-025	141.2	197.2	196.0	194.4	193.7	186.9	186.0	220.9	224.4	13 25
AIR ENT AH T	LB	20-029	142.4	182.3	175.8	173.0	172.1	163.5	167.0	215.9	221.2	13 26
AIR LVG AH T	R	HW	560.3	534.8	543.2	547.6	548.9	526.1	534.1	536.0	546.0	6 6
AIR LVG AH T	L	HW	560.1	534.7	541.9	547.6	548.9	547.5	550.9	532.8	540.5	6 7
BRN SEC AIR T		08-002	565.9	521.3	534.0	540.4	541.4	532.3	534.1	517.1	519.0	14 2
BRN SA/GR T		08-001	563.2	486.5	542.7	551.8	554.2	497.8	516.2	535.5	540.4	14 3
OFA TEMP		09-002	520.9	454.1	528.5	534.7	536.8	470.0	523.0	516.4	521.6	14 4
GAS LVG AH T	RA	20-019	308.3	288.6	300.2	302.1	303.6	299.2	293.8	294.8	300.8	6 10
GAS LVG AH T	RB	20-020	293.7	273.1	285.0	286.7	288.2	285.1	278.7	279.5	286.0	6 11
GAS LVG AH T	LA	20-027	283.1	271.6	281.6	283.6	284.5	283.1	277.0	281.6	289.3	13 27
GAS LVG AH T	LB	20-024	286.1	281.3	291.6	293.2	294.5	291.7	285.8	291.7	299.1	13 28
GAS LVG RH PS T		AVE	633.5	618.6	617.5	629.0	626.8	612.1	628.9	609.8	614.3	13 17
GAS LVG SH PS T		AVE	591.7	558.4	556.8	563.5	578.0	552.5	547.2	586.9	595.4	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	2.7712	3.2754	2.7516	2.9340	3.5367	3.4950	3.4290	3.1402	3.5209	6 20
O2 LVG ECON	L	11-170	3.0151	3.3187	3.0417	3.0131	3.4595	3.4243	2.2472	2.3926	2.3672	6 21
O2 IN SEC AIR		06-254	15.68	19.31	15.67	15.53	15.11	19.72	15.66	15.83	16.14	13 29
ACCUREX NOX	PPM	06-553	251.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 9
ACCUREX SOX	PPM	06-555	1214.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 10
ACCUREX CO	PPM	06-425	107.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13 11
ACCUREX O2	%	06-554	3.5410	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	13 12
BRN SEC AIR P	IN WG	06-250	15.76	13.96	16.45	16.42	16.19	16.84	16.40	15.35	15.48	14 5
BRN GAS REC P	IN WG	06-252	15.72	13.87	16.42	16.36	16.11	16.15	16.32	15.33	15.44	14 6

TEST NO.			24B	11T	12T	13T	14T	33T	34T	28T	29T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91	
TIME START			1723	0814	1229	1508	1814	2158	2250	1101	1504	
TIME END			1803	0814	1457	1759	2004	2209	2306	1257	1610	
LOAD MW			82	81	82	82	82	83	83	83	83	

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

FURNACE GAS P	IN WG	08-100	13.06	14.01	14.15	13.90	13.37	13.65	14.28	13.20	13.33	14	7
BAROMETRIC P	IN HG	PB	29.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6	29
REL HUMIDITY	%	TST	7.6063	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6	30

DATA PAGE NO. 7 AIR & GAS DATA - B&W

AMBIENT AIR TEMP		TC	73.0	591.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7	1
AIR LVG FD FAN T	A	TC	142.3	143.8	147.6	146.9	145.5	133.4	133.7	144.3	148.7	7	6
AIR LVG FD FAN T	B	TC	146.1	142.9	147.1	146.9	145.9	134.5	134.4	144.3	148.2	7	7
AIR ENT AH	(T)	GRID	144.8	179.3	176.9	174.8	173.9	171.3	175.4	199.2	203.3	7	4
GAS LVG AH	(T)	GRID	283.7	274.6	284.6	286.2	287.4	285.7	279.9	283.3	290.5	7	10
GAS LVG ECON	(T) L	GRID	645.0	635.3	635.6	646.3	645.8	628.3	644.8	627.2	631.9	7	14
GAS LVG ECON	(T) R	GRID	612.0	560.9	585.6	591.6	601.5	566.7	570.5	596.3	603.5	7	15
GAS TEMP LVG GR FAN		GRID	598.4	0.0	0.0	0.0	0.0	498.8	573.4	594.3	605.9	13	7
O2 LVG ECON	(T) L	GRID	2.9533	3.5000	3.1327	3.2165	2.6339	3.5764	2.9301	3.0387	2.7643	7	20
O2 LVG ECON	(T) R	GRID	2.8658	3.5000	3.0890	3.2156	3.5887	3.2850	3.0925	3.1247	3.0988	7	21
CO LVG ECON	(T) L	GRID	100.3	60.0	130.2	127.1	165.6	44.0	101.2	114.9	120.1	13	5
CO LVG ECON	(T) R	GRID	64.2	64.0	150.2	110.8	93.3	44.0	62.8	110.0	137.3	13	6
CO2 LVG ECON	(T) L	GRID	15.72	14.58	15.99	16.03	16.66	15.73	16.37	15.83	15.85	7	22
CO2 LVG ECON	(T) R	GRID	15.31	15.19	15.52	15.43	15.18	15.62	15.98	15.52	15.48	7	23
NOX LVG ECON	(T) L	GRID	291.2	512.0	239.6	237.0	241.6	524.0	225.1	243.7	247.5	7	24
NOX LVG ECON	(T) R	GRID	0.0	531.3	255.4	257.5	266.5	524.0	256.8	265.3	249.2	7	25
O2 LVG AH	(T)	GRID	4.6600	4.8500	4.3000	4.4100	4.3500	4.8000	4.2200	4.2500	4.1200	13	1
CO2 LVG AH	(T)	GRID	2218.7	2707.1	1284.2	1326.3	1460.0	43.5	27.6	26.1	33.6	13	3
O2 LVG GR FAN	(T)	GRID	4.63	5.28	3.39	3.14	3.38	18.58	18.59	18.26	18.21	13	4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7	26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7	27

DATA PAGE NO. 8 FW HTR TEMPERATURES F (C) - PLANT

FW HTR E EXT T	HW	679.6	679.3	668.4	676.1	681.0	668.1	677.2	683.3	682.2	8	1
FW HTR E LVG T	HW	437.0	374.1	374.2	374.4	373.9	427.9	426.8	407.3	375.8	8	5
FW HTR E ENT T	HW	359.9	360.3	360.4	360.7	360.5	359.9	358.2	363.1	361.9	8	7
FW HTR E DRN T	HW	375.1	374.1	374.2	374.4	373.9	374.3	372.6	375.1	375.8	8	13

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG	1	10-017	844.3	849.0	849.7	849.9	853.9	819.2	853.0	853.2	873.7	9	17
SSH PEND IN LEG	2	10-018	860.2	859.4	868.0	872.8	878.5	846.4	885.5	877.4	885.3	9	18
SSH PEND IN LEG	3	10-019	853.1	853.5	862.0	873.1	882.4	843.6	886.5	874.3	872.5	9	19
SSH PEND IN LEG	4	10-020	855.0	865.7	863.2	877.4	888.5	842.4	893.8	878.4	871.4	9	20
SSH PEND IN LEG	5	10-021	830.4	867.4	849.4	866.1	876.9	822.3	880.5	864.8	848.7	9	21

TEST NO.	24B	11T	12T	13T	14T	33T	34T	28T	29T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91
TIME START	1723	0814	1229	1508	1814	2158	2250	1101	1504
TIME END	1803	0814	1457	1759	2004	2209	2306	1257	1610
LOAD MW	82	81	82	82	82	83	83	83	83

