METCO
ENVIRONMENTAL

SOURCE EMISSIONS SURVEY
OF
ENTERGY SERVICES, INC.
WHITE BLUFF STEAM ELECTRIC STATION
UNIT NUMBER 1 STACK (SN-01)
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 10-16WB1P

" 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 1 Stack (SN-01) located at 1100 White Bluff Road, Redfield, Arkansas, on April 26 and 27, 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 1 Stack (SN-01), 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 7,835.89 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, Sam Morris, 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 1 Stack (SN-01)

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	0.0180	296.13	0.034	0.038	0.0357	587.94	0.067	0.075
2	0.0077	126.19	0.015	0.016	0.0236	386.42	0.045	0.049
3	0.0038	63.53	0.007	0.008	0.0184	305.08	0.035	0.039
Average	0.0098	161.95	0.019	0.021	0.0259	426.48	0.049	0.054
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	105.33	882.95	0.100	0.112
2	127.36	1,063.26	0.123	0.136
3	136.81	1,153.93	0.132	0.149
Average	123.17	1,033.38	0.118	0.132
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

SUMMARY OF RESULTS

White Bluff Unit Number 1 Stack (SN-01)

EPA Method 5 Particulate Matter

Run Number	1	2	3
Date	04/27/10	04/27/10	04/27/10
Time	1025-1145	1215-1335	1415-1531
Stack Flow Rate - ACFM	3,103,142	3,130,379	3,202,583
Stack Flow Rate – DSCFM[1]	1,920,967	1,913,124	1,932,847
% Water Vapor - % Vol.	9.80	10.78	10.59
% CO_2 - % Vol.	14.1	13.9	13.9
% O_2 - % Vol.	5.5	5.4	5.5
% Excess Air @ Sampling Point	34.8	33.8	34.7
Stack Temperature - °F	283	285	296
Stack Pressure - "Hg	28.79	28.81	28.81
Percent Isokinetic	101.2	92.8	98.4

[1] 29.92 "Hg, 68°F (760 mm Hg, 20°C)

SUMMARY OF RESULTS

White Bluff Unit Number 1 Stack (SN-01)

EPA Method 5 Particulate Matter

Run Number	1	2	3
CEMS Heat Input – mmBtu/hr	7,853.286	7,830.815	7,763.886
Particulate Matter Emissions Probe & Filter Catch grains/dscf[1]	0.0180	0.0077	0.0038
grains/cf @ Stack Conditions	0.0111	0.0047	0.0023
lbs/hr	296.13	126.19	63.53
lbs/mmBtu[2]	0.034	0.015	0.007
lbs/mmBtu[3]	0.038	0.016	0.008
Total Catch grains/dscf[1]	0.0357	0.0236	0.0184
grains/cf @ Stack Conditions	0.0220	0.0144	0.0111
lbs/hr	587.94	386.42	305.08
lbs/mmBtu[2]	0.067	0.045	0.035
lbs/mmBtu[3]	0.075	0.049	0.039

[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 1 Stack (SN-01)

Carbon Monoxide

Run Number	1	2	3
Date	04/27/10	04/27/10	04/27/10
Time	0900-1050	1115-1307	1335-1537
Carbon Monoxide Emissions – dry ppm	105.33	127.36	136.81
Carbon Monoxide Emissions – lbs/hr	882.95	1,063.26	1,153.93
Carbon Monoxide Emissions – lbs/mmBtu[1]	0.100	0.123	0.132
Carbon Monoxide Emissions – lbs/mmBtu[2]	0.112	0.136	0.149

[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.