METCO
ENVIRONMENTAL

SOURCE EMISSIONS SURVEY
OF
ENTERGY SERVICES, INC.
WHITE BLUFF STEAM ELECTRIC STATION
UNIT NUMBER 2 STACK (SN-02)
REDFIELD, ARKANSAS
ADEQ PERMIT NO. 263-ADP-R5

APRIL 2010

TESTING COMPANY: METCO ENVIRONMENTAL
P.O. BOX 598
ADDISON, TEXAS 75001
972-931-7127
FILE NUMBER 10-16WB2P

" 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, P.O. Box 598, Addison, Texas, conducted a source emissions survey of Entergy Services, Inc., White Bluff Steam Electric Station, Unit Number 2 Stack (SN-02) located at 1100 White Bluff Road, Redfield, Arkansas, on April 28, 2010. The purpose of these tests was to determine the concentrations of 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 Number 263-ADP-R5. Three tests for particulate matter and three tests for carbon monoxide were performed while the plant was operating at an average heat input rate of 8,417.94 mmBtu/hr. The results demonstrated that the unit is in compliance with the specified regulations.

The sampling was performed by the following METCO personnel: Ryan Jones - Project Supervisor, Daniel Moore, and Shawn Hoyt.

The testing was observed by Mr. George Mosely of the Arkansas Department on Environmental Quality.

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

SUMMARY OF RESULTS

White Bluff Unit Number 2 Stack (SN-02)

Run Number	Front-Half Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])	Total Particulate Matter Emissions (gr/dscf[1])	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])
1	0.0087	142.31	0.017	0.017	0.0265	433.28	0.051	0.052
2	0.0115	183.59	0.022	0.022	0.0337	539.29	0.063	0.064
3	0.0054	87.49	0.010	0.010	0.0306	493.52	0.058	0.058
Average	0.0085	137.80	0.016	0.016	0.0303	488.70	0.057	0.058
Allowable Emission Rate	----	----	0.1	0.1	----	714.0	----	----

Run Number	Carbon Monoxide Emissions (dry ppm)	(lbs/hr)	(lbs/mmBtu[2])	(lbs/mmBtu[3])
1	18.21	151.78	0.017	0.018
2	9.16	74.54	0.009	0.009
3	7.34	60.26	0.007	0.007
Average	11.57	95.53	0.011	0.011
Allowable Emission Rate	----	3,247.0	----	----

[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 CEMS heat input

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SUMMARY OF RESULTS

White Bluff Unit Number 2 Stack (SN-02)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Date	04/28/10	04/28/10	04/28/10
Time	0930-1046	1110-1226	1245-1401
Stack Flow Rate - ACFM	3,191,300	3,130,007	3,182,752
Stack Flow Rate – DSCFM[1]	1,910,012	1,864,777	1,881,440
% Water Vapor - % Vol.	10.43	10.84	10.60
% CO_2 - % Vol.	13.7	14.0	13.9
% O_2 - % Vol.	5.4	5.5	5.4
% Excess Air @ Sampling Point	33.7	34.7	33.8
Stack Temperature - °F	305	305	313
Stack Pressure - "Hg	28.86	28.86	28.86
Percent Isokinetic	103.2	101.4	97.2

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

White Bluff Unit Number 2 Stack (SN-02)

EPA Method 5 Particulate Matter

Run Number	1	2	3
CEMS Heat Input – mmBtu/hr	8,327.675	8,441.373	8,484.780
Particulate Matter Emissions Probe & Filter Catch grains/dscf[1]	0.0087	0.0115	0.0054
grains/cf @ Stack Conditions	0.0052	0.0068	0.0032
lbs/hr	142.31	183.59	87.49
lbs/mmBtu[2]	0.017	0.022	0.010
lbs/mmBtu[3]	0.017	0.022	0.010
Total Catch grains/dscf[1]	0.0265	0.0337	0.0306
grains/cf @ Stack Conditions	0.0158	0.0200	0.0180
lbs/hr	433.28	539.29	493.52
lbs/mmBtu[2]	0.051	0.063	0.058
lbs/mmBtu[3]	0.052	0.064	0.058

[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 CEMS heat input.

SUMMARY OF RESULTS

White Bluff Unit Number 2 Stack (SN-02)

Carbon Monoxide

Run Number	1	2	3
Date	04/28/10	04/28/10	04/28/10
Time	0830-1021	1045-1231	1253-1446
Carbon Monoxide Emissions – dry ppm	18.21	9.16	7.34
Carbon Monoxide Emissions – lbs/hr	151.78	74.54	60.26
Carbon Monoxide Emissions – lbs/mmBtu[1]	0.017	0.009	0.007
Carbon Monoxide Emissions – lbs/mmBtu[2]	0.018	0.009	0.007

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

[2] 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.