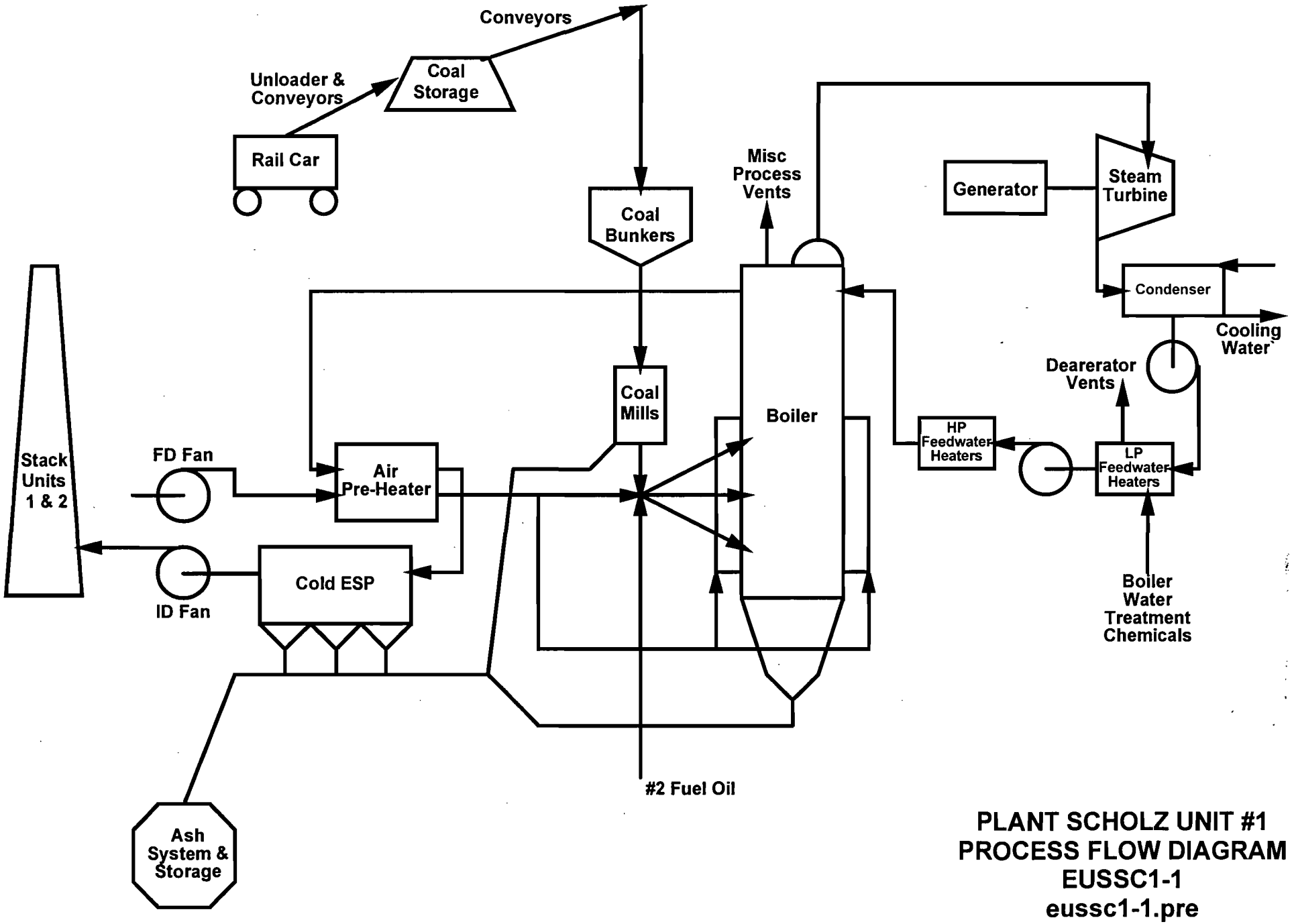
Title V SCHOLZ ELECTRIC

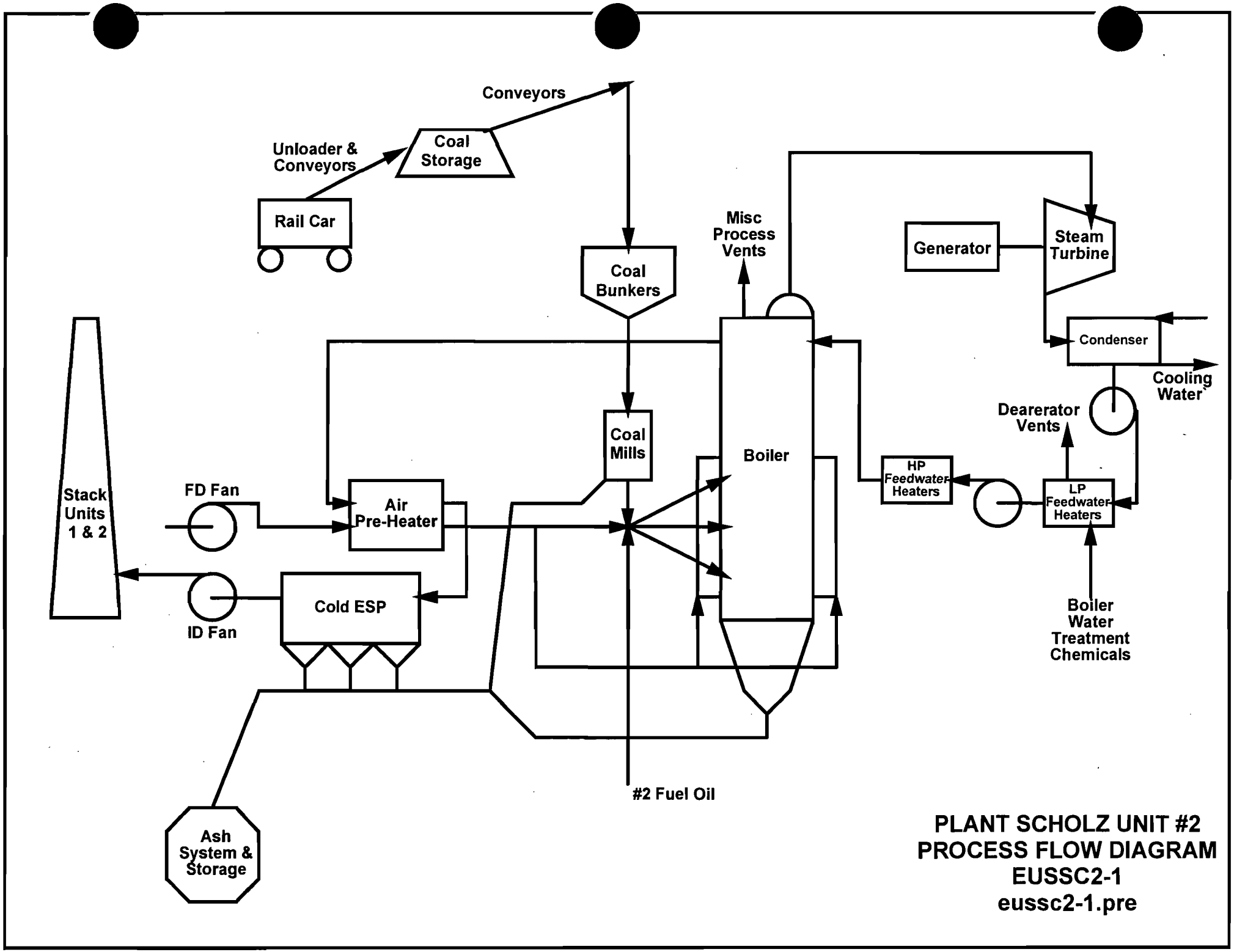
GENERATING PLANT PERMIT APPLICATION

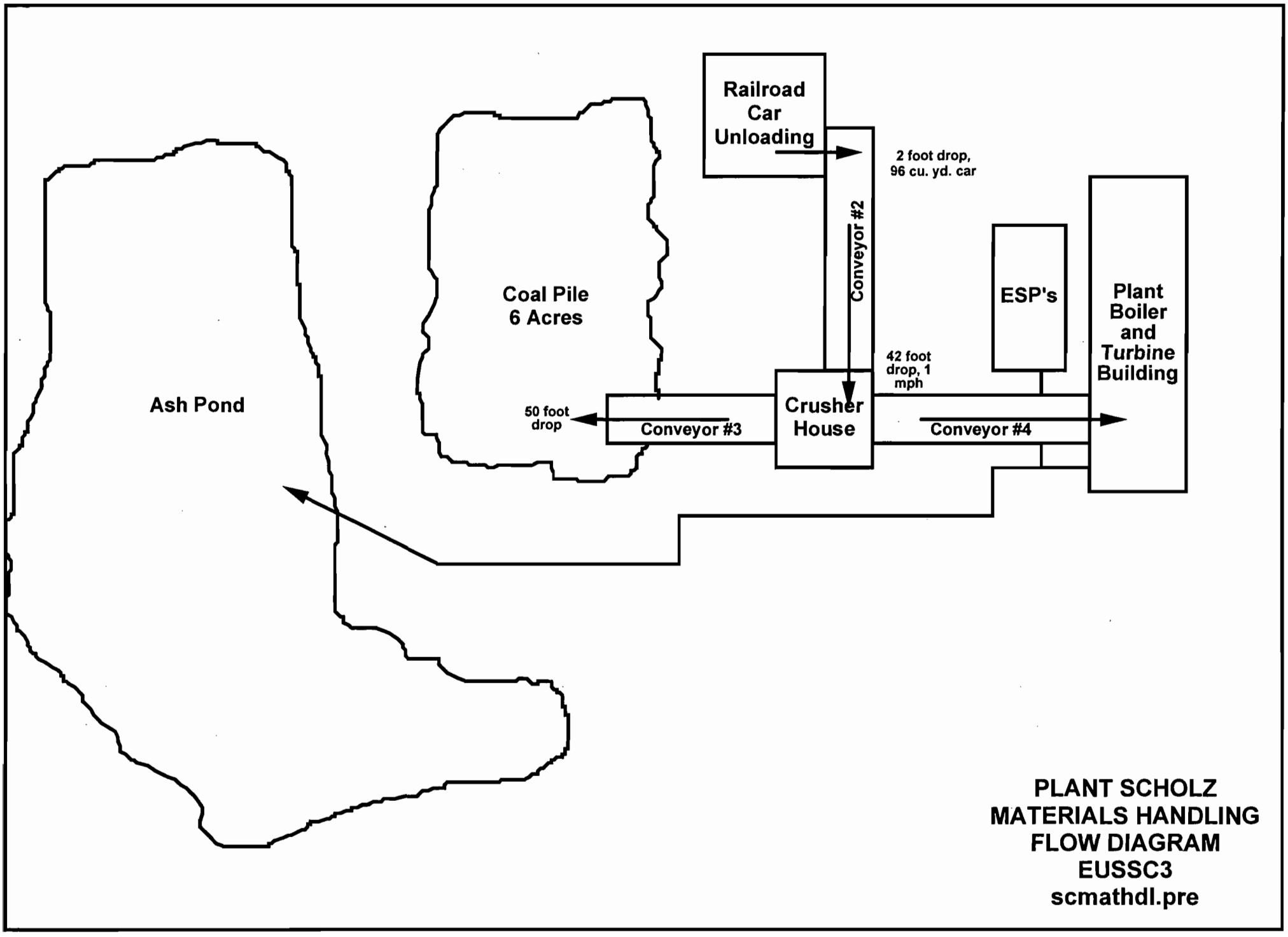
Volume II

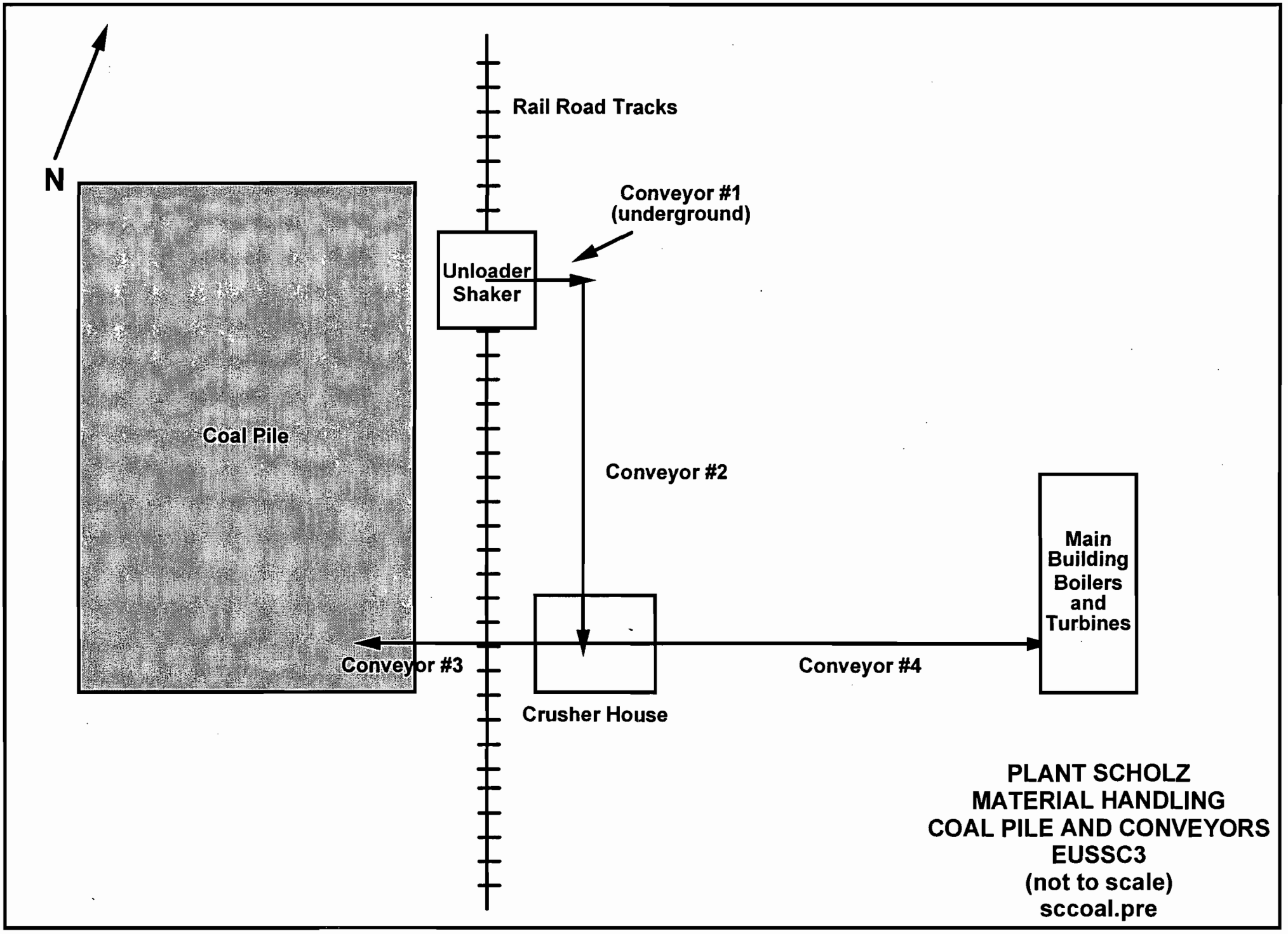
EUS-1

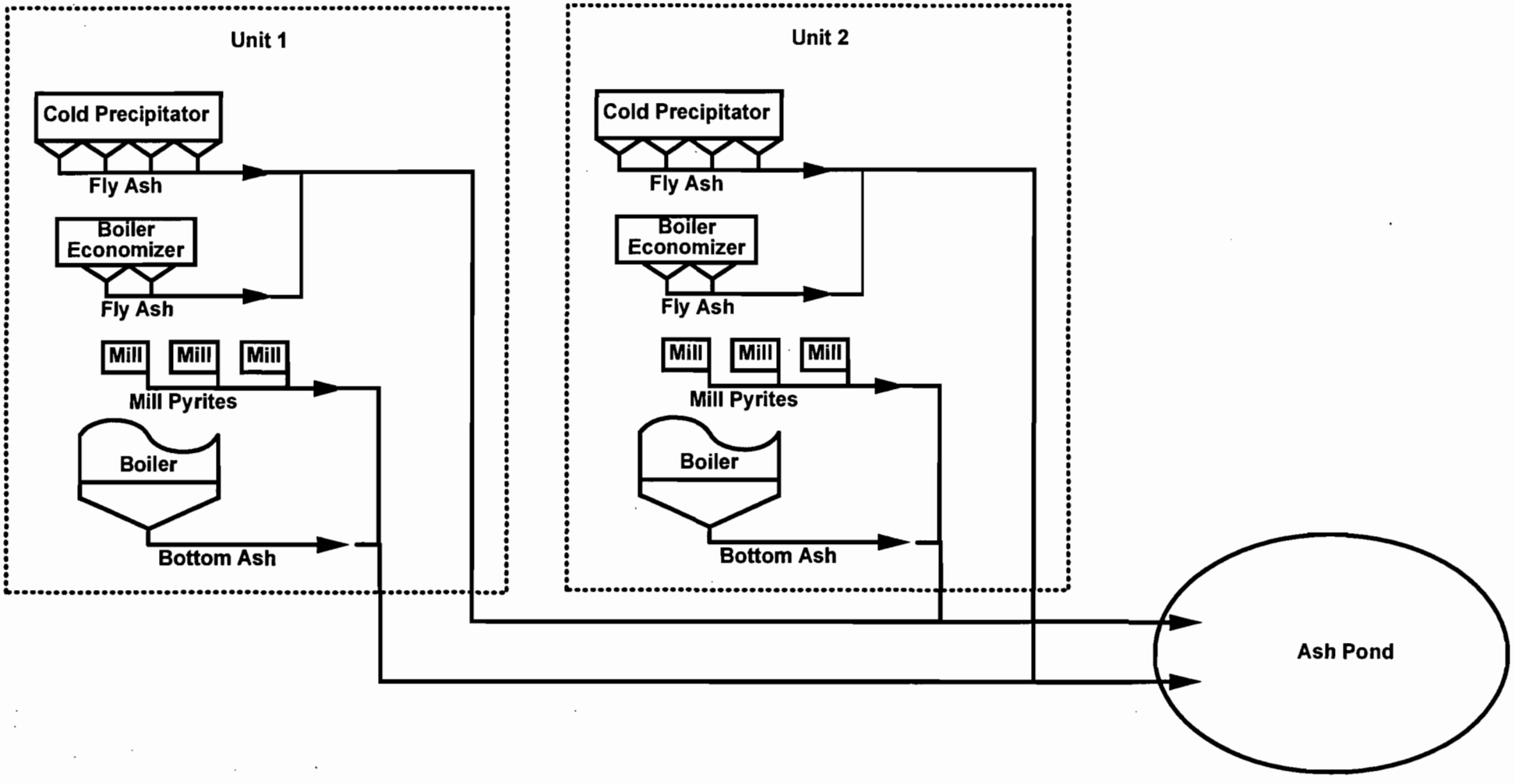


PLANT SCHOLZ UNIT #1
PROCESS FLOW DIAGRAM
EUSSC1-1
eussc1-1.pre

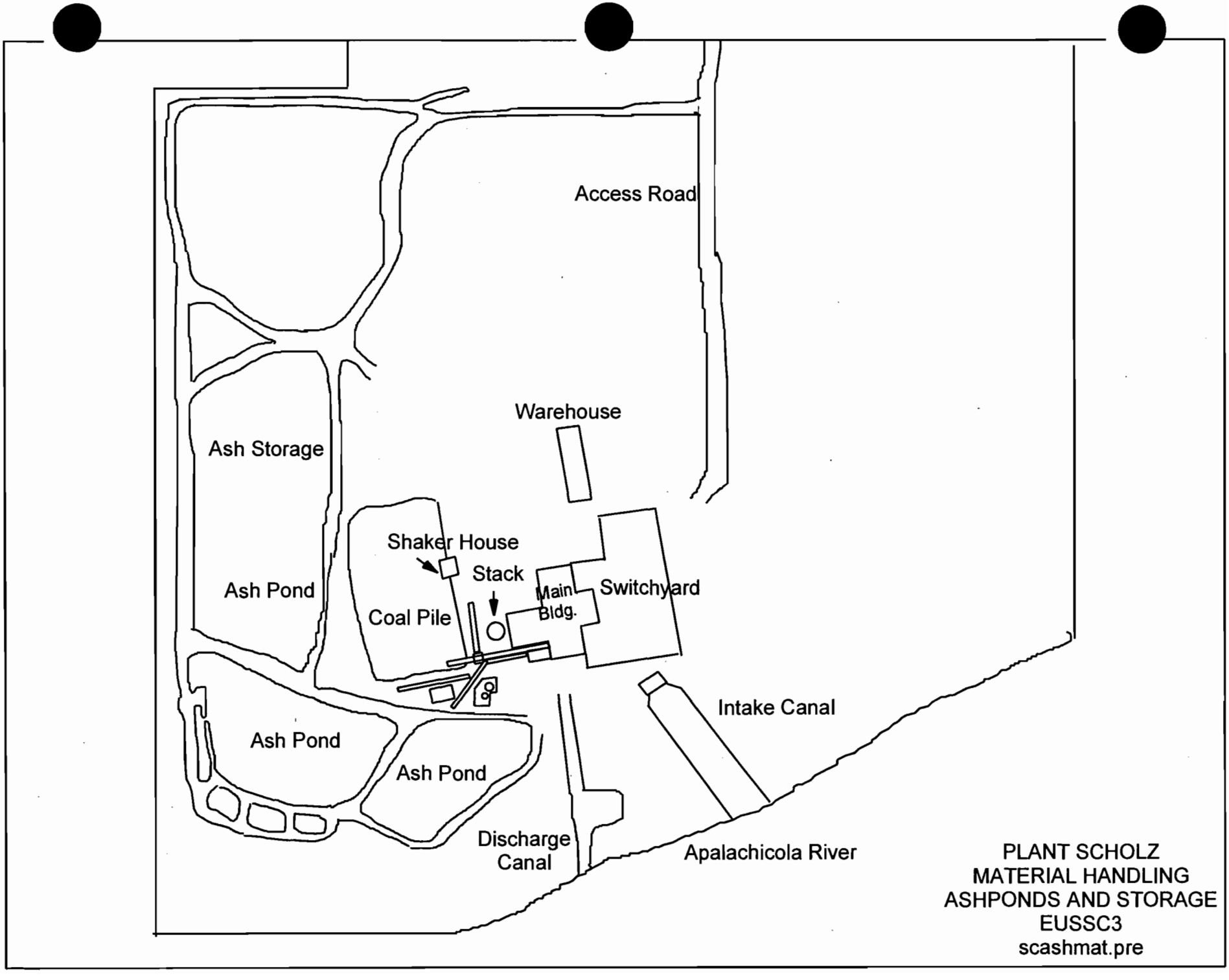

Conveyors
Unloader &
Conveyors
Coal
Storage
Rail Car
