METCO ENVIRONMENTAL
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SOURCE EMISSIONS SURVEY
OF
ARKANSAS POWER & LIGHT COMPANY
WHITE BLUFF PLANT
UNIT NUMBER 1 STACK (SN-01)
REDFIELD, ARKANSAS
ADEQ PERMIT 263-AOP-R5
AFIN: 35-00110
FOR
ENTERGY SERVICES, INC.

NOVEMBER 2008

FILE NUMBER 08-16WB1

" I certify that I have personally checked and am familiar with the information submitted herein, and based on my inquiries of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. "

James R. Monfries
Senior Quality Assurance Manager

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INTRODUCTION

METCO Environmental, 6655 Complex Drive, Baton Rouge, Louisiana, conducted a source emissions survey of Arkansas Power & Light Company, White Bluff Plant, located in Redfield, Arkansas, for Entergy Services, Inc., on November 12, 13, and 14, 2008. The purpose of these tests was to determine the concentrations of particulate matter, PM-10 particulate matter, and carbon monoxide being emitted to the atmosphere via the Unit Number 1 Stack (SN-01), in order to comply with ADEQ Permit 263-AOP-R5. The testing was performed while the unit was operating at an average calculated heat input rate of 8,408.1 mmBtu/hr.

The sampling was performed by the following METCO personnel: Jason LaCroix – Project Supervisor, Ryan Jones, Jared Lebo, Jason Pilgrim, and Chad Centorbi.

The sampling followed the procedures set forth in the Code of Federal Regulations, Title 40, Chapter I, Part 60, Appendix A, Methods 1, 2, 3B, 4, 5, and 10; and Part 51, Appendix M, Methods 201A and 202.

WB_00006274

SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

Run Number	Front-Half Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	(lbs/mmBtu[4])	Total Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	(lbs/mmBtu[4])
1	0.0149	244.78	0.031	0.029	0.030	0.0250	411.29	0.051	0.048	0.050
2	0.0123	199.42	0.026	0.023	0.024	0.0170	275.03	0.036	0.032	0.033
3	0.0050	80.38	0.010	0.010	0.010	0.0095	153.52	0.019	0.019	0.019
Average	0.0107	174.86	0.022	0.021	0.021	0.0172	279.95	0.035	0.033	0.034
Allowable Emission Rate	----	----	0.1	0.1	0.1	----	714.0	----	----	----

Run Number	Carbon Monoxide Emissions (dry ppm)	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	(lbs/mmBtu[4])	Coal Feed Rate (TPH)
1	17.02	142.82	0.0178	0.0167	0.0174	84
2	50.13	413.50	0.0537	0.0480	0.0503	84
3	61.98	510.24	0.0653	0.0634	0.0629	80
Average	43.04	355.52	0.0456	0.0427	0.0435	83
Allowable Emission Rate	----	3,247.0	----	----	----	

Run Number	Front-Half PM-10 Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	(lbs/mmBtu[4])	Total PM-10 Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	(lbs/mmBtu[4])
1	0.0021	32.52	0.004	0.004	0.004	0.0080	124.55	0.016	0.015	0.015
2	0.0010	16.57	0.002	0.002	0.002	0.0411	673.48	0.086	0.078	0.082
3	0.0021	33.99	0.004	0.004	0.004	0.0214	348.04	0.044	0.043	0.043
Average	0.0017	27.69	0.003	0.003	0.003	0.0235	382.02	0.049	0.045	0.047
Allowable Emission Rate	----	----	----	----	----	----	714.0	----	----	----

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)
[2] Calculated using an F_c factor of 1,840 scf/million Btu.
[3] Calculated using the calculated heat input.
[4] Calculated using the CEMS heat input.

