Report on the
Precipitator Efficiency Guarantee Tests
Conducted for
Combustion Engineering Power Systems
At their Installation at
Arkansas Power and Light Company's
White Bluff Station, Unit #2
Located near Redfield, Arkansas
Purchase Order Number
2300354

Clean Air Engineering, Inc.

May 31, 1983

Clean Air Engineering, Inc.

INTRODUCTION

This report presents the test data and results of the test program conducted by Clean Air Engineering, Inc. for Combustion Engineering Power Systems.

The testing took place at their installation at Arkansas Power and Light Company's White Bluff Station, Unit #2, located near Redfield, Arkansas.

The work is authorized by the Combustion Engineering Power Systems purchase order number 2300354.

The purpose of the testing was to perform precipitator removal efficiency tests for guarantee purposes.

The field portion of the testing was coordinated among the following personnel:

Mr. R. Seay	Combustion Engineering Power Sys.
Mr. R. Roberts	Arkansas Power and Light Co.
Mr. L. Golden	Clean Air Engineering, Inc.

The tests were conducted during the week of May 9, 1983.

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DESCRIPTION OF INSTALLATION AND PROCESS

The tests described in this report were conducted on the flue gas from a coal fired boiler. The boiler is designated as Arkansas Power and Light Company's White Bluff Station, Unit #2.

The particulate emissions of flyash are controlled by a Combustion Engineering Power Systems electrostatic precipitator.

Information concerning the operation of the boiler was gathered by plant personnel while precipitator performance was monitored by Combustion Engineering's field personnel. Copies of these operating parameters are included in the Appendix of this report.

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DISCUSSION OF RESULTS

The test conditions and results are presented in the SUMMARY OF RESULTS TABLE beginning on page 2 - 2. Additional results and test parameters are given in Section 5.

A complete copy of the raw test data and a computer analysis of that data showing the point by point Isokinetic percentages are included in the appendix.

The outlet particulate concentrations, in Grains/DSCF, were .0041, .0041, and .0031 for runs #1, 2, and 3 respectively.

The precipitator particulate removal efficiencies which were determined using the inlet and outlet grain loadings are 99.74%, 99.83%, and 99.86% for runs #1, 2, and 3 respectively.

To the best of our knowledge the enclosed data is accurate and and reliable.

Respectfully submitted,

CLEAN AIR ENGINEERING, INC.

Larry Golden
Test Engineer

LG/jb

Clean Air Engineering, Inc.

TABLE I
SUMMARY OF RESULTS
RUNS #1, 2, AND 3

RUN NO.	1	2	3
DATE, 1983	May 10	May 10	May 10
TIME (Approx.)	9:10 AM to 12:42 PM	1:33 PM to 4:03 PM	5:01 PM to 7:23 PM
INLET			
Test Method	EPA M17	EPA M17	EPA M17
Gas Temperature, °F	322	318	316
Gas Moisture, Volume %	11.6	12.3	12.0
Gas Volume			
ACFM	3,364,000	3,399,000	3,466,000
DSCFM	1,923,000	1,935,000	1,985,000
Dust Concentration			
GR/DSCF	1.6050	2.4802	2.1498
OUTLET			
Test Method	EPA M17	EPA M17	EPA M17
Gas Temperature, °F	325	329	326
Gas Moisture, Volume %	11.7	11.6	12.1
Gas Volume			
ACFM	3,310,000	3,414,000	3,332,000
DSCFM	1,911,000	1,960,000	1,916,000
Dust Concentration			
GR/DSCF	.0041	.0041	.0031
LB/HR	67.5	69.5	50.4
LB/MBTU*	.0080	.0081	.0058
O_2, Volume %	5.7	5.9	5.3
CO_2, Volume %	13.8	13.7	14.0
% EFFICIENCY	99.74	99.83	99.86

* By 'F_d' Factor Method

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