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 6	10-033	851.8	880.4	860.1	874.0	885.3	830.9	880.5	874.6	858.4	9	22
SSH PEND IN LEG 7	10-034	871.8	881.9	871.9	874.3	889.8	844.6	870.1	885.3	877.8	9	23
SSH PEND IN LEG 8	10-035	870.2	869.6	860.6	861.5	883.8	844.6	863.3	879.9	881.4	9	24
SSH PEND IN LEG 9	10-036	867.8	868.2	859.5	860.3	874.5	850.5	869.9	885.7	894.5	9	25
SSH PEND IN LEG 10	10-037	837.1	852.4	841.9	852.1	839.8	825.9	857.2	877.8	887.9	9	26
RH PEND IN LEG 1	09-049	939.8	938.5	924.8	940.6	952.3	919.0	935.5	922.2	908.9	8	17
RH PEND IN LEG 2	09-050	930.2	931.7	921.4	936.4	943.7	909.2	929.9	917.0	894.0	8	18
RH PEND IN LEG 3	09-051	932.5	932.2	920.1	935.4	945.4	912.8	930.4	916.6	900.6	8	19
RH PEND IN LEG 4	09-052	929.6	931.2	919.7	934.7	942.9	910.8	929.7	916.3	897.0	8	20
RH PEND IN LEG 5	09-053	0.0	935.9	896.2	936.1	901.8	910.2	932.1	916.4	937.2	8	21
RH PEND IN LEG 6	10-001	963.4	958.8	940.0	957.3	977.3	934.3	949.8	936.1	924.1	8	22
RH PEND IN LEG 7	10-002	939.3	923.8	908.4	918.8	948.3	912.4	923.5	908.8	907.4	8	23
RH PEND IN LEG 8	10-003	940.5	929.5	911.2	923.9	941.7	922.7	936.6	916.0	922.8	8	24
RH PEND IN LEG 9	10-004	940.0	939.7	924.8	940.8	952.2	918.4	936.7	922.3	908.2	8	25
RH PEND IN LEG 10	10-005	884.8	915.0	873.8	916.3	880.2	888.4	904.3	895.4	918.6	8	26
RH INTM HND HOLE R	10-038	935.0	928.1	922.5	937.1	949.3	911.2	925.8	917.4	906.3	8	27
RH INTM HND HOLE L	10-039	835.9	847.8	815.7	851.2	831.8	840.2	832.6	837.2	859.4	8	28
PSH OUT LEG T	09-017	777.6	762.4	759.5	762.2	769.0	753.2	745.3	784.3	781.9	14	11
PSH OUT LEG T	09-018	781.8	759.0	757.3	760.5	767.3	756.4	750.9	783.8	782.7	14	12
PSH OUT LEG T	09-019	734.8	722.3	712.2	709.3	713.7	725.7	701.7	745.8	760.9	14	13
PSH OUT LEG T	09-020	747.3	733.2	726.7	725.5	730.7	733.3	710.8	759.8	771.1	14	14
PSH OUT LEG T	09-021	763.5	751.6	751.8	753.3	757.8	746.2	733.9	772.1	772.2	14	15
PSH OUT LEG T	09-022	775.5	762.8	760.2	763.4	769.5	757.2	748.1	781.0	777.3	14	16
PSH OUT LEG T	09-023	758.1	734.9	734.2	735.1	741.2	744.4	726.5	766.4	766.1	14	17
PSH OUT LEG T	09-024	788.0	765.9	767.6	771.8	776.7	768.3	762.6	788.3	785.6	14	18
PSH OUT LEG T	09-025	756.0	734.5	736.3	738.3	741.6	742.1	732.5	765.0	762.4	14	19
PSH OUT LEG T	09-026	770.2	761.8	758.6	767.1	764.8	758.7	758.4	778.7	772.8	14	20
PSH OUT LEG T	09-027	779.8	772.0	767.1	777.1	776.5	767.9	769.4	788.0	778.1	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	21.35	35.26	24.99	24.42	24.25	31.25	24.36	24.07	24.17	10	1
CYC B COAL FLOW KLB	07-110	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	10	2
CYC C COAL FLOW KLB	09-110	21.34	35.32	24.85	24.43	24.29	31.33	24.40	24.12	24.21	10	3
CYC A SEC AIR FLOW %	06-170	212.2	324.0	221.0	216.8	212.4	282.7	217.0	216.9	213.9	10	16
CYC B SEC AIR FLOW %	08-170	4.6812	2.7369	3.3282	2.6177	2.7577	.8566	1.5008	3.0278	3.3077	10	17
CYC C SEC AIR FLOW %	10-170	212.0	329.3	222.2	220.7	222.5	283.1	227.3	231.2	235.8	10	18
CYC A SEC AIR T	20-002	522.5	491.4	492.8	497.0	502.9	488.5	483.0	493.2	498.5	11	1
CYC B SEC AIR T	20-003	553.2	522.4	536.6	542.8	544.4	539.9	537.8	522.1	526.1	11	2
CYC C SEC AIR T	20-004	525.0	496.5	504.4	512.8	512.7	507.8	507.9	492.9	501.4	11	3
PULV COAL FLOW KLB	06-314	22.98	.07	23.37	23.35	23.38	3.40	23.23	23.14	23.08	10	4
PULV PA FLOW	06-275	52.41	0.00	55.32	55.40	55.55	58.69	53.37	57.24	56.98	10	19
PULV INLET T	09-034	515.7	148.0	491.8	498.9	500.6	158.0	484.2	479.6	486.2	11	7
PULV OUTLET T	09-040	173.1	101.7	146.3	147.0	149.7	141.8	142.1	155.9	152.1	11	8

TEST NO.	24B	11T	12T	13T	14T	33T	34T	28T	29T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91
TIME START	1723	0814	1229	1508	1814	2158	2250	1101	1504
TIME END	1803	0814	1457	1759	2004	2209	2306	1257	1610
LOAD MW	82	81	82	82	82	83	83	83	83

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	10.81	-.13	8.32	8.57	8.95	5.67	8.82	9.48	9.04	11 9
PULV AMPS	06-276	226.3	.1	225.0	228.1	232.4	78.9	229.4	220.5	215.4	11 10
PULV PA FAN AMPS	06-277	60.27	-.06	60.40	61.59	62.46	54.66	52.48	62.37	60.44	11 11
ROT CLASS AMPS	06-278	44.65	39.75	37.87	38.74	41.40	37.32	38.51	38.46	37.56	11 12
ROT CLASS RPM	06-270	150.9	135.5	140.6	147.1	160.1	141.1	140.7	139.5	139.7	11 13
ROT CLASS DP IN WG	06-345	.4250	.2664	.2561	.2907	.3547	.1420	.2830	.2606	.2589	11 14
COAL SILO LEVEL	06-310	76.80	65.03	74.10	81.52	53.51	40.20	23.51	58.55	77.95	11 15
FLAME INTENSITY #1 %	06-279	106.2	53.8	106.1	106.1	106.1	106.2	106.2	105.8	105.2	11 16
FLAME INTENSITY #2 %	06-295	105.8	29.8	98.2	105.7	106.1	105.7	105.5	105.3	105.6	11 17
FLAME INTENSITY #3 %	06-296	0.0	6.9	104.7	104.4	106.0	106.0	0.0	105.4	105.8	11 18
FLAME INTENSITY #4 %	06-297	106.2	6.2	102.7	95.1	106.0	105.8	106.0	106.1	106.1	11 19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12 1
SH SP VLV POS R	13-190	51.35	33.35	39.48	33.70	28.94	55.63	28.30	44.11	44.54	12 3
SH SP VLV POS L	13-191	38.53	33.58	0.00	32.14	32.54	38.87	0.00	34.33	35.01	12 4
GR DMPR DEMAND	16-044	50.5	85.6	100.0	94.0	84.4	53.1	93.1	105.0	95.0	12 9
RECIRC AIR DMPR POS	12-176	0.00	15.66	13.77	13.16	13.32	13.12	16.58	.04	8.51	12 13
SH PASS DMPR POS	14-180	23.36	11.07	0.00	14.64	20.80	15.71	9.75	30.20	33.95	12 15
RH PASS DMPR POS	14-180	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12 16
OVRFIRE AIR DMPR POS	06-115	38.58	10.04	43.12	44.02	44.02	10.00	44.28	43.16	44.06	12 17
BRN SEC AIR DMPR POS	06-286	16.82	10.01	15.02	15.02	15.02	34.52	14.92	14.92	15.12	12 18
HOT PRI AIR DMPR POS	06-556	100.0	0.0	100.0	100.0	100.0	53.0	100.0	100.0	100.0	12 19
BRN GAS REC DMPR POS	06-324	32.90	-5.00	40.49	40.49	40.49	1.06	39.06	40.19	40.09	12 20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-360.5	-346.9	-318.6	-329.4	-343.8	-335.5	-320.3	-355.0	-358.5	15 1
GAS LVG SH PASS 1B	08-004	589.8	561.1	567.9	570.8	586.0	552.3	546.3	587.8	594.9	15 2
GAS LVG SH PASS 1C	08-005	606.3	562.2	573.2	582.3	598.5	557.1	551.3	595.4	607.1	15 3
GAS LVG SH PASS 1D	08-006	627.0	576.9	581.7	592.4	612.3	572.5	567.7	617.0	628.9	15 4
GAS LVG SH PASS 2A	08-017	559.4	537.9	529.2	533.1	542.2	531.3	523.0	557.1	568.6	15 5
GAS LVG SH PASS 2B	08-018	570.0	544.7	538.0	542.9	553.5	540.3	538.5	573.6	579.4	15 6
GAS LVG SH PASS 2C	08-019	575.5	542.7	545.4	553.3	567.6	537.4	534.6	571.3	579.7	15 7
GAS LVG SH PASS 2D	08-020	608.1	575.5	581.6	589.6	608.1	566.3	563.9	607.1	616.4	15 8
GAS LVG SH PASS 3A	08-021	586.7	556.8	548.0	553.2	565.0	559.6	549.2	591.8	595.9	15 9
GAS LVG SH PASS 3B	08-022	603.2	570.3	553.3	561.1	577.5	557.9	552.0	588.9	598.4	15 10
GAS LVG SH PASS 3C	08-023	589.6	555.9	550.3	556.1	569.7	550.0	545.7	578.9	584.3	15 11
GAS LVG SH PASS 3D	08-024	-477.7	-442.0	-425.4	-436.0	-461.0	-449.2	-438.9	-473.7	-470.1	15 12
GAS LVG RH PASS 4A	08-033	613.1	616.3	606.0	625.7	609.5	609.8	623.0	605.4	616.2	15 13
GAS LVG RH PASS 4B	08-034	633.6	624.2	627.2	640.2	633.2	620.6	643.6	618.9	627.7	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15

TEST NO.		24B	11T	12T	13T	14T	33T	34T	28T	29T
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17
DATE		05/07/92	02/16/91	02/16/91	02/16/91	02/16/91	02/24/91	02/24/91	02/22/91	02/22/91
TIME START		1723	0814	1229	1508	1814	2158	2250	1101	1504
TIME END		1803	0814	1457	1759	2004	2209	2306	1257	1610
LOAD MW		82	81	82	82	82	83	83	83	83

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS 4D	08-036	675.5	634.5	649.4	660.0	664.8	642.7	650.3	639.9	641.5	15 16
GAS LVG RH PASS 5A	08-049	605.7	607.8	598.4	613.0	598.2	590.6	617.1	591.4	603.4	15 17
GAS LVG RH PASS 5B	08-050	621.3	612.9	608.3	619.0	614.0	602.4	626.3	604.2	610.4	15 18
GAS LVG RH PASS 5C	08-051	636.1	618.6	620.9	632.3	637.3	608.9	630.5	612.8	611.8	15 19
GAS LVG RH PASS 5D	08-052	632.6	610.6	611.5	623.4	624.0	603.7	622.0	602.0	600.1	15 20
GAS LVG RH PASS 6A	08-053	616.2	609.2	606.5	619.0	617.3	607.9	618.4	596.2	604.8	15 21
GAS LVG RH PASS 6B	08-054	642.6	626.1	627.8	635.0	636.4	623.4	634.0	616.7	624.9	15 22
GAS LVG RH PASS 6C	08-055	629.3	623.2	618.3	624.2	627.3	609.5	624.2	608.3	606.8	15 23
GAS LVG RH PASS 6D	08-056	640.5	620.6	618.2	627.1	632.8	613.2	628.9	612.2	609.8	15 24
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W		96.00	26.00	28.00	29.00	30.00	27.00	33.00	31.00	32.00	15 28