Coal
Bunkers
Misc
Process
Vents
Generator
Steam
Turbine
Condenser
Cooling
Water
Dearerator
Vents
Coal
Mills
Boiler
HP
Feedwater
Heaters
LP
Feedwater
Heaters
Stack
Units
1 & 2
FD Fan
Air
Pre-Heater
Cold ESP
ID Fan
Boiler
Water
Treatment
Chemicals
#2 Fuel Oil
Ash
System &
Storage
PLANT SCHOLZ UNIT #2
PROCESS FLOW DIAGRAM
EUSSC2-1
eussc2-1.pre

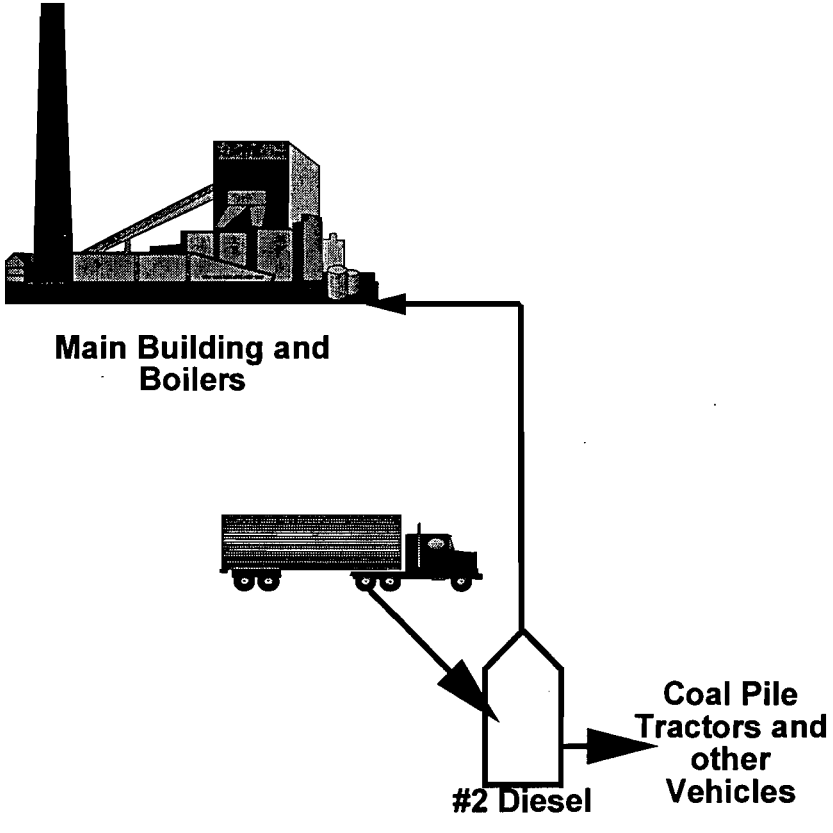

Railroad Car Unloading
2 foot drop, 96 cu. yd. car
Conveyor #2
Coal Pile 6 Acres
ESP's
Plant Boiler and Turbine Building
Ash Pond
42 foot drop, 1 mph
50 foot drop
Conveyor #3
Crusher House
Conveyor #4
PLANT SCHOLZ
MATERIALS HANDLING
FLOW DIAGRAM
EUSSC3
scmathdl.pre


N
Rail Road Tracks
Conveyor #1
(underground)
Unloader
Shaker
Coal Pile
Conveyor #2
Main
Building
Boilers
and
Turbines
Conveyor #3
Conveyor #4
Crusher House
PLANT SCHOLZ
MATERIAL HANDLING
COAL PILE AND CONVEYORS
EUSSC3
(not to scale)
sccoal.pre



