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SOURCE EMISSIONS SURVEY
OF
ARKANSAS POWER & LIGHT COMPANY
WHITE BLUFF PLANT
UNIT NUMBER 2 STACK (SN-02)
REDFIELD, ARKANSAS
ADEQ PERMIT 263-AOP-R5
AFIN: 35-00110
FOR
ENTERGY SERVICES, INC.

NOVEMBER 2008

FILE NUMBER 08-16WB2

" 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 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 2 Stack (SN-02), 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 8,719.3 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_00006343

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

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	0.0075	133.54	0.017	0.015	0.015	0.0141	252.10	0.031	0.029	0.029
2	0.0065	115.60	0.014	0.013	0.013	0.0123	219.17	0.027	0.025	0.025
3	0.0090	157.71	0.019	0.018	0.018	0.0168	294.07	0.036	0.034	0.034
Average	0.0077	135.62	0.017	0.015	0.015	0.0144	255.11	0.031	0.029	0.029
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	0.24	2.18	0.0003	0.0002	0.0002	85
2	2.17	19.75	0.0024	0.0022	0.0023	85
3	5.11	45.45	0.0056	0.0053	0.0052	85
Average	2.51	22.46	0.0028	0.0026	0.0026	85
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	0.0027	46.13	0.006	0.005	0.005	0.0133	222.96	0.029	0.026	0.025
2	0.0045	80.30	0.010	0.009	0.009	0.0263	467.04	0.058	0.053	0.053
3	0.0055	97.14	0.012	0.011	0.011	0.0267	472.22	0.058	0.055	0.054
Average	0.0042	74.52	0.009	0.008	0.008	0.0221	387.41	0.048	0.045	0.044
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.

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Date	11/14/08	11/14/08	11/14/08
Time	0923-1057	1145-1307	1455-1623
Stack Flow Rate - ACFM	3,477,321	3,479,904	3,442,023
Stack Flow Rate – DSCFM[1]	2,081,619	2,085,814	2,038,070
% Water Vapor - % Vol.	11.53	11.07	11.91
% CO_2 - % Vol.	11.9	12.0	12.2
% O_2 - % Vol.	5.7	5.5	5.5
% Excess Air @ Sampling Point	35.3	33.6	33.7
Stack Temperature - °F	291	295	296
Stack Pressure - "Hg	28.69	28.73	28.69
Percent Isokinetic	96.2	98.1	95.2

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Calculated Heat Input – mmBtu/hr	8,741.2	8,825.1	8,591.5
CEMS Heat Input – mmBtu/hr	8,763.4	8,763.4	8,763.4
Particulate Matter Emissions			
Probe & Filter Catch			
grains/dscf[1]	0.0075	0.0065	0.0090
grains/cf @ Stack Conditions	0.0045	0.0039	0.0053
lbs/hr	133.54	115.60	157.71
lbs/mmBtu[2]	0.017	0.014	0.019
lbs/mmBtu[3]	0.015	0.013	0.018
lbs/mmBtu[4]	0.015	0.013	0.018
Total Catch			
grains/dscf[1]	0.0141	0.0123	0.0168
grains/cf @ Stack Conditions	0.0084	0.0073	0.0099
lbs/hr	252.10	219.17	294.07
lbs/mmBtu[2]	0.031	0.027	0.036
lbs/mmBtu[3]	0.029	0.025	0.034
lbs/mmBtu[4]	0.029	0.025	0.034

[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.

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

Carbon Monoxide

Run Number	1	2	3
Date	11/14/08	11/14/08	11/14/08
Time	0923-1057	1145-1316	1416-1516
Carbon Monoxide Emissions – dry ppm	0.24	2.17	5.11
Carbon Monoxide Emissions – lbs/hr	2.18	19.75	45.45
Carbon Monoxide Emissions – lbs/mmBtu[1]	0.0003	0.0024	0.0056
Carbon Monoxide Emissions – lbs/mmBtu[2]	0.0002	0.0022	0.0053
Carbon Monoxide Emissions – lbs/mmBtu[3]	0.0002	0.0023	0.0052

[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.

WB_00006347

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

PM-10 Particulate Matter

Run Number	1	2	3
Date	11/14/08	11/14/08	11/14/08
Time	0923-1056	1145-1316	1455-1623
Stack Flow Rate - ACFM	3,318,997	3,479,140	3,487,176
Stack Flow Rate – DSCFM[1]	1,958,186	2,070,604	2,067,545
% Water Vapor - % Vol.	12.69	12.16	11.91
% CO_2 - % Vol.	11.9	12.0	12.2
% O_2 - % Vol.	5.7	5.5	5.5
Excess Air @ Sampling Point - %	35.3	33.6	33.7
Stack Temperature - °F	292	291	295
Stack Pressure - "Hg	28.69	28.73	28.69
Percent Isokinetic	95.2	88.9	90.7
Calculated Cut-Off Diameter - microns	9.6	9.7	9.6

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

Unit Number 2 Stack (SN-02)

PM 10 Particulate Matter

Run Number	1	2	3
Calculated Heat Input – mmBtu/hr	8,741.2	8,825.1	8,591.5
CEMS Heat Input – mmBtu/hr	8,763.4	8,763.4	8,763.4
PM-10 Particulate Matter Emissions Probe & Filter Catch grains/dscf[1]	0.0027	0.0045	0.0055
grains/cf @ Stack Conditions	0.0016	0.0027	0.0032
lbs/hr	46.13	80.30	97.14
lbs/mmBtu[2]	0.006	0.010	0.012
lbs/mmBtu[3]	0.005	0.009	0.011
lbs/mmBtu[4]	0.005	0.009	0.011
Total Catch grains/dscf[1]	0.0133	0.0263	0.0267
grains/cf @ Stack Conditions	0.0078	0.0156	0.0157
lbs/hr	222.96	467.04	472.22
lbs/mmBtu[2]	0.029	0.058	0.058
lbs/mmBtu[3]	0.026	0.053	0.055
lbs/mmBtu[4]	0.025	0.053	0.054

[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.