RB-369 16 Jun 1992 15:14:24

TEST NO.	46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START	1038	1333	1101	2321	2058	0044	2230	0029
TIME END	1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW	83	82	82	83	70	71	70	70
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

46T AVG SCANS 12-->19 : 82 MW : 11.5 TPH REBRN : NO GR TO BRNRS
47T AVG SCANS 28-->32 : 83 MW : 11.5 TPH REBRN : W/ GR TO BRNRS
49T AVG SCANS 16-->20 : 82 MW : 12.8 TPH REBRN : W/ GR TO BRNRS
12B AVG SCANS 24-->32 : 82 MW : 10.5 TPH : 160 RPM : HIGH STOIC
37T AVG SCANS 66-->68 : 70 MW : NO REBURN
42T AVG SCANS 16-->28 : 71 MW : 11 TPH REBRN : NO GR TO BRNRS
38T AVG SCANS 75-->77 : 70 MW : 11.5 TPH REBRN : NO GR TO BRNRS
35T AVG SCANS 94-->99 : 70 MW : 11.5 TPH REBRN : W/ GR TO BRNRS

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	82.91	82.26	82.02	82.52	70.05	70.55	70.34	70.05	2	1
MAIN STEAM FLOW	03-033	562.4	555.1	552.2	565.4	437.8	433.8	436.7	431.7	2	2
1ST STG STM FLW	CALC	545.2	540.6	538.6	544.4	453.9	451.1	453.8	449.1	2	23
FW FLOW	12-170	551.6	548.0	544.5	556.9	461.5	457.1	460.5	454.9	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	5
SH SPRAY FLOW L	17-052	5.2624	4.3388	0.0000	2.4939	3.4040	0.0000	1.7079	3.5787	2	7
SH SPRAY FLOW R	17-056	5.20	15.00	0.00	10.49	4.93	4.82	0.00	0.00	2	8
GR FAN AMPS A	16-181	37.41	35.33	29.54	.08	40.05	39.55	40.18	40.40	2	12
GR FAN AMPS B	16-183	-.02	-.02	-.02	36.56	-.02	-.02	-.02	-.02	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	203.5	178.0	109.9	195.5	232.8	226.3	234.9	236.8	2	24
GR TO SEC AIR	06-932	3.32	11.18	11.30	11.19	0.00	0.00	0.00	0.00	2	25
GR TO SEC AIR	CALC	2.18	10.35	10.57	11.75	2.35	1.95	1.55	11.32	2	26
GR TO FURN	CALC	201.3	167.7	99.3	183.8	230.5	224.4	233.4	225.5	2	27
OFA AIR FLOW	06-931	153.1	164.0	191.3	144.1	22.4	146.5	101.2	114.8	2	28
TMP AIR FLOW	CALC	4.81	10.64	17.40	31.62	52.73	18.20	0.00	0.00	14	10
SEC AIR FLOW	06-320	44.46	32.79	37.01	29.22	35.92	45.89	53.51	39.36	2	29
1st STG PRESS	18-128	750.3	743.7	740.9	749.1	619.8	615.8	619.7	612.9	2	19
OIL FLOW 2A	05-100	.0017	.0018	.0020	.0017	.0018	.0018	.0017	.0023	2	20
OIL FLOW 2B	07-100	.0018	.0017	.0019	.0017	.0024	.0017	.0017	.0017	2	21
OIL FLOW 2C	09-100	.0016	.0016	.0016	.0033	.0016	.0016	.0016	.0016	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.1066	1.1066	1.1454	1.1009	1.0905	1.1157	1.1888	1.2040	4	20
REBRN WB STOIC	CALC	.5	.5	.4	.5	100.0	.5	.6	.5	4	21
REBRN STOIC	CALC	.8640	.8545	.8565	.9209	1.1668	.8720	.9326	.9128	4	22
LVG FURN STOIC	CALC	1.1272	1.1374	1.1880	1.1671	1.2122	1.1668	1.1371	1.1459	4	23
LVG ECON STOIC	CALC	1.1392	1.1495	1.2001	1.1791	1.2267	1.1810	1.1513	1.1602	4	24

TEST NO.		46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START		1038	1333	1101	2321	2058	0044	2230	0029
TIME END		1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW		83	82	82	83	70	71	70	70

DATA PAGE NO. 3 FLUID TEMPERATURES F (C) - PLANT

SSH OUT T	L	15-152	997.7	997.8	997.7	998.2	1000.7	999.1	996.5	998.2	3 1
SSH OUT T	R	15-150	999.7	999.0	998.9	998.8	998.6	999.6	986.1	997.9	3 2
SSH OUT AVE T		13-160	1000.5	1000.2	1001.9	997.8	999.6	999.4	993.0	997.3	14 1
LVG SH ATTMP T	L	13-164	727.1	740.3	711.2	748.0	734.2	731.2	703.1	698.5	3 8
LVG SH ATTMP T	R	13-162	741.0	701.0	740.9	706.2	732.5	719.2	745.7	752.5	3 9
PRI SH OUT T	L	HW	751.7	761.4	712.5	756.9	741.0	730.7	716.8	722.0	3 10
PRI SH OUT T	R	HW	766.6	775.4	743.5	766.0	756.0	759.9	742.9	753.1	3 11
ECON H2O OUT T	L	HW	503.4	499.7	504.4	503.1	495.0	505.1	499.3	501.5	3 27
ECON H2O OUT T	R	HW	484.0	485.4	468.5	482.7	471.4	469.3	464.6	466.8	3 28
ECON H2O IN T		20-007	429.7	428.7	428.2	429.7	412.7	412.7	413.4	412.3	3 5
RH SPRAY H2O T		HW	291.0	290.8	290.9	295.7	281.0	283.5	281.9	281.9	3 7
LVG RH T		14-150	998.9	994.1	1003.3	995.3	958.2	992.6	974.7	988.4	3 12
ENT RH T		CALC	678.1	674.2	675.7	677.2	644.2	650.1	639.1	645.3	3 16
COLD RH T		20-006	685.8	684.7	685.7	684.5	652.8	655.8	647.2	653.4	3 18

DATA PAGE NO. 4 FLUID TEMPERATURES F (C) - B&W

AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

TURB THROT P		03-170	1450.3	1449.9	1450.4	1449.7	1448.9	1450.0	1449.0	1449.7	5 1
SEC SH OUT P		CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5 2
DRUM PRESS		04-013	1529.7	1526.6	1525.5	1528.5	1505.5	1502.9	1504.4	1503.6	5 3
LVG RH PRESS		15-102	305.6	302.9	301.3	304.3	252.9	253.4	254.1	252.0	5 4

TEST NO.		46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.		1	2	3	4	5	6	7	8
DATE		03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START		1038	1333	1101	2321	2058	0044	2230	0029
TIME END		1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW		83	82	82	83	70	71	70	70

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

ENT RH PRESS		15-100	323.2	320.8	319.2	321.5	267.3	269.4	268.5	266.6	5 5
FW HTR E EXT P		20-035	310.7	308.1	306.4	309.7	256.6	257.8	257.4	255.7	5 6
FW HTR E EXT P		TRANS	313.6	310.9	309.3	312.6	259.2	259.8	260.0	258.1	5 7
SEC SH OUT P	(T)	TRANS	1472.0	1471.2	1468.4	1471.5	1462.9	1465.1	1462.9	1463.9	5 17
DRUM PRESS	(T)	TRANS	1520.4	1518.2	1516.1	1520.3	1495.1	1495.5	1494.6	1494.4	5 18
LVG RH-1 P	(T)	TRANS	308.9	306.2	304.9	308.0	256.1	256.6	256.9	255.0	5 19
ENT RH-1 P	(T)	TRANS	324.1	321.1	319.9	0.0	268.9	269.2	269.8	267.6	5 20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP		TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6 1
AIR ENT FD FAN T		HW	0.00	0.00	0.00	91.72	0.00	0.00	0.00	0.00	6 4
AIR LVG FD FAN T	A	09-028	126.8	129.3	130.5	126.3	129.0	142.1	131.3	134.5	7 2
AIR LVG FD FAN T	B	09-029	132.9	135.3	135.1	127.5	132.3	142.5	133.5	134.5	7 3
AIR ENT AH T	RA	20-017	179.2	173.1	171.7	157.5	161.8	179.5	169.7	181.3	6 2
AIR ENT AH T	RB	20-018	156.8	158.2	156.2	148.5	153.2	166.0	160.2	162.1	6 3
AIR ENT AH T	LA	20-025	184.8	185.1	177.8	173.3	172.8	195.5	180.9	192.0	13 25
AIR ENT AH T	LB	20-029	169.6	168.1	154.3	146.2	152.6	184.0	164.2	183.3	13 26
AIR LVG AH T	R	HW	536.4	544.7	534.9	562.6	533.5	532.8	537.2	529.4	6 6
AIR LVG AH T	L	HW	537.1	538.6	541.2	560.0	529.1	540.2	537.2	541.5	6 7
BRN SEC AIR T		08-002	527.9	532.0	535.5	569.0	516.7	526.3	529.7	521.7	14 2
BRN SA/GR T		08-001	510.6	537.0	529.2	557.3	479.8	510.9	513.8	524.2	14 3
OFA TEMP		09-002	520.1	528.2	523.9	538.0	466.0	518.3	509.3	516.3	14 4
GAS LVG AH T	RA	20-019	291.8	297.9	299.3	293.1	308.5	291.7	301.0	289.9	6 10
GAS LVG AH T	RB	20-020	275.2	281.2	283.1	282.6	286.3	275.0	279.8	272.5	6 11
GAS LVG AH T	LA	20-027	267.2	270.7	268.6	277.3	271.0	278.3	268.7	274.7	13 27
GAS LVG AH T	LB	20-024	276.6	280.0	277.5	287.1	278.7	285.4	276.6	283.0	13 28
GAS LVG RH PS T		AVE	619.1	621.7	624.8	636.7	593.6	609.8	605.5	607.6	13 17
GAS LVG SH PS T		AVE	587.1	595.4	558.6	598.2	565.5	549.7	550.3	533.2	13 19
GR GAS TEMP	A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 8
GR GAS TEMP	B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14 9
O2 LVG ECON	R	11-172	2.3771	2.7519	2.7098	2.3393	3.7367	2.6021	2.7821	3.2002	6 20
O2 LVG ECON	L	11-170	1.7189	2.0418	2.9125	2.3335	3.5338	2.5064	1.9027	2.1311	6 21
O2 IN SEC AIR		06-254	19.69	16.27	16.74	15.81	19.50	19.82	20.03	16.60	13 29
ACCUREX NOX	PPM	06-553	0.0	0.0	0.0	256.2	0.0	0.0	0.0	0.0	13 9
ACCUREX SOX	PPM	06-555	0.0	0.0	0.0	1145.5	0.0	0.0	0.0	0.0	13 10
ACCUREX CO	PPM	06-425	0.00	0.00	0.00	37.19	0.00	0.00	0.00	0.00	13 11
ACCUREX O2	%	06-554	0.0000	0.0000	0.0000	3.3030	0.0000	0.0000	0.0000	0.0000	13 12
BRN SEC AIR P	IN WG	06-250	15.48	14.99	16.49	13.37	12.51	13.05	14.49	13.42	14 5
BRN GAS REC P	IN WG	06-252	14.96	14.80	16.25	13.36	12.24	12.62	13.89	13.14	14 6
FURNACE GAS P	IN WG	08-100	13.18	12.73	13.62	12.05	11.44	10.66	11.03	10.50	14 7
BAROMETRIC P	IN HG	PB	0.00	0.00	0.00	29.29	0.00	0.00	0.00	0.00	6 29
REL HUMIDITY	%	TST	0.0000	0.0000	0.0000	7.7777	0.0000	0.0000	0.0000	0.0000	6 30