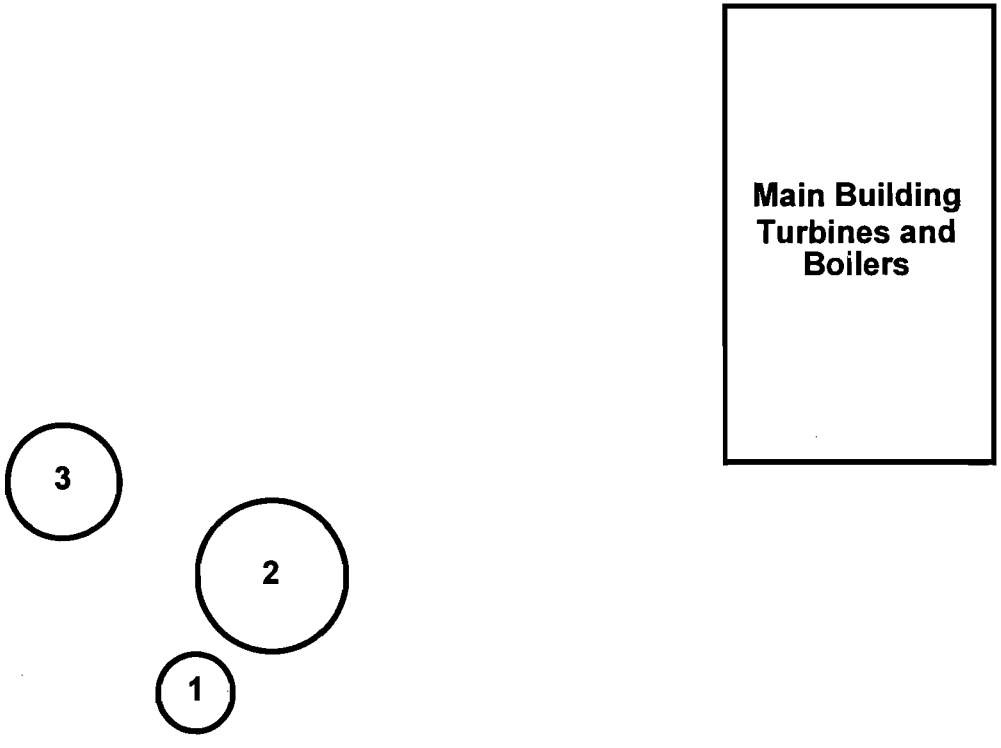
PLANT SCHOLZ
ASH HANDLING
FLOW DIAGRAM
EUSSC3
scash.pre


Access Road
Warehouse
Ash Storage
Shaker House
Stack
Ash Pond
Main Bldg.
Switchyard
Coal Pile
Intake Canal
Ash Pond
Ash Pond
Discharge Canal
Apalachicola River
PLANT SCHOLZ
MATERIAL HANDLING
ASHPONDS AND STORAGE
EUSSC3
scashmat.pre



PLANT SCHOLZ
TANKS PROCESS FLOW
EUSSC4
sctankpf.pre

State Registration #	Contents	Size (gallons)
1	#2 diesel - fuel oil	15,000
2	#2 diesel - fuel oil	200,000
3	#2 diesel - fuel oil	150,000



PLANT SCHOLZ
TANKS PLOT PLAN
(not to scale)
EUSSC4
sctanks.pre

EUS-2 File Cim/Quality Plant Energy
Copy to Ed
E95-009116

BEST AVAILABLE COPY

McCoy & McCoy Laboratories, Inc.
a subsidiary of McCoy & McCoy, Inc.
P.O. Box 907
85 East Noel Avenue
Madisonville, Kentucky 42431
Telephone 502/821-7375

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Madisonville, Ky. 502/821-7375
Paducah, Ky. 502/444-6547
Pikeville, Ky. 606/432-3104
Evansville, In. 812/425-9288

ANALYSIS REPORT

[illegible]
ANDALEX RESOURCES, INCORPORATED
ATTN: [illegible] TEAGUE
PO BOX [illegible]
MADISONVILLE KY 42431

DATE 10/04/95

REPORT NO [illegible]

F U L L P R O X I M A T E A N A L Y S I S

IDENTIFICATION: AUGUST 1995 BREC COMPOSITE

SAMPLED BY: CLIENT
DATE: [illegible]

WEATHER: N/A
SAMPLE TYPE: N/A

	PERCENT MOISTURE	PERCENT ASH	BTU	PERCENT SULFUR	PERCENT VOLATILE	PERCENT FIXED CARBON
AS RECEIVED	8.62	10.11	11875	3.03	37.57	43.69
DRY BASIS	N/A	11.06	12995	3.32	41.[illegible]	47.83
MAF	N/A	N/A	14611	N/A	N/A	N/A

FUSION TEMPERATURE OF ASH IN DEGREES FAHRENHEIT

	INITIAL	SOFTENING	HEMISPHERICAL	FLUID
REDUCING	2060	2126	2259	2317
OXIDIZING	2388	2429	2500	2550

FSI 3.0 GRINDABILITY N/A [illegible] MOIST N/A

ULTIMATE ANALYSES

	CARBON	HYDROGEN	NITROGEN	CHLORINE	OXYGEN
AS RECEIVED	55.74	4.97	1.31	.05	6.47
DRY	61.62	5.44	1.43	.05	[illegible].08

REMARKS:

ADDITIONAL TESTING DATA
PHOSPHORUS PENTOXIDE =0.09
BARIUM OXIDE =0.05
STRONTIUM OXIDE =0.00

Submitted by: [signature]

MC147

McCoy & McCoy Laboratories, Inc.
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85 East Noel Avenue
Madisonville, Kentucky 42431
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Madisonville, Ky. 502/821-7375
Paducah, Ky. 502/444-6547
Pikeville, Ky. 606/432-3104
Evansville, In. 812/425-9288

ANALYSIS REPORT

IDENTIFICATION: AUGUST 1995 BREC COMPOSITE

SAMPLED BY: CLIENT
DATE: 08/19/95

WEATHER: N/A
SAMPLE TYPE: N/A

MINERAL ASH ANALYSIS

SILICA (SiO_2)	52.66
ALUMINA (Al_2O_3)	17.88
FERRIC OXIDE (Fe_2O_3)	18.87
LIME (CaO)	3.44
MAGNESIA (MgO)	.83
SODIUM OXIDE (Na_2O)	.29
POTASSIUM OXIDE (K_2O)	2.44
TITANIA (TiO_2)	.96
MANGANESE OXIDE (MnO_2)	.04
SULFUR TRIOXIDE (SO_3)	1.03
SILICA VALUE	69.47
BASE/ACID RATIO	.36
T250 TEMPERATURE	2450 DEGREES F
SILICA/ALUMINA RATIO	2.95
FOULING INDEX	.10
SLAGGING INDEX	1.20

ESTIMATED VISCOSITY AT CRITICAL VISCOSITY TEMP OF 2459 DEGREES F = 420 PO

ALKALIES AS Na_2O .21

SULFUR FORMS

	AS REC	DRY
PYRITIC	1.01	1.11
SULFATE	.05	.05
ORGANIC	1.97	2.16

Submitted by Kim Wallace

EUS-3

ELECTROSTATIC PRECIPITATORS

1. Emissions Point No. / Name: **Plant Scholz Unit 1**

2. Manufacturers Name and Model No.: **Buell**

3. Date of construction for existing sources or date of anticipated start-up for new sources: **Placed in service in November 1974**

4. Precipitator Data:

a) Precipitator Type:

X Single Stage	_____ Low Voltage	_____ Hot Side
_____ Two Stage	X High Voltage	X Cold Side
_____ Other: _____		

b) Efficiency: **99.8**

c) Flow rate: **190,600 acfm**

d) Pressure drop:

e) Inlet temperture: **348**

f) Total collection plate area:

g) No. of compartments: **1**

h) No. of electrically separate fields:

i) Fan is: _____ Upstream X Downstream

j) Cleaning Method:

- X Plate Rapping
- X Plate Vibrating
- _____ None
- _____ Washing
- _____ Other: _____

k) Gas velocity thru precipitator: _____

5. Which process or processes does the electrostatic percipitator control emissions from? **Pulverized coal fired steam generator (Wall fired)**

ELECTROSTATIC PRECIPITATORS

1. Emissions Point No. / Name: **Plant Scholz Unit 2**

2. Manufacturers Name and Model No.: **Buell**

3. Date of construction for existing sources or date of anticipated start-up for new sources: **Placed in service in June 1976**

4. Precipitator Data:

a) Precipitator Type:

__X__ Single Stage _____ Low Voltage _____ Hot Side
_____ Two Stage __X__ High Voltage __X__ Cold Side
_____ Other:_____

b) Efficiency: **99.8**

c) Flow rate: **190,600 acfm**

d) Pressure drop:

e) Inlet temperture: **348 degrees**

f) Total collection plate area:

g) No. of compartments: **1**

h) No. of electrically separate fields:

i) Fan is: _____ Upstream ___X___Downstream

j) Cleaning Method:

__X__ Plate Rapping
__X__ Plate Vibrating
_____ None
_____ Washing
_____ Other: _____

k) Gas velocity thru precipitator: _____

5. Which process or processes does the electrostatic percipitator control emissions from? **Pulverized coal fired steam generator (Wall fired)**

EUS-4

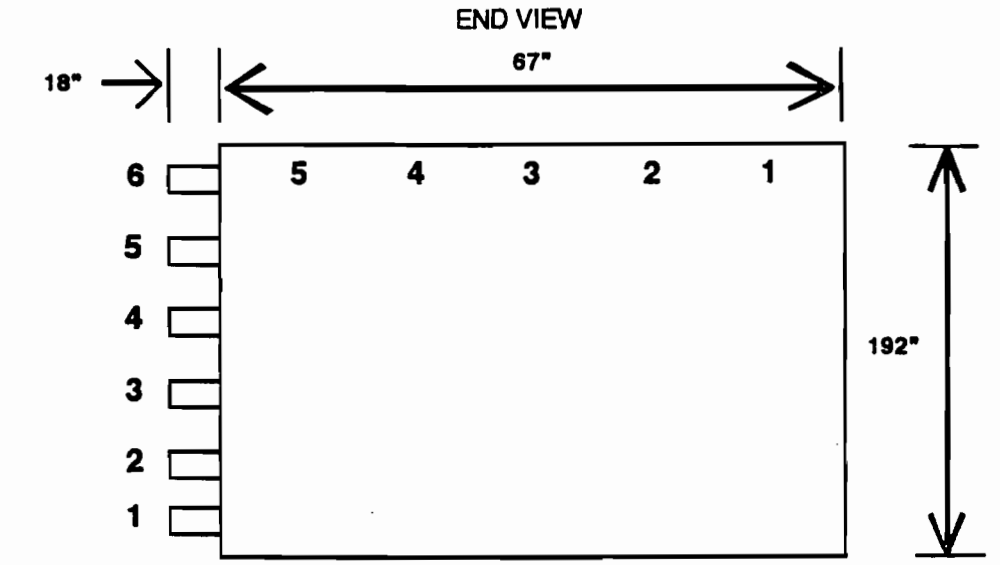
Plant Scholz

Unit 1

4. SAMPLE POINT LOCATION

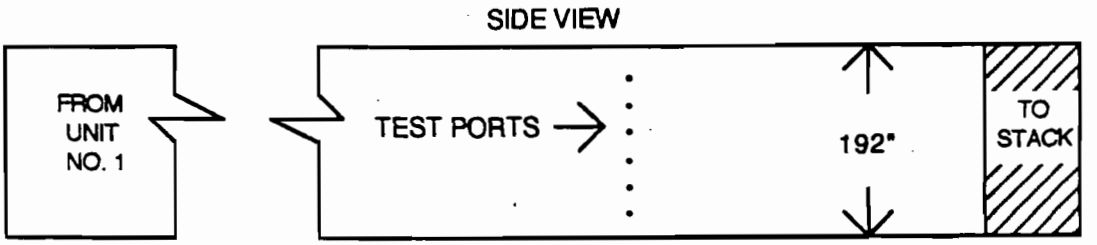
The sample point locations and outlet duct schematic are presented in Figure 2. Method 1 was used for determination of the number and location of sampling points. The minimum number of points (25) required for rectangular stacks was met by sampling a total of 30 points.