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SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Date	11/13/08	11/13/08	11/14/08
Time	1218-1357	1549-1715	1735-1857
Stack Flow Rate - ACFM	3,191,237	3,151,313	3,122,013
Stack Flow Rate – DSCFM[1]	1,922,927	1,890,241	1,886,506
% Water Vapor - % Vol.	12.06	12.28	10.99
% CO_2 - % Vol.	12.8	12.5	12.7
% O_2 - % Vol.	5.2	5.3	5.2
% Excess Air @ Sampling Point	31.5	32.2	31.4
Stack Temperature - °F	285	286	289
Stack Pressure - "Hg	28.82	28.80	28.71
Percent Isokinetic	98.9	98.0	99.5

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Calculated Heat Input – mmBtu/hr	8,571.3	8,608.0	8,044.9
CEMS Heat Input – mmBtu/hr	8,224.0	8,224.0	8,114.9
Particulate Matter Emissions Probe & Filter Catch grains/dscf[1]	0.0149	0.0123	0.0050
grains/cf @ Stack Conditions	0.0089	0.0074	0.0030
lbs/hr	244.78	199.42	80.38
lbs/mmBtu[2]	0.031	0.026	0.010
lbs/mmBtu[3]	0.029	0.023	0.010
lbs/mmBtu[4]	0.030	0.024	0.010
Total Catch grains/dscf[1]	0.0250	0.0170	0.0095
grains/cf @ Stack Conditions	0.0150	0.0101	0.0057
lbs/hr	411.29	275.03	153.52
lbs/mmBtu[2]	0.051	0.036	0.019
lbs/mmBtu[3]	0.048	0.032	0.019
lbs/mmBtu[4]	0.050	0.033	0.019

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[4] Calculated using the CEMS heat input.

SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

Carbon Monoxide

Run Number	1	2	3
Date	11/13/08	11/13/08	11/13/08
Time	1218-1403	1549-1722	1735-1909
Carbon Monoxide Emissions – dry ppm	17.02	50.13	61.98
Carbon Monoxide Emissions – lbs/hr	142.82	413.50	510.24
Carbon Monoxide Emissions – lbs/mmBtu[1]	0.0178	0.0537	0.0653
Carbon Monoxide Emissions – lbs/mmBtu[2]	0.0167	0.0480	0.0634
Carbon Monoxide Emissions – lbs/mmBtu[3]	0.0174	0.0503	0.0629

[1] Calculated using an F_c factor of 1,840 scf/million Btu.

[2] Calculated using the calculated heat input.

[3] Calculated using the CEMS heat input.

Note: The pounds per hour were calculated using the flow rate measured during the EPA Methods 5/202 tests.

SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

PM 10 Particulate Matter

Run Number	1	2	3
Date	11/13/08	11/13/08	11/14/08
Time	1218-1402	1549-1721	1735-1908
Stack Flow Rate - ACFM	3,020,411	3,200,137	3,151,313
Stack Flow Rate – DSCFM[1]	1,817,945	1,909,815	1,895,504
% Water Vapor - % Vol.	12.75	12.84	11.76
% CO_2 - % Vol.	12.8	12.5	12.7
% O_2 - % Vol.	5.2	5.3	5.2
Excess Air @ Sampling Point - %	31.5	32.2	31.4
Stack Temperature - °F	280	285	286
Stack Pressure - "Hg	28.82	28.80	28.71
Percent Isokinetic	102.8	99.4	100.5
Calculated Cut-Off Diameter - microns	9.6	9.4	9.5

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

Unit Number 1 Stack (SN-01)

PM 10 Particulate Matter

Run Number	1	2	3
Calculated Heat Input – mmBtu/hr	8,571.3	8,608.0	8,044.9
CEMS Heat Input – mmBtu/hr	8,224.0	8,224.0	8,114.9
PM-10 Particulate Matter Emissions Probe & Filter Catch grains/dscf[1]	0.0021	0.0010	0.0021
grains/cf @ Stack Conditions	0.0013	0.0006	0.0013
lbs/hr	32.52	16.57	33.99
lbs/mmBtu[2]	0.004	0.002	0.004
lbs/mmBtu[3]	0.004	0.002	0.004
lbs/mmBtu[4]	0.004	0.002	0.004
Total Catch grains/dscf[1]	0.0080	0.0411	0.0214
grains/cf @ Stack Conditions	0.0048	0.0245	0.0128
lbs/hr	124.55	673.48	348.04
lbs/mmBtu[2]	0.016	0.086	0.044
lbs/mmBtu[3]	0.015	0.078	0.043
lbs/mmBtu[4]	0.015	0.082	0.043

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[4] Calculated using the CEMS heat input.