TEST NO.		46T	47T	49T	12B	37T	42T	38T	35T	
TEST SEQ. NO.		1	2	3	4	5	6	7	8	
DATE		03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92	
TIME START		1038	1333	1101	2321	2058	0044	2230	0029	
TIME END		1202	1426	1154	0103	2127	0301	2302	0132	
LOAD MW		83	82	82	83	70	71	70	70	
DATA PAGE NO. 7	**AIR & GAS DATA - B&W**									
AMBIENT AIR TEMP	TC	39.92	43.18	43.75	48.34	0.00	0.00	0.00	0.00	7 1
AIR LVG FD FAN T A	TC	130.3	132.7	134.2	129.4	132.2	145.6	134.5	138.1	7 6
AIR LVG FD FAN T B	TC	135.8	138.3	138.1	130.0	134.9	145.4	136.2	137.5	7 7
AIR ENT AH (T)	GRID	173.1	171.4	167.4	156.1	163.2	182.5	169.7	181.8	7 4
GAS LVG AH (T)	GRID	275.0	279.3	278.3	278.2	280.4	278.9	277.0	276.8	7 10
GAS LVG ECON (T) L	GRID	637.2	639.9	641.5	652.8	612.7	626.2	623.8	625.1	7 14
GAS LVG ECON (T) R	GRID	594.9	602.1	576.6	618.5	577.1	577.9	567.9	554.8	7 15
GAS TEMP LVG GR FAN	GRID	591.7	594.3	579.6	595.0	559.4	579.3	574.3	573.5	13 7
O2 LVG ECON (T) L	GRID	2.5674	2.6230	3.6577	3.3407	4.1268	3.3778	2.8359	2.8318	7 20
O2 LVG ECON (T) R	GRID	2.7608	3.0360	3.4924	3.1389	3.6841	3.1856	2.8172	3.2116	7 21
CO LVG ECON (T) L	GRID	128.6	109.9	99.2	67.1	49.5	111.5	103.3	116.8	13 5
CO LVG ECON (T) R	GRID	131.2	134.5	135.3	61.1	47.5	103.0	87.8	85.2	13 6
CO2 LVG ECON (T) L	GRID	16.39	16.11	15.52	15.56	15.27	15.73	16.19	16.45	7 22
CO2 LVG ECON (T) R	GRID	15.73	15.41	15.15	15.48	15.24	15.22	15.87	15.86	7 23
NOX LVG ECON (T) L	GRID	235.5	223.1	206.6	262.1	460.0	222.6	241.2	246.3	7 24
NOX LVG ECON (T) R	GRID	277.9	254.8	243.9	312.0	480.7	243.3	264.5	285.3	7 25
O2 LVG AH (T)	GRID	3.8400	4.0000	4.8000	4.7200	5.0000	4.5000	4.0000	4.1000	13 1
CO2 LVG AH (T)	GRID	32.46	31.35	30.59	23.48	32.22	38.94	31.58	37.10	13 3
O2 LVG GR FAN (T)	GRID	18.60	18.55	18.52	0.00	18.70	18.79	18.70	18.62	13 4
DRY BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP (T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27
DATA PAGE NO. 8	**FW HTR TEMPERATURES F (C) - PLANT**									
FW HTR E EXT T	HW	681.3	679.6	681.0	683.4	649.0	654.4	643.6	650.9	8 1
FW HTR E LVG T	HW	424.4	424.0	423.9	429.2	409.7	412.1	410.2	410.4	8 5
FW HTR E ENT T	HW	356.6	356.3	356.1	361.2	344.7	347.8	345.7	346.1	8 7
FW HTR E DRN T	HW	372.6	370.3	371.5	377.1	357.6	359.8	358.2	358.2	8 13
DATA PAGE NO. 9	**FW HTR TEMPERATURES F (C) - B&W**									
SSH PEND IN LEG 1	10-017	855.5	838.2	847.0	846.7	878.6	843.5	842.6	854.9	9 17
SSH PEND IN LEG 2	10-018	876.7	864.0	872.5	861.3	891.9	878.9	870.9	887.7	9 18
SSH PEND IN LEG 3	10-019	874.6	867.8	877.9	858.5	882.3	886.0	874.8	889.1	9 19
SSH PEND IN LEG 4	10-020	883.8	877.2	894.3	862.0	886.8	891.8	889.4	897.8	9 20
SSH PEND IN LEG 5	10-021	876.9	865.8	894.4	844.3	872.3	881.3	880.4	883.8	9 21
SSH PEND IN LEG 6	10-033	882.6	880.2	900.4	869.1	879.4	892.4	880.7	877.5	9 22
SSH PEND IN LEG 7	10-034	877.4	896.2	891.1	896.0	883.8	897.6	872.1	867.5	9 23
SSH PEND IN LEG 8	10-035	870.3	882.6	880.9	884.4	882.5	885.0	877.1	874.4	9 24
SSH PEND IN LEG 9	10-036	873.9	881.1	872.3	878.9	891.1	880.0	878.5	876.8	9 25
SSH PEND IN LEG 10	10-037	861.6	861.6	833.5	852.5	881.3	853.1	849.4	844.4	9 26
RH PEND IN LEG 1	09-049	942.2	941.5	952.4	945.1	898.9	944.2	916.3	931.9	8 17
RH PEND IN LEG 2	09-050	936.2	941.9	944.6	942.0	889.6	936.7	903.9	917.6	8 18

TEST NO.	46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START	1038	1333	1101	2321	2058	0044	2230	0029
TIME END	1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW	83	82	82	83	70	71	70	70

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

RH PEND IN LEG 3	09-051	936.2	937.9	945.5	939.8	892.7	937.4	908.8	923.7	8	19
RH PEND IN LEG 4	09-052	935.4	939.1	943.7	939.1	890.8	935.7	905.2	919.5	8	20
RH PEND IN LEG 5	09-053	936.9	903.4	916.9	0.0	903.6	902.2	897.3	922.0	8	21
RH PEND IN LEG 6	10-001	956.6	954.3	972.8	964.3	913.7	965.9	933.3	950.5	8	22
RH PEND IN LEG 7	10-002	925.4	920.7	942.6	930.3	888.9	933.3	911.2	929.7	8	23
RH PEND IN LEG 8	10-003	934.3	923.2	942.2	925.6	898.4	932.7	920.5	942.4	8	24
RH PEND IN LEG 9	10-004	941.9	941.3	951.9	944.9	899.1	944.0	915.0	931.0	8	25
RH PEND IN LEG 10	10-005	913.3	879.1	894.1	869.6	886.5	877.6	871.4	893.0	8	26
RH INTM HND HOLE R	10-038	937.8	938.2	948.3	943.7	894.2	940.6	914.8	932.0	8	27
RH INTM HND HOLE L	10-039	851.9	828.8	840.0	823.0	829.0	823.8	822.5	833.9	8	28
PSH OUT LEG T	09-017	777.8	785.7	748.0	777.1	752.5	761.4	755.8	753.4	14	11
PSH OUT LEG T	09-018	777.0	785.0	751.7	776.1	753.8	765.2	759.7	760.4	14	12
PSH OUT LEG T	09-019	732.6	747.8	688.0	742.3	729.2	706.0	693.6	698.8	14	13
PSH OUT LEG T	09-020	747.3	760.2	701.1	753.1	739.4	716.8	708.6	711.5	14	14
PSH OUT LEG T	09-021	765.9	776.5	732.9	768.3	748.2	747.3	734.9	738.1	14	15
PSH OUT LEG T	09-022	776.3	782.6	751.0	775.5	755.3	764.0	753.0	755.7	14	16
PSH OUT LEG T	09-023	756.4	765.3	721.9	753.7	740.0	736.0	729.8	732.5	14	17
PSH OUT LEG T	09-024	782.1	790.5	763.5	781.7	762.4	778.7	764.4	772.3	14	18
PSH OUT LEG T	09-025	752.6	767.3	728.0	752.9	738.3	743.1	730.8	738.3	14	19
PSH OUT LEG T	09-026	774.5	783.2	757.5	769.2	757.9	770.1	754.6	764.5	14	20
PSH OUT LEG T	09-027	787.2	797.0	769.2	782.5	766.4	779.8	763.1	772.8	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	23.20	22.96	21.40	25.57	30.04	19.28	20.12	19.23	10	1
CYC B COAL FLOW KLB	07-110	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	10	2
CYC C COAL FLOW KLB	09-110	23.23	22.98	21.40	25.61	30.07	19.29	20.12	19.25	10	3
CYC A SEC AIR FLOW %	06-170	211.4	209.2	203.7	229.8	269.1	169.1	173.0	176.2	10	16
CYC B SEC AIR FLOW %	08-170	1.5315	1.7057	3.1435	4.0242	3.2830	2.2298	2.5800	1.0951	10	17
CYC C SEC AIR FLOW %	10-170	225.3	225.4	216.2	226.5	272.0	185.0	191.6	192.0	10	18
CYC A SEC AIR T	20-002	496.5	505.2	489.5	514.2	505.9	484.0	499.3	477.3	11	1
CYC B SEC AIR T	20-003	528.3	534.8	537.7	557.8	528.0	527.4	532.8	528.5	11	2
CYC C SEC AIR T	20-004	497.8	501.3	501.6	523.6	493.4	499.9	498.6	502.8	11	3
PULV COAL FLOW KLB	06-314	23.21	23.21	25.86	21.20	.41	22.26	23.25	23.23	10	4
PULV PA FLOW	06-275	52.11	52.40	53.95	50.52	58.98	52.43	54.66	54.26	10	19
PULV INLET T	09-034	484.0	489.6	493.1	515.6	112.6	481.7	477.6	484.8	11	7
PULV OUTLET T	09-040	145.7	149.3	141.0	155.5	102.6	138.5	130.0	140.7	11	8