Figure 2. Sample Point Locations



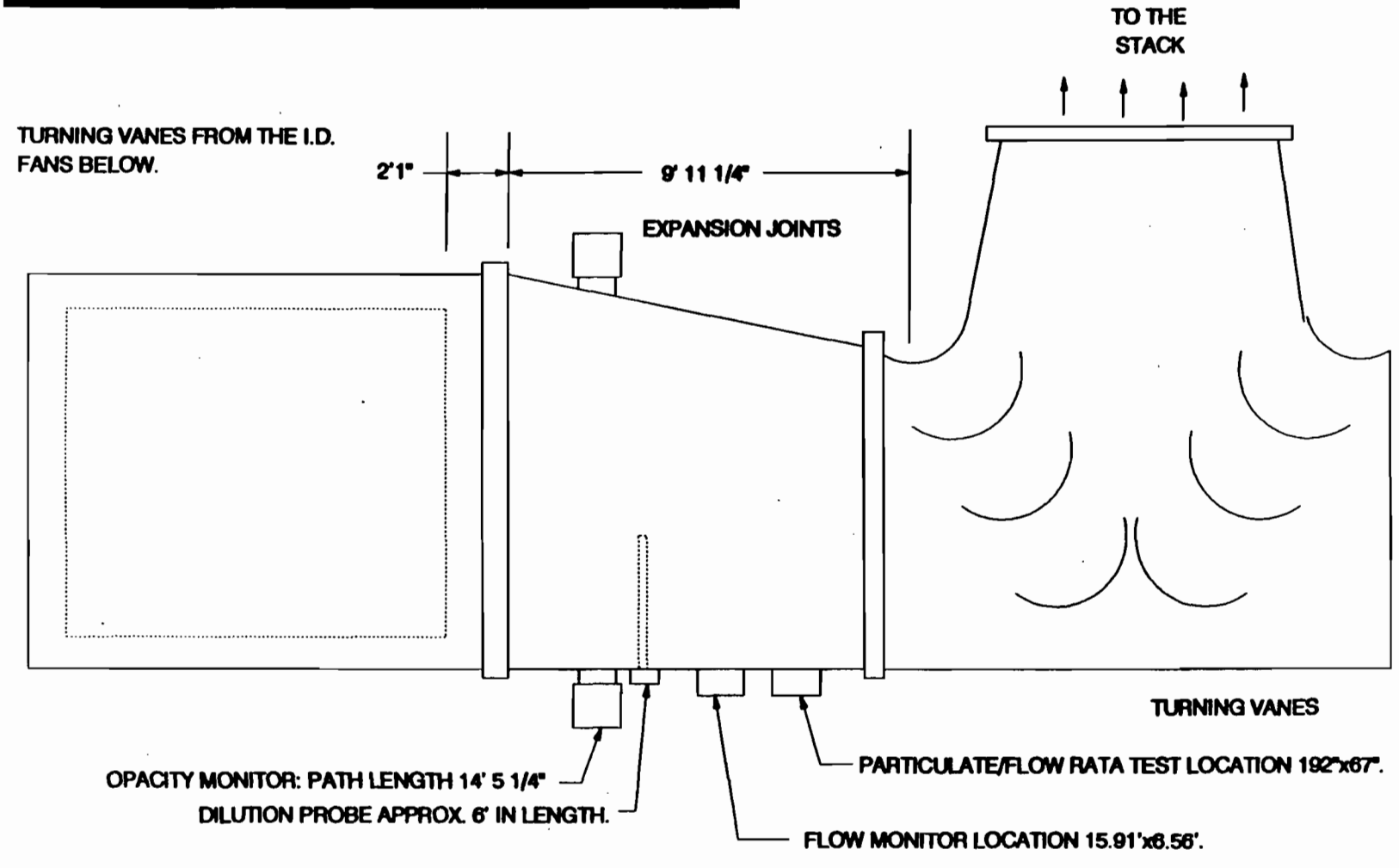
Area = 89.333 Ft.^{2}

POINT NUMBER	DISTANCE IN INCHES
1	60.3
2	46.9
3	33.5
4	20.1
5	6.7



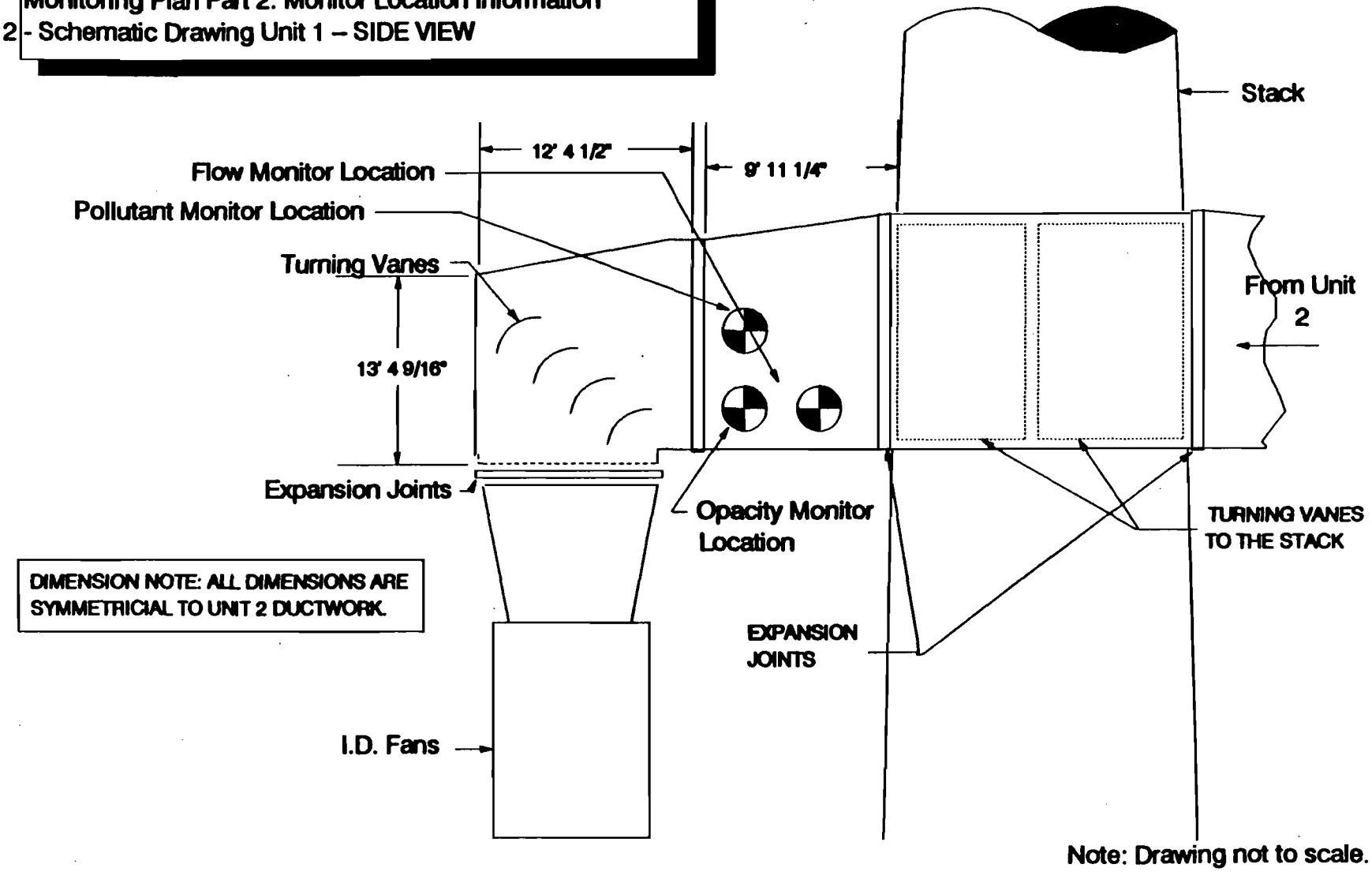
Gulf Power Company
Plant Scholz ORIS Code 642
Unit 1 Simplified Duct Drawing
Monitoring Plan Part 2: Monitor Location Information
Step 2 - Schematic Drawing Unit 1 -- TOP VIEW

NOTES:
DRAWING NOT TO SCALE,
ALL DIMENSIONS ARE SYMMETRICAL
TO UNIT 2.



Gulf Power Company
Plant Scholz ORIS Code 642
Unit 1 Simplified Duct Drawing
Monitoring Plan Part 2: Monitor Location Information

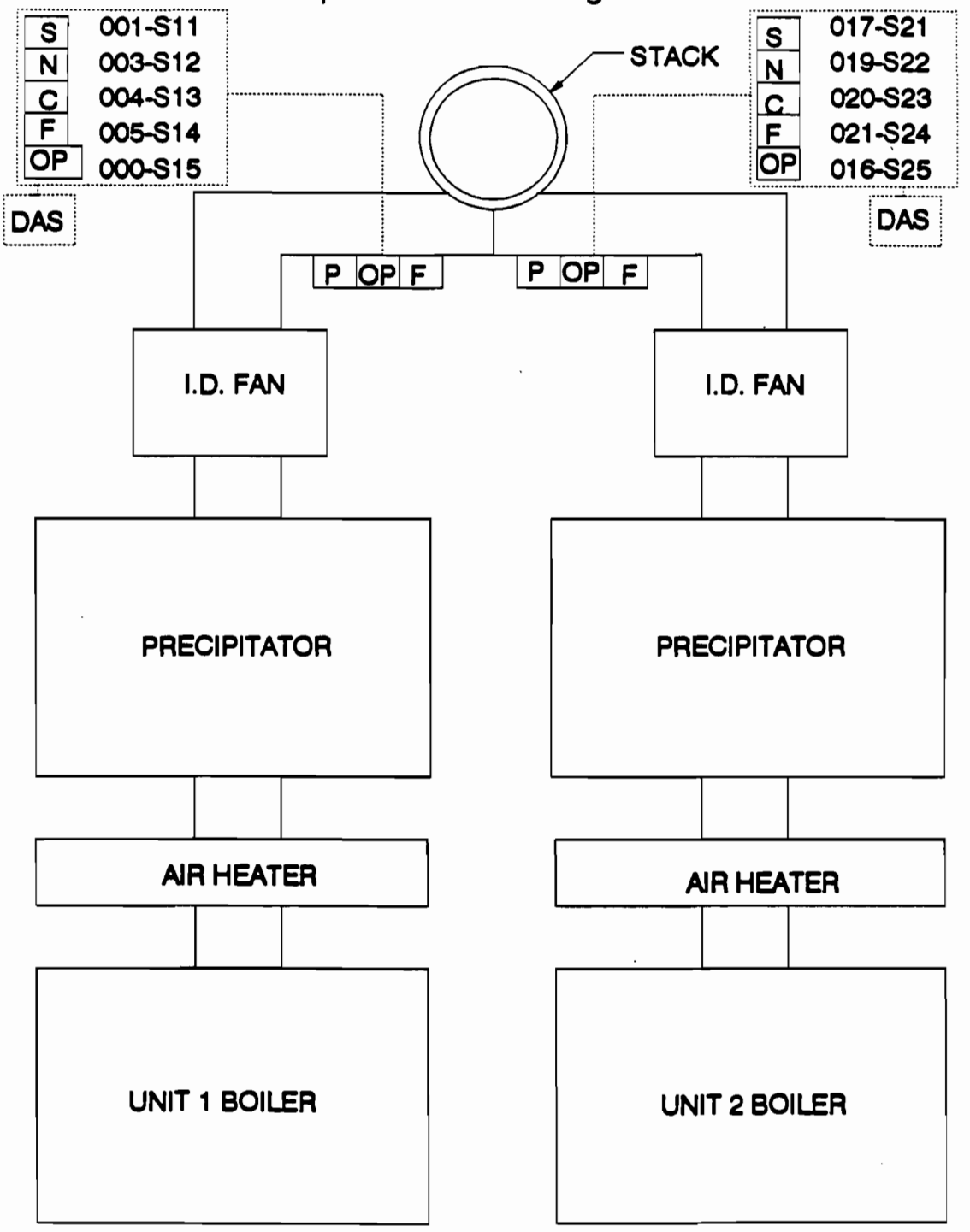
Step 2 - Schematic Drawing Unit 1 – SIDE VIEW



Plant Scholz ORIS Code 642

Monitoring Plan Part 2: Monitoring Location Information

Step 2 - Schematic Diagram - Units 1 & 2



STACK NOTE: THE STACK DIAMETER IS 13' 6".

NOTE: Drawing not to scale.

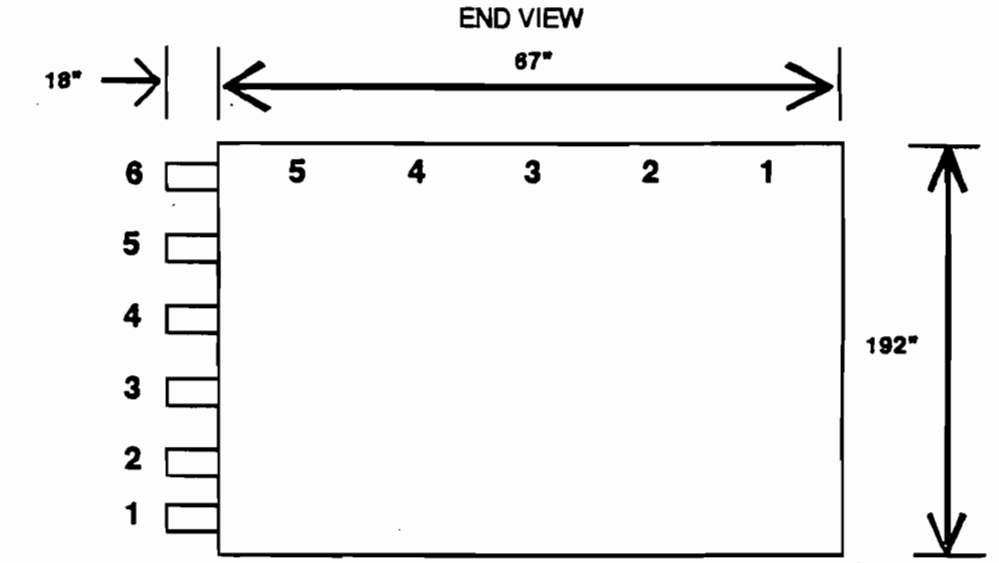
Plant Scholz

Unit 2

4. SAMPLE POINT LOCATION

The sample point locations and outlet duct schematic are presented in Figure 2. Method 1 was used for determination of the number and location of sampling points. The minimum number of points (25) required for rectangular stacks was met by sampling a total of 30 points.