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	11.86	11.48	12.43	11.66	1.30	8.31	8.56	8.53	11	9
PULV AMPS	06-276	240.4	236.4	260.7	230.7	15.2	224.2	225.0	227.0	11	10
PULV PA FAN AMPS	06-277	61.41	61.56	74.74	52.29	15.04	46.00	53.42	53.62	11	11

TEST NO.	46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START	1038	1333	1101	2321	2058	0044	2230	0029
TIME END	1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW	83	82	82	83	70	71	70	70

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

ROT CLASS AMPS	06-278	41.32	40.04	41.25	46.33	20.32	38.23	40.23	38.59	11 12
ROT CLASS RPM	06-270	140.8	141.0	140.1	156.6	56.6	139.9	140.1	140.6	11 13
ROT CLASS DP IN WG	06-345	.3791	.3670	.3884	.4564	.0665	.2856	.2855	.2687	11 14
COAL SILO LEVEL	06-310	81.20	52.29	94.22	55.59	92.98	42.99	90.09	13.32	11 15
FLAME INTENSITY #1 %	06-279	105.9	106.2	106.1	105.9	33.2	106.1	106.1	101.4	11 16
FLAME INTENSITY #2 %	06-295	105.3	105.4	105.4	105.1	32.2	106.0	105.5	100.2	11 17
FLAME INTENSITY #3 %	06-296	106.1	105.9	106.2	106.1	28.8	106.2	101.0	99.3	11 18
FLAME INTENSITY #4 %	06-297	105.7	105.8	105.7	105.4	33.4	106.1	106.0	105.8	11 19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12 1
SH SP VLV POS R	13-190	33.89	62.40	23.95	49.86	34.56	38.20	16.66	23.96	12 3
SH SP VLV POS L	13-191	36.94	35.96	29.69	31.91	32.51	28.47	33.62	36.71	12 4
GR DMPR DEMAND	16-044	68.2	57.0	41.7	51.4	99.2	100.0	98.6	93.1	12 9
RECIRC AIR DMPR POS	12-176	16.72	15.53	13.98	13.69	11.00	13.30	12.85	14.91	12 13
SH PASS DMPR POS	14-180	28.09	29.30	7.80	20.13	20.06	.06	.06	.04	12 15
RH PASS DMPR POS	14-180	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12 16
OVRFIRE AIR DMPR POS	06-115	41.08	43.07	47.92	0.00	10.10	40.05	32.01	34.21	12 17
BRN SEC AIR DMPR POS	06-286	27.18	17.04	21.04	15.10	18.07	28.06	34.23	22.70	12 18
HOT PRI AIR DMPR POS	06-556	100.0	100.0	100.0	100.0	0.0	99.8	100.0	100.0	12 19
BRN GAS REC DMPR POS	06-324	0.00	30.02	30.02	29.32	0.00	0.00	0.00	35.93	12 20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-395.0	-394.2	-355.1	-407.9	-355.4	-315.2	-322.3	-311.1	15 1
GAS LVG SH PASS 1B	08-004	592.1	596.5	558.8	599.3	571.6	551.6	558.3	533.7	15 2
GAS LVG SH PASS 1C	08-005	599.1	608.5	567.6	617.2	576.1	556.5	561.1	537.9	15 3
GAS LVG SH PASS 1D	08-006	614.2	631.3	580.2	632.8	586.0	572.1	564.1	553.8	15 4
GAS LVG SH PASS 2A	08-017	558.5	562.5	530.1	563.3	538.4	522.7	526.0	509.1	15 5
GAS LVG SH PASS 2B	08-018	574.2	574.6	545.0	581.1	552.8	532.4	538.8	523.6	15 6
GAS LVG SH PASS 2C	08-019	571.7	579.1	546.6	579.4	549.0	537.1	536.9	520.4	15 7
GAS LVG SH PASS 2D	08-020	608.1	622.0	580.5	623.8	575.2	568.5	563.5	549.3	15 8
GAS LVG SH PASS 3A	08-021	585.2	592.5	551.5	593.5	567.6	548.3	543.5	537.3	15 9
GAS LVG SH PASS 3B	08-022	590.7	602.5	567.4	601.2	578.1	557.8	562.9	535.8	15 10
GAS LVG SH PASS 3C	08-023	576.7	584.6	558.5	590.2	560.4	549.6	547.9	530.8	15 11
GAS LVG SH PASS 3D	08-024	-512.0	-519.7	-464.7	-516.7	-455.8	-429.8	-434.5	-423.2	15 12
GAS LVG RH PASS 4A	08-033	613.3	606.5	614.9	611.1	588.0	599.2	594.1	594.4	15 13
GAS LVG RH PASS 4B	08-034	631.0	630.0	634.5	636.5	599.4	613.5	619.4	625.0	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15
GAS LVG RH PASS 4D	08-036	644.6	656.2	645.1	690.5	618.7	640.3	629.6	631.4	15 16
GAS LVG RH PASS 5A	08-049	602.6	597.3	601.9	602.7	581.6	584.0	590.8	592.5	15 17
GAS LVG RH PASS 5B	08-050	612.9	613.8	618.8	626.8	588.6	599.0	604.7	605.3	15 18

TEST NO.	46T	47T	49T	12B	37T	42T	38T	35T
TEST SEQ. NO.	1	2	3	4	5	6	7	8
DATE	03/03/91	03/03/91	03/04/91	04/16/92	02/25/91	02/27/91	02/25/91	02/25/92
TIME START	1038	1333	1101	2321	2058	0044	2230	0029
TIME END	1202	1426	1154	0103	2127	0301	2302	0132
LOAD MW	83	82	82	83	70	71	70	70

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG RH PASS	5C	08-051	619.2	625.3	629.2	644.8	589.8	616.0	606.7	609.5	15 19
GAS LVG RH PASS	5D	08-052	610.1	618.1	619.4	637.9	583.1	608.4	596.0	598.3	15 20
GAS LVG RH PASS	6A	08-053	609.2	608.8	614.0	614.9	586.5	598.3	595.5	601.4	15 21
GAS LVG RH PASS	6B	08-054	625.2	627.3	635.1	641.8	601.6	619.2	614.4	616.3	15 22
GAS LVG RH PASS	6C	08-055	618.9	624.8	631.6	643.4	593.3	615.4	603.9	605.3	15 23
GAS LVG RH PASS	6D	08-056	623.6	631.1	627.8	653.7	598.5	614.7	605.9	603.8	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			34.00	35.00	37.00	80.00	38.00	39.00	40.00	41.00	15 28

RB-369 16 Jun 1992 15:15:23

TEST NO.	39T	1A	20A	2BM	15A	44T	48T	30T	43T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91
TIME START	0005	1435	0115	1636	2241	2103	2206	0859	0420
TIME END	0201	1642	0157	1809	0045	2124	2349	0930	0532
LOAD MW	70	68	60	60	59	66	57	56	55
FUEL	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR	LAMR

39T AVG SCANS 84-->94 : 70 MW : 11.5 TPH REBRN : W/ GR TO BRNRS
1A AVG SCANS 40-->51 : 67 MW : NO RBRN : ACUREX TRAV
20A AVG SCANS 23-->26 : 60 MW : 8.2 TPH : .944 REBRN STOIC
2BM AVG SCANS 37-->45 : 60 MW : AFTER RAMP DOWN IN AUTO
15A AVG SCANS 41-->46 : 59 MW : 8.0 TPH : 160 RPM : LOW STOIC
44T AVG SCANS 127-->128: 65 MW : 10 TPH REBRN : MIN GR TO BRNRS
48T AVG SCANS 77-->86 : 57 MW : 7.9 TPH REBRN : MIN GR TO BRNRS
30T AVG SCANS 7 --> 9 : 55 MW : NO REBURN
43T AVG SCANS 37-->43 : 55 MW : 8 TPH REBRN : MIN GR TO BRNRS

DATA PAGE NO. 2 FLOWS MLB/HR (MT/HR)

LOAD MW	20-005	70.34	68.49	59.78	60.31	58.72	65.85	56.71	55.67	55.19	2	1
MAIN STEAM FLOW	03-033	436.7	420.4	388.7	394.3	382.6	400.8	349.6	344.9	343.2	2	2
1ST STG STM FLW	CALC	453.8	441.0	386.4	393.9	381.0	425.9	367.6	363.9	360.2	2	23
FW FLOW	12-170	460.5	446.4	400.4	409.3	392.3	433.2	372.3	368.3	364.9	2	3
BLOW DOWN FLOW	EST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	4
RH SPRAY FLOW	14-192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	5
SH SPRAY FLOW L	17-052	1.7079	2.4384	0.0000	0.0000	0.0000	0.0000	.9944	0.0000	0.0000	2	7
SH SPRAY FLOW R	17-056	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	8
GR FAN AMPS A	16-181	40.18	37.17	.08	.08	39.02	38.87	41.17	39.48	40.70	2	12
GR FAN AMPS B	16-183	-.02	-.02	45.37	47.07	-.02	-.02	-.02	-.02	-.02	2	13
GR FAN BUS VOLT	EST	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	4160.0	2	14
TOTAL GR FLOW	CALC	235.3	203.9	281.0	277.2	217.1	215.6	240.9	221.1	234.5	2	24
GR TO SEC AIR	06-932	0.00	-84.26	4.45	10.67	12.51	0.00	5.52	0.00	0.00	2	25
GR TO SEC AIR	CALC	1.55	0.00	4.11	11.73	12.90	1.69	4.37	2.35	7.70	2	26
GR TO FURN	CALC	233.7	203.9	276.9	266.4	204.2	213.9	236.5	218.8	226.8	2	27
OFA AIR FLOW	06-931	101.2	32.1	104.8	94.2	98.9	22.2	67.4	26.0	66.7	2	28
TMP AIR FLOW	CALC	0.00	24.43	73.27	69.26	42.12	15.66	16.87	44.66	8.05	14	10
SEC AIR FLOW	06-320	53.51	30.26	55.56	44.38	35.45	54.93	45.89	37.70	41.25	2	29
1st STG PRESS	18-128	619.7	601.5	523.5	534.2	515.8	579.9	496.6	491.3	485.9	2	19
OIL FLOW 2A	05-100	.0017	.0017	.0023	.0023	.0017	.0017	.0024	.0017	.0022	2	20
OIL FLOW 2B	07-100	.0017	.0017	.0017	.0017	.0017	.0017	.0017	.0017	.0017	2	21
OIL FLOW 2C	09-100	.0016	.0016	.0016	.0016	0.0000	.0016	.0016	.0019	.0016	2	22
% PWDR RVR BASN COAL	USER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2	30
CYCLONE STOIC	CALC	1.1888	1.1607	.9912	1.0143	1.0378	1.0732	1.0697	1.1409	1.1073	4	20
REBRN WB STOIC	CALC	.6	100.0	.8	.7	.6	100.0	.7	100.0	.7	4	21
REBRN STOIC	CALC	.9326	1.1599	.9439	.9788	.9202	1.0746	.9623	1.2056	.9766	4	22
LVG FURN STOIC	CALC	1.1371	1.2268	1.1854	1.1932	1.1545	1.1222	1.1292	1.2706	1.1460	4	23

TEST NO.			39T	1A	20A	2BM	15A	44T	48T	30T	43T	
TEST SEQ. NO.			9	10	11	12	13	14	15	16	17	
DATE			02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91	
TIME START			0005	1435	0115	1636	2241	2103	2206	0859	0420	
TIME END			0201	1642	0157	1809	0045	2124	2349	0930	0532	
LOAD MW			70	68	60	60	59	66	57	56	55	
DATA PAGE NO. 2		**FLOWS MLB/HR (MT/HR)**										
LVG ECON STOIC		CALC	1.1514	1.2416	1.2016	1.2091	1.1710	1.1374	1.1467	1.2883	1.1640	4 24
DATA PAGE NO. 3		**FLUID TEMPERATURES F (C) - PLANT**										
SSH OUT T	L	15-152	996.5	996.2	991.2	989.1	990.0	983.8	997.1	974.1	969.2	3 1
SSH OUT T	R	15-150	986.1	996.3	978.0	996.3	983.5	997.8	984.9	975.9	995.3	3 2
SSH OUT AVE T		13-160	993.0	996.8	983.6	991.5	986.4	993.0	989.0	974.9	983.2	14 1
LVG SH ATTMP T	L	13-164	703.1	739.3	732.1	730.6	724.6	732.6	718.5	730.3	709.7	3 8
LVG SH ATTMP T	R	13-162	745.7	746.3	761.7	744.5	756.2	738.8	743.6	747.3	731.6	3 9
PRI SH OUT T	L	HW	716.8	738.2	727.9	727.3	722.2	728.9	723.5	729.7	707.3	3 10
PRI SH OUT T	R	HW	742.9	748.0	757.5	744.8	752.4	747.3	738.7	744.9	732.0	3 11
ECON H2O OUT T	L	HW	499.3	494.5	495.2	492.2	488.7	498.0	488.2	491.4	484.9	3 27
ECON H2O OUT T	R	HW	464.6	455.3	458.5	458.0	454.0	464.5	454.7	458.9	453.7	3 28
ECON H2O IN T		20-007	413.4	410.5	398.9	400.4	397.8	407.3	394.8	392.9	392.4	3 5
RH SPRAY H2O T		HW	281.9	281.8	273.4	274.8	268.8	279.0	267.4	267.9	268.5	3 7
LVG RH T		14-150	974.7	964.6	983.5	961.3	970.7	973.3	964.2	952.5	943.3	3 12
ENT RH T		CALC	639.1	642.6	627.0	634.8	627.3	639.9	625.9	612.0	622.5	3 16
COLD RH T		20-006	647.2	649.5	636.5	642.7	636.2	647.4	635.9	619.9	630.9	3 18
DATA PAGE NO. 4		**FLUID TEMPERATURES F (C) - B&W**										
AIR ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 1
AIR LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 2
CYC A TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 3
CYC A PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 4
CYC A TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 5
CYC B TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 6
CYC B PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 7
CYC B TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 8
CYC C TA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 9
CYC C PA DIFF P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 10
CYC C TOT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 11
LVG SSH PLAT P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 12
ENT PSH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 13
LVG PSH P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 14
LVG PSH P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 15
LVG ECON P	R	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 16
LVG ECON P	L	PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 17
GAS ENT AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 18
GAS LVG AH P		PB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4 19

TEST NO.	39T	1A	20A	2BM	15A	44T	48T	30T	43T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91
TIME START	0005	1435	0115	1636	2241	2103	2206	0859	0420
TIME END	0201	1642	0157	1809	0045	2124	2349	0930	0532
LOAD MW	70	68	60	60	59	66	57	56	55

DATA PAGE NO. 5 FLUID PRESSURES PSIG (KG/CM2)

TURB THROT P	03-170	1449.0	1450.0	1449.5	1450.1	1449.7	1450.8	1449.9	1450.4	1450.0	5	1
SEC SH OUT P	CALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5	2
DRUM PRESS	04-013	1504.4	1502.2	1487.5	1490.9	1490.8	1498.4	1486.5	1486.2	1484.1	5	3
LVG RH PRESS	15-102	254.1	245.4	215.9	218.6	211.8	237.9	204.6	202.4	199.2	5	4
ENT RH PRESS	15-100	268.5	259.2	228.8	230.9	222.6	253.7	215.1	213.4	211.3	5	5
FW HTR E EXT P	20-035	257.4	249.2	219.0	221.2	214.4	242.0	206.7	204.2	202.0	5	6
FW HTR E EXT P	TRANS	260.0	251.7	221.2	223.7	217.1	243.5	209.3	206.3	203.7	5	7
SEC SH OUT P (T)	TRANS	1462.9	1463.0	1459.1	1459.9	1459.6	1464.6	1460.0	1458.9	1460.5	5	17
DRUM PRESS (T)	TRANS	1494.6	1493.2	1481.9	1483.2	1480.9	1491.6	1478.3	1476.8	1476.9	5	18
LVG RH-1 P (T)	TRANS	256.9	248.6	219.2	221.6	214.9	240.8	207.4	204.7	202.2	5	19
ENT RH-1 P (T)	TRANS	269.8	0.0	0.0	0.0	0.0	252.8	217.9	215.2	212.5	5	20

DATA PAGE NO. 6 AIR & GAS DATA - PLANT

AMBIENT AIR DB TEMP	TC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6	1
AIR ENT FD FAN T	HW	0.0	0.0	105.2	101.0	98.2	0.0	0.0	0.0	0.0	6	4
AIR LVG FD FAN T A	09-028	131.3	132.9	138.5	138.2	136.2	144.8	139.0	139.9	145.7	7	2
AIR LVG FD FAN T B	09-029	133.5	133.8	141.6	141.8	141.4	146.9	143.1	140.9	146.3	7	3
AIR ENT AH T RA	20-017	169.7	137.3	144.8	146.5	145.9	184.3	177.9	200.9	178.9	6	2
AIR ENT AH T RB	20-018	160.2	136.2	144.0	144.2	143.9	170.5	176.7	183.4	178.6	6	3
AIR ENT AH T LA	20-025	180.9	135.2	141.4	141.2	139.1	197.0	188.2	241.5	198.4	13	25
AIR ENT AH T LB	20-029	164.2	136.8	142.5	142.0	140.0	185.3	173.1	216.5	184.9	13	26
AIR LVG AH T R	HW	537.2	583.5	552.1	545.3	536.8	520.7	508.0	506.9	515.3	6	6
AIR LVG AH T L	HW	537.2	573.6	555.2	542.8	543.5	532.7	524.2	509.2	514.6	6	7
BRN SEC AIR T	08-002	529.7	571.7	556.1	547.2	544.2	519.7	504.6	497.0	506.3	14	2
BRN SA/GR T	08-001	513.8	540.0	546.7	541.0	534.4	507.8	494.8	472.0	497.4	14	3
OFA TEMP	09-002	509.3	309.7	508.8	501.5	496.1	475.1	490.9	434.4	497.7	14	4
GAS LVG AH T RA	20-019	301.0	306.6	300.0	301.1	292.8	287.0	293.0	274.0	292.0	6	10
GAS LVG AH T RB	20-020	279.8	288.0	280.7	280.8	272.1	269.2	268.0	256.5	267.9	6	11
GAS LVG AH T LA	20-027	268.7	271.9	276.1	277.1	267.5	271.1	262.3	269.5	272.1	13	27
GAS LVG AH T LB	20-024	276.6	274.9	280.2	280.7	269.3	279.2	269.7	281.5	278.7	13	28
GAS LVG RH PS T	AVE	605.5	635.7	609.2	592.9	594.9	601.7	572.9	582.2	570.7	13	17
GAS LVG SH PS T	AVE	550.3	616.1	547.1	535.1	528.7	529.4	516.9	531.3	521.0	13	19
GR GAS TEMP A	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14	8
GR GAS TEMP B	BV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14	9
O2 LVG ECON R	11-172	2.7821	3.9540	3.0178	3.0364	2.5929	3.5950	2.4443	5.3983	2.5777	6	20
O2 LVG ECON L	11-170	1.9027	3.0975	2.2382	2.6082	1.9815	3.2806	1.9792	4.6481	2.2641	6	21
O2 IN SEC AIR	06-254	20.03	0.00	19.64	17.48	16.12	19.99	18.98	19.59	17.77	13	29
ACCUREX NOX PPM	06-553	0.0	73.1	280.2	263.3	229.2	0.0	0.0	0.0	0.0	13	9
ACCUREX SOX PPM	06-555	0.0	90.9	1188.3	1195.0	1186.6	0.0	0.0	0.0	0.0	13	10
ACCUREX CO PPM	06-425	0.0	-9.6	64.3	137.1	59.0	0.0	0.0	0.0	0.0	13	11
ACCUREX O2 %	06-554	0.00	11.65	4.24	4.10	4.63	0.00	0.00	0.00	0.00	13	12
BRN SEC AIR P IN WG	06-250	14.49	10.71	14.13	13.86	10.61	15.07	10.15	10.33	9.54	14	5
BRN GAS REC P IN WG	06-252	13.89	10.58	13.42	13.45	10.34	14.43	9.69	10.05	9.16	14	6