Figure 2. Sample Point Locations



Area = 89.333 Ft.^{2}

POINT NUMBER	DISTANCE IN INCHES
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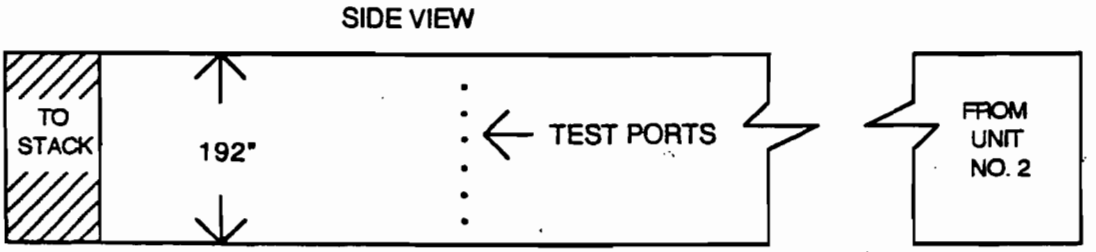
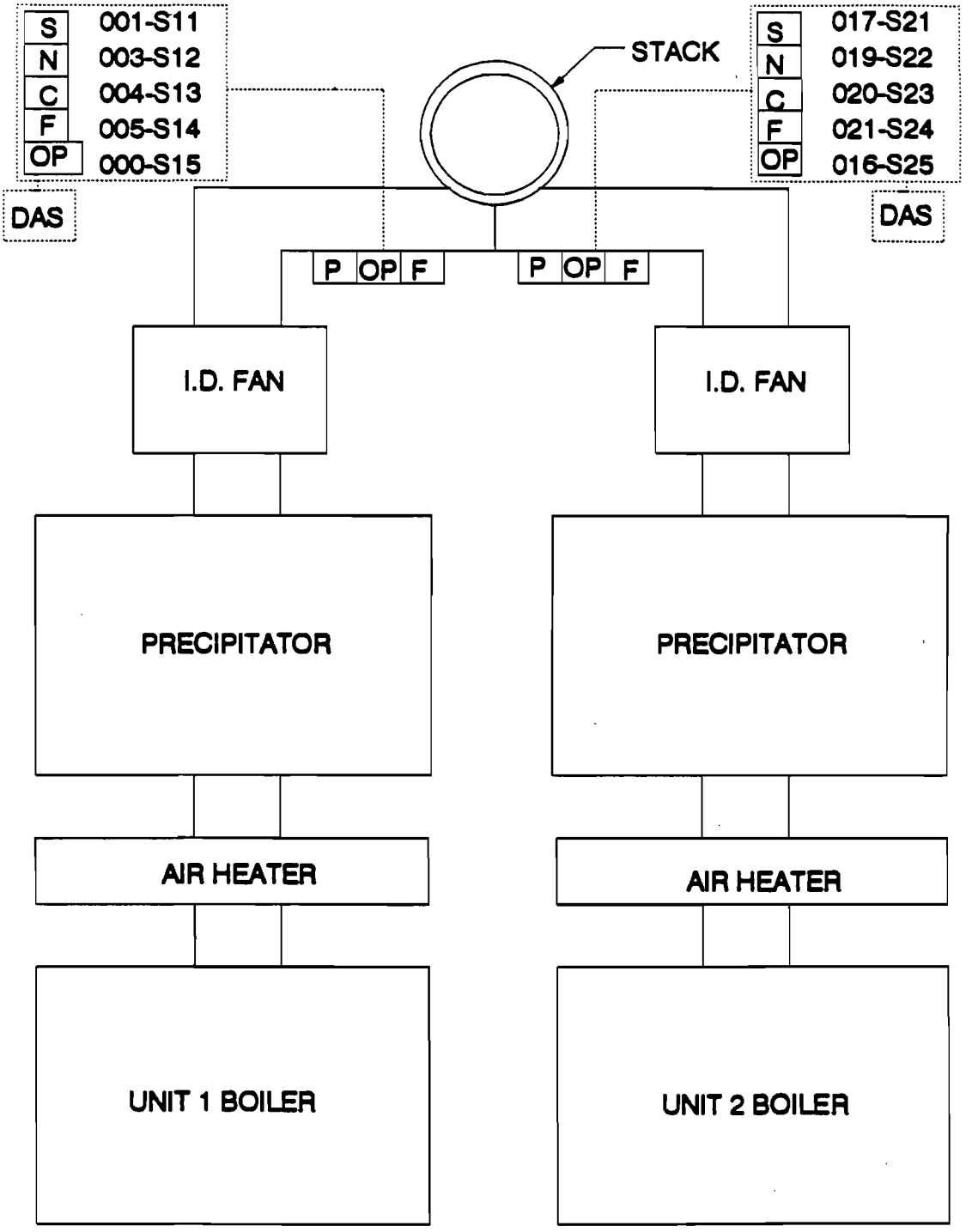
2	46.9
3	33.5
4	20.1
5	6.7



Plant Scholz ORIS Code 642

Monitoring Plan Part 2: Monitoring Location Information

Step 2 - Schematic Diagram - Units 1 & 2



STACK NOTE: THE STACK DIAMETER IS 13' 6".

NOTE: Drawing not to scale.

EUS-5

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

PARTICULATE EMISSIONS TEST REPORT
STEADY STATE OPERATIONS

FOR

GULF POWER COMPANY
Plant Scholz, Unit 1
Sneads, Florida

July 12, 1995

1568 LEROY STEVENS ROAD

MOBILE, ALABAMA 36695 • 205/633-4120

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

1568 LEROY STEVENS ROAD MOBILE, ALABAMA 36695 • OFFICE 334 / 633-4120
FAX 334 / 633-2285

ENVIRONMENTAL ENGINEERING
AIR & WATER QUALITY MODELING
ENVIRONMENTAL ASSESSMENTS
PSD ANALYSIS
EMERGENCY RESPONSE MONITORING

AMBIENT AIR MONITORING
CONTINUOUS IN-STACK MONITORING
SOURCE TESTING
VISIBLE EMISSIONS TESTING
CONSULTING SERVICES

REPORT CERTIFICATION

The sampling and analysis for this report was carried out under my direction and supervision.

Date: 7/19/95 Signature: Edward L. Harris

Edward L. Harris
Senior Field Service Engineer

I have reveiwed the testing details and results in this report and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date: 7-19-95 Signature: Joseph C. Sanders

Joseph C. Sanders
Manager

TABLE OF CONTENTS

LIST OF TABLES

ILLUSTRATIONS

1. INTRODUCTION

Sanders Engineering & Analytical Services, Inc. (SEAS) performed a particulate emissions test during steady state operations at Gulf Power Company, Plant Scholz, Unit 1, located in Sneads, Florida. The testing was conducted on July 12, 1995. The testing was performed in accordance with the applicable U.S. EPA procedures specified at **40 CFR, Part 60, Appendix A, Methods 1, 2, 3, 4, and 17**.

The purpose of the test was to demonstrate compliance with the rules and regulations of the Florida Department of Environmental Protection, and to meet the necessary requirements contained in the permit to operate issued by the Florida Department of Environmental Protection.

The test was conducted by Mr. Edward Harris and Mr. Dean Holmes of Sanders Engineering & Analytical Services, Inc., and was coordinated with Mr. John McPherson of Gulf Power Company. Mr. Lewis Nichols and Mr. Jim Boylan of the Florida Department of Environmental Protection were also present to observe the testing.

The test was conducted in accordance with the guidelines of the Florida Department of Environmental Protection. Further discussion of the test methods are included later in the report.

2. SUMMARY AND DISCUSSION OF RESULTS

The results of the particulate emissions test for the steady state runs, along with the results of the computations, are summarized in Table I. The equations used in the calculations of the results, along with the completed field data sheets for the testing, are presented in Appendix A. The sample calculations of the first run are presented in Appendix B. The quality control checks of the equipment used in the sampling program are included in Appendix C.

There were no problems encountered during the performance of the test. At the completion of each run, the filter and probe were removed to a relatively clean, draft-free area for clean-up.

The results of the testing indicate the particulate emission rate during steady state for Plant Scholz, Unit 1, is 0.023 LBS/MMBTU. The applicable Florida Department of Environmental Protection rules and regulations require an emission rate of no greater than 0.10 LBS/MMBTU. The results of the testing indicate that the unit is in compliance with the particulate emission condition of the permit to operate issued by the Florida Department of Environmental Protection.

TABLE I. PARTICULATE EMISSIONS TEST RESULTS
GULF POWER COMPANY
PLANT SCHOLZ, UNIT 1, STEADY STATE
7/12/95

Title of Run		RUN 1	RUN 2	RUN 3
Sampling Time -Start	Military	9:03	10:40	12:11
Sampling Time -Stop	Military	10:13	11:46	1:16
F Factor	SDCF/BTU	9820	9820	9820
Static Pressure	In. H2O	0.25	0.25	0.25
Barometric Pressure	In. Hg	30.10	30.10	30.10
Average dH	In. H20	1.1	1.1	1.1
Meter correction		1.016	1.016	1.016
Avg. Meter Temp.	Deg. F	84.9	89.3	91.6
% O2	%	9.0	8.7	8.4
%CO2	%	8.5	9.0	9.0
Volume Metered	ACF	39.054	38.641	38.936
Volume Water	Ml	56.0	62.0	57.0
Sampling Time	Minutes	60	60	60
Nozzle Diameter	Inches	0.241	0.241	0.239
Avg. Stack Temp.	Deg. F	282.3	287.3	289.5
Area of Stack	Sq. Feet	89.3330	89.3330	89.3330
Wt. of Part.	Mg.	14.2	30.1	27.2
Number of Points		30	30	30
Avg. Sqrt dP	In. H20	0.7454	0.7438	0.7548

RESULTS OF COMPUTATIONS

		RUN 1	RUN 2	RUN 3	Average
Volume of Gas Sampled	SDCF	38.776	38.056	38.183	
H2O vapor in Gas Stream	PERCENT	6.4	7.1	6.6	6.7
Avg. Stack Gas Velocity	FT/SEC	49.4	49.4	50.2	49.7 (49.67)
Volumetric Flow Rate	SDCF/M	177,403	175,083	178,313	176,933
Volumetric Flow Rate	ACF/M	264,605	265,048	269,106	266,253
Particulate Conc.	Grs/SDCF	0.006	0.012	0.011	0.010
Particulate Conc.	Grs/ACF	0.004	0.008	0.007	0.006
Particulate Mass Rate	Lb/Hr	8.6	18.3	16.8	14.5
Particulate Mass Rate	Lb/MMBtu	0.014	0.029	0.026	0.023
Heat Input	F Factor MMBTU/Hr	617.16	624.45	651.61	631.07
Percent of Isokinetic	%	102.8	102.2	102.4	

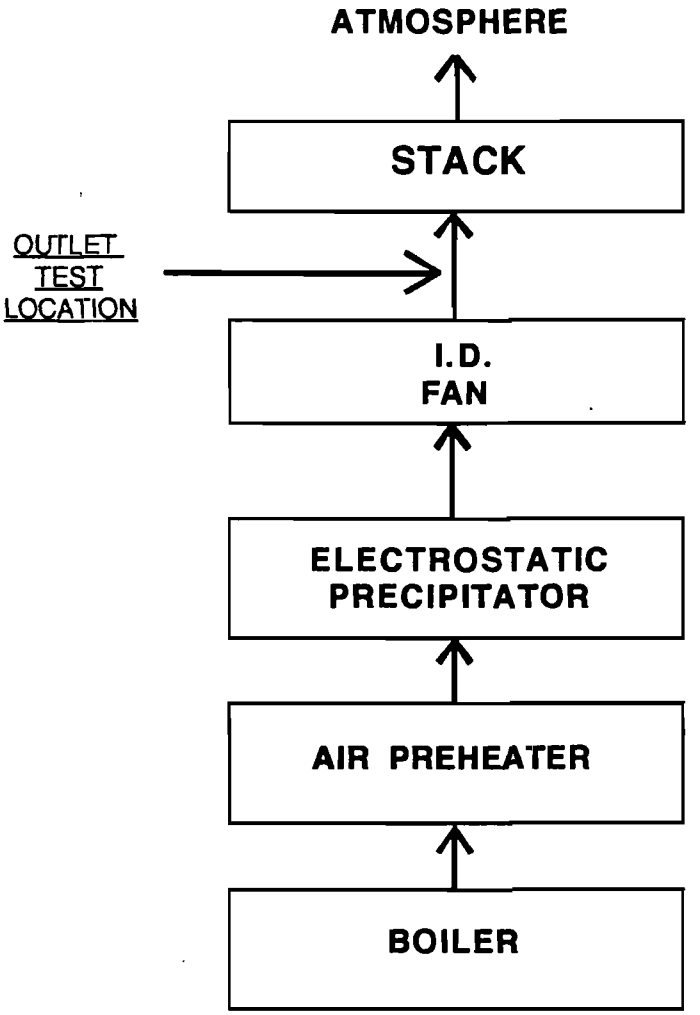
3. PROCESS DESCRIPTION

The process consists of a steam electric generating unit firing bituminous coal for the production of electric energy. The coal is received by barge, and loaded directly onto the conveyor feeding the plant, or onto the stockpile and later loaded onto the conveyor belt transporting the coal to the plant. The coal from the conveyor is loaded into bunkers capable of holding between 36 to 48 hours supply of coal. The coal is then fed to pulverizing mills before being fired in the unit through the burners. Upon combustion of the coal in the fire box, approximately 20 percent of the ash falls to the bottom of the boiler and is removed by the ash removal system. The remaining 80 percent exits with the flue gases through the heat exchange and economizer sections of the furnace, and is collected by electrostatic precipitators.

3.1. Source Air Flow

The air flow schematic which depicts the passage of the flue gases exhausted from Scholz, Unit 1, are presented in Figure 1.

Figure 1. Air Flow Schematic



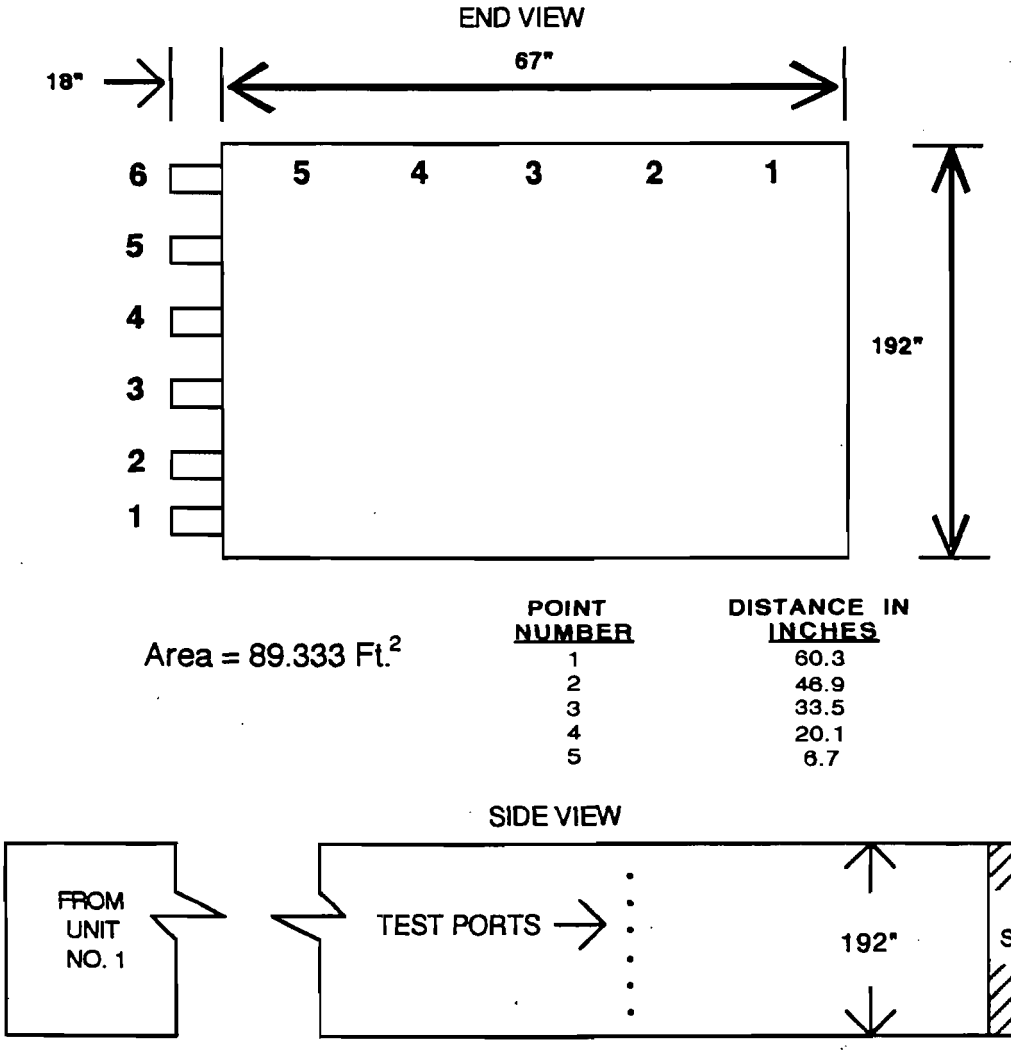
3.2. Operation During Testing

The average heat input during steady state operation, as based on F-factor calculations, was 631.07 million BTU per hour resulting in the production of approximately 50 megawatts of electricity. Precipitator data supplied by Gulf Power personnel is given in Appendix D.

4. SAMPLE POINT LOCATION

The sample point locations and outlet duct schematic are presented