TEST NO.		39T	1A	20A	2BM	15A	44T	48T	30T	43T	
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17	
DATE		02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91	
TIME START		0005	1435	0115	1636	2241	2103	2206	0859	0420	
TIME END		0201	1642	0157	1809	0045	2124	2349	0930	0532	
LOAD MW		70	68	60	60	59	66	57	56	55	
DATA PAGE NO. 6	**AIR & GAS DATA - PLANT**										
FURNACE GAS P	IN WG	08-100	11.03	10.63	9.10	9.45	8.43	11.09	7.39	9.12	7.17	14 7
BAROMETRIC P	IN HG	PB	0.00	0.00	28.97	29.56	29.30	0.00	0.00	0.00	0.00	6 29
REL HUMIDITY	%	TST	0.0000	0.0000	7.6229	7.6529	7.6823	0.0000	0.0000	0.0000	0.0000	6 30
DATA PAGE NO. 7	**AIR & GAS DATA - B&W**										
AMBIENT AIR TEMP		TC	0.00	39.97	65.63	67.20	44.81	0.00	39.00	0.00	0.00	7 1
AIR LVG FD FAN T	A	TC	134.5	136.4	142.1	141.7	139.8	148.2	142.7	143.8	149.2	7 6
AIR LVG FD FAN T	B	TC	136.2	136.9	144.8	144.8	144.6	149.8	146.2	144.1	149.2	7 7
AIR ENT AH	(T)	GRID	169.7	137.3	144.3	144.3	143.5	186.0	177.5	212.4	184.7	7 4
GAS LVG AH	(T)	GRID	277.0	276.0	276.7	277.8	268.7	273.6	270.3	270.6	274.4	7 10
GAS LVG ECON	(T) L	GRID	623.8	653.7	636.8	608.3	609.0	616.1	591.1	599.2	585.9	7 14
GAS LVG ECON	(T) R	GRID	567.9	658.4	576.8	575.9	559.9	557.1	539.1	551.4	546.4	7 15
GAS TEMP LVG GR FAN		GRID	574.3	0.0	579.8	570.4	565.9	570.4	554.6	523.7	553.3	13 7
O2 LVG ECON	(T) L	GRID	2.8359	4.1710	3.7104	3.9461	3.0948	2.6000	2.6164	4.8000	2.9870	7 20
O2 LVG ECON	(T) R	GRID	2.8172	4.1890	3.4064	3.0861	3.2445	2.6000	3.0141	4.8000	3.1090	7 21
CO LVG ECON	(T) L	GRID	103.3	101.2	90.7	111.6	113.5	79.1	98.9	93.3	95.2	13 5
CO LVG ECON	(T) R	GRID	87.8	71.4	77.1	86.8	114.4	81.7	92.9	76.1	101.8	13 6
CO2 LVG ECON	(T) L	GRID	16.19	14.29	14.80	14.66	15.63	14.84	16.32	14.28	16.11	7 22
CO2 LVG ECON	(T) R	GRID	15.87	14.72	14.65	14.47	15.19	15.13	15.56	14.00	15.28	7 23
NOX LVG ECON	(T) L	GRID	241.2	526.7	377.4	318.8	221.4	293.0	359.3	423.0	315.1	7 24
NOX LVG ECON	(T) R	GRID	264.5	517.9	0.0	0.0	134.7	294.0	353.6	423.0	319.7	7 25
O2 LVG AH	(T)	GRID	3.9500	5.3800	5.9300	5.2100	4.9600	3.8000	4.0000	5.0000	4.3000	13 1
CO2 LVG AH	(T)	GRID	31.6	1972.3	20.6	2605.6	22.8	34.1	31.6	38.4	35.5	13 3
O2 LVG GR FAN	(T)	GRID	18.70	4.25	0.00	5.21	0.00	18.22	18.57	18.33	18.84	13 4
DRY BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 26
WET BULB TEMP	(T)	TST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7 27
DATA PAGE NO. 8	**FW HTR TEMPERATURES F (C) - PLANT**										
FW HTR E EXT T		HW	643.6	647.2	634.2	639.9	632.5	646.0	630.7	616.2	629.0	8 1
FW HTR E LVG T		HW	410.2	409.0	398.0	398.8	403.9	406.4	393.6	390.8	391.4	8 5
FW HTR E ENT T		HW	345.7	344.7	335.9	336.3	333.2	342.9	329.2	329.6	330.2	8 7
FW HTR E DRN T		HW	358.2	357.4	346.6	356.4	343.3	353.9	339.3	339.0	339.4	8 13
DATA PAGE NO. 9	**FW HTR TEMPERATURES F (C) - B&W**										
SSH PEND IN LEG	1	10-017	842.6	885.6	843.5	861.4	846.4	870.2	861.8	856.9	848.1	9 17
SSH PEND IN LEG	2	10-018	870.9	895.7	866.2	884.0	871.8	891.5	880.2	881.5	885.2	9 18
SSH PEND IN LEG	3	10-019	874.8	886.9	872.3	879.0	879.4	887.6	869.3	879.3	898.2	9 19
SSH PEND IN LEG	4	10-020	889.4	895.0	882.7	882.1	888.3	898.4	872.3	883.4	910.2	9 20
SSH PEND IN LEG	5	10-021	880.4	884.7	864.9	866.4	867.1	895.4	860.8	873.9	902.9	9 21

TEST NO.	39T	1A	20A	2BM	15A	44T	48T	30T	43T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91
TIME START	0005	1435	0115	1636	2241	2103	2206	0859	0420
TIME END	0201	1642	0157	1809	0045	2124	2349	0930	0532
LOAD MW	70	68	60	60	59	66	57	56	55

DATA PAGE NO. 9 FW HTR TEMPERATURES F (C) - B&W

SSH PEND IN LEG 6	10-033	880.7	898.4	873.2	886.4	876.9	901.0	866.2	881.5	907.8	9	22
SSH PEND IN LEG 7	10-034	872.1	896.8	865.6	893.7	874.5	885.8	867.0	880.2	895.1	9	23
SSH PEND IN LEG 8	10-035	877.1	890.0	867.8	888.0	876.4	872.4	873.2	874.1	877.7	9	24
SSH PEND IN LEG 9	10-036	878.5	891.2	876.8	879.8	877.0	873.8	881.4	871.7	860.8	9	25
SSH PEND IN LEG 10	10-037	849.4	874.3	861.1	843.1	843.5	848.6	860.0	841.9	817.2	9	26
RH PEND IN LEG 1	09-049	916.3	913.1	931.2	908.0	917.7	922.0	904.8	903.3	895.2	8	17
RH PEND IN LEG 2	09-050	903.9	904.8	917.2	895.3	903.6	918.4	887.6	895.2	889.7	8	18
RH PEND IN LEG 3	09-051	908.8	906.9	922.4	899.7	909.4	917.3	895.3	896.2	889.3	8	19
RH PEND IN LEG 4	09-052	905.2	904.7	918.3	895.9	905.4	916.7	890.5	894.7	888.0	8	20
RH PEND IN LEG 5	09-053	897.3	0.0	0.0	0.0	0.0	900.0	909.8	882.7	840.9	8	21
RH PEND IN LEG 6	10-001	933.3	931.0	951.6	929.9	939.3	936.4	924.5	925.8	914.8	8	22
RH PEND IN LEG 7	10-002	911.2	898.9	925.2	908.5	919.7	902.4	907.8	897.3	882.7	8	23
RH PEND IN LEG 8	10-003	920.5	905.4	936.8	909.3	927.5	909.4	920.3	900.6	871.1	8	24
RH PEND IN LEG 9	10-004	915.0	913.3	930.1	906.7	917.1	922.1	903.6	904.1	893.9	8	25
RH PEND IN LEG 10	10-005	871.4	887.7	897.5	853.3	879.0	882.6	883.2	863.2	827.4	8	26
RH INTM HND HOLE R	10-038	914.8	907.9	927.9	906.7	911.5	918.7	900.9	890.8	897.6	8	27
RH INTM HND HOLE L	10-039	822.5	831.9	831.7	804.2	824.3	833.4	821.1	811.1	787.9	8	28
PSH OUT LEG T	09-017	755.8	755.2	760.3	755.4	750.5	752.8	749.7	748.5	735.6	14	11
PSH OUT LEG T	09-018	759.7	753.3	764.0	756.2	758.6	750.9	749.8	747.6	739.2	14	12
PSH OUT LEG T	09-019	693.6	724.9	701.1	703.9	697.0	712.2	705.8	707.5	687.3	14	13
PSH OUT LEG T	09-020	708.6	733.3	715.6	717.4	709.3	720.9	718.5	719.1	699.3	14	14
PSH OUT LEG T	09-021	734.9	747.2	745.8	741.7	736.1	743.6	737.4	740.6	723.2	14	15
PSH OUT LEG T	09-022	753.0	757.7	764.1	757.7	753.0	755.7	751.5	753.2	737.2	14	16
PSH OUT LEG T	09-023	729.8	732.6	734.2	732.1	729.6	727.6	728.5	726.6	715.3	14	17
PSH OUT LEG T	09-024	764.4	762.5	777.4	763.9	770.5	760.2	756.8	759.1	748.9	14	18
PSH OUT LEG T	09-025	730.8	734.1	740.4	729.4	736.3	732.3	726.6	731.2	721.3	14	19
PSH OUT LEG T	09-026	754.6	754.8	768.8	748.4	762.0	760.1	748.8	753.5	742.7	14	20
PSH OUT LEG T	09-027	763.1	763.2	775.8	754.9	767.9	770.2	755.1	760.6	751.1	14	21

DATA PAGE NO. 10 PULVERIZER COAL AND PA FLOW

CYC A COAL FLOW KLB	05-104	20.12	28.23	17.00	16.52	16.64	28.28	16.82	24.40	16.46	10	1
CYC B COAL FLOW KLB	07-110	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	-.0120	10	2
CYC C COAL FLOW KLB	09-110	20.12	28.22	16.97	16.52	16.61	28.29	16.82	24.38	16.47	10	3
CYC A SEC AIR FLOW %	06-170	173.0	278.4	147.4	149.2	147.3	251.5	140.2	231.6	137.4	10	16
CYC B SEC AIR FLOW %	08-170	2.5800	4.3408	2.5341	3.9043	3.3802	2.4979	1.5716	3.6232	2.4518	10	17
CYC C SEC AIR FLOW %	10-170	191.6	280.8	146.9	148.9	146.9	253.3	156.3	228.3	156.2	10	18
CYC A SEC AIR T	20-002	499.3	551.0	506.7	504.7	496.1	480.4	472.6	462.4	476.2	11	1
CYC B SEC AIR T	20-003	532.8	560.2	544.4	537.4	531.4	516.2	507.2	496.0	512.0	11	2
CYC C SEC AIR T	20-004	498.6	539.2	518.5	510.1	506.6	488.3	480.9	461.8	483.1	11	3
PULV COAL FLOW KLB	06-314	23.25	.07	16.43	17.26	16.51	.07	15.95	.07	16.04	10	4
PULV PA FLOW	06-275	54.66	0.00	47.99	48.01	48.04	0.00	47.58	0.00	47.06	10	19
PULV INLET T	09-034	477.6	102.6	493.6	480.7	490.6	374.1	459.2	116.2	461.0	11	7
PULV OUTLET T	09-040	130.0	78.6	174.6	173.4	171.7	147.5	153.7	109.2	144.1	11	8

TEST NO.	39T	1A	20A	2BM	15A	44T	48T	30T	43T
TEST SEQ. NO.	9	10	11	12	13	14	15	16	17
DATE	02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91
TIME START	0005	1435	0115	1636	2241	2103	2206	0859	0420
TIME END	0201	1642	0157	1809	0045	2124	2349	0930	0532
LOAD MW	70	68	60	60	59	66	57	56	55

DATA PAGE NO. 11 PULVERIZER INLET TEMP AND PA DIFF

PULV DIFF P IN WG	06-274	8.5576	-.0063	6.0631	7.2382	6.5401	-.1224	6.1649	-.1442	5.4064	11 9
PULV AMPS	06-276	225.0	-.1	195.5	208.4	201.5	-.1	199.2	0.0	195.5	11 10
PULV PA FAN AMPS	06-277	53.42	-.05	37.15	34.08	30.53	-.06	35.29	-.05	30.41	11 11
ROT CLASS AMPS	06-278	40.23	.03	44.01	44.00	44.63	38.49	41.30	38.97	38.00	11 12
ROT CLASS RPM	06-270	140.1	-.3	162.3	160.1	162.9	140.9	161.7	140.2	140.1	11 13
ROT CLASS DP IN WG	06-345	.2855	-.0178	.3131	.3500	.3301	.2480	.3152	.3122	.2252	11 14
COAL SILO LEVEL	06-310	90.09	66.23	21.84	81.23	20.92	90.82	40.19	33.97	34.59	11 15
FLAME INTENSITY #1 %	06-279	106.1	3.5	106.1	106.2	106.1	.9	104.2	5.5	106.1	11 16
FLAME INTENSITY #2 %	06-295	105.5	2.4	105.8	105.5	105.7	1.0	105.4	1.2	94.9	11 17
FLAME INTENSITY #3 %	06-296	101.0	2.0	106.2	106.1	0.0	.9	106.1	.8	103.1	11 18
FLAME INTENSITY #4 %	06-297	106.0	3.2	105.9	105.7	97.8	.9	105.8	1.4	102.6	11 19

DATA PAGE NO. 12 OPERATOR POSITIONS %

RH SP VLV POS	15-077	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	-5.0000	12 1
SH SP VLV POS R	13-190	16.66	30.90	0.00	18.31	0.00	26.58	0.00	0.00	17.61	12 3
SH SP VLV POS L	13-191	33.62	29.83	0.00	0.00	0.00	0.00	30.13	0.00	0.00	12 4
GR DMPR DEMAND	16-044	98.6	96.1	90.6	100.6	72.6	100.1	104.6	96.7	100.0	12 9
RECIRC AIR DMPR POS	12-176	12.85	0.00	0.00	0.00	0.00	12.20	9.82	1.13	9.27	12 13
SH PASS DMPR POS	14-180	.0598	8.6537	.0702	.0488	0.0000	.0315	0.0000	.1873	.0348	12 15
RH PASS DMPR POS	14-180	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	12 16
OVRFIRE AIR DMPR POS	06-115	32.01	15.41	30.62	28.85	29.26	10.40	26.08	10.07	26.11	12 17
BRN SEC AIR DMPR POS	06-286	34.23	15.08	38.40	29.84	20.81	35.14	28.23	19.28	23.67	12 18
HOT PRI AIR DMPR POS	06-556	100.0	0.0	89.2	83.5	99.4	0.0	100.0	0.0	95.1	12 19
BRN GAS REC DMPR POS	06-324	0.0	11.3	100.0	100.0	29.8	0.0	20.0	0.0	22.9	12 20

DATA PAGE NO. 15 MISCELLANEOUS

GAS LVG SH PASS 1A	08-003	-322.3	-398.4	-300.3	-307.4	-304.0	-291.4	-313.1	-313.0	-287.1	15 1
GAS LVG SH PASS 1B	08-004	558.3	626.7	544.9	536.8	528.3	530.3	520.4	530.3	520.6	15 2
GAS LVG SH PASS 1C	08-005	561.1	647.1	559.1	553.2	538.1	532.6	521.8	535.7	531.2	15 3
GAS LVG SH PASS 1D	08-006	564.1	636.5	569.6	560.5	553.6	549.8	533.7	543.9	538.6	15 4
GAS LVG SH PASS 2A	08-017	526.0	584.1	519.8	505.4	500.9	506.8	494.7	508.9	495.4	15 5
GAS LVG SH PASS 2B	08-018	538.8	599.4	528.1	516.7	509.9	517.0	501.6	519.7	504.6	15 6
GAS LVG SH PASS 2C	08-019	536.9	592.7	534.6	524.7	513.5	515.9	502.7	519.8	509.8	15 7
GAS LVG SH PASS 2D	08-020	563.5	622.6	568.3	554.8	544.8	545.8	532.6	542.2	538.9	15 8
GAS LVG SH PASS 3A	08-021	543.5	616.5	541.5	530.3	527.9	534.1	517.6	537.4	526.5	15 9
GAS LVG SH PASS 3B	08-022	562.9	625.1	557.3	534.0	538.3	533.9	525.8	542.5	525.2	15 10
GAS LVG SH PASS 3C	08-023	547.9	610.2	547.5	534.6	531.8	527.9	518.3	532.5	519.3	15 11
GAS LVG SH PASS 3D	08-024	-434.5	-500.8	-447.4	-428.9	-434.6	-395.0	-407.1	-406.8	-389.8	15 12
GAS LVG RH PASS 4A	08-033	594.1	625.4	600.6	573.2	583.1	598.1	568.0	573.5	557.6	15 13
GAS LVG RH PASS 4B	08-034	619.4	639.7	614.1	595.9	601.1	606.5	581.6	583.7	566.2	15 14
GAS LVG RH PASS 4C	08-035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 15

TEST NO.		39T	1A	20A	2BM	15A	44T	48T	30T	43T
TEST SEQ. NO.		9	10	11	12	13	14	15	16	17
DATE		02/26/91	03/31/91	05/01/92	05/06/92	04/23/92	02/27/91	03/03/91	02/23/91	02/27/91
TIME START		0005	1435	0115	1636	2241	2103	2206	0859	0420
TIME END		0201	1642	0157	1809	0045	2124	2349	0930	0532
LOAD MW		70	68	60	60	59	66	57	56	55
DATA PAGE NO. 15	MISCELLANEOUS									
GAS LVG RH PASS	4D	08-036	629.6	673.4	649.5	633.3	634.4	626.6	592.7	597.4	600.2	15 16
GAS LVG RH PASS	5A	08-049	590.8	606.0	583.4	568.4	569.3	585.3	560.9	568.6	548.9	15 17
GAS LVG RH PASS	5B	08-050	604.7	623.8	595.6	584.2	586.3	593.8	566.8	575.5	557.6	15 18
GAS LVG RH PASS	5C	08-051	606.7	639.7	610.8	595.7	595.5	600.0	573.4	584.0	576.0	15 19
GAS LVG RH PASS	5D	08-052	596.0	630.8	607.4	589.5	591.1	593.4	562.6	575.2	568.1	15 20
GAS LVG RH PASS	6A	08-053	595.5	618.9	592.9	583.0	582.4	598.2	566.8	574.8	565.4	15 21
GAS LVG RH PASS	6B	08-054	614.4	640.0	616.1	606.5	604.7	608.9	584.0	592.2	584.1	15 22
GAS LVG RH PASS	6C	08-055	603.9	642.9	614.2	594.7	595.4	604.6	572.4	592.1	576.3	15 23
GAS LVG RH PASS	6D	08-056	605.9	651.9	616.4	597.9	601.2	603.5	572.5	587.2	576.9	15 24
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15 27
RIGHT = A = W			42.00	54.00	91.00	94.00	83.00	43.00	44.00	45.00	46.00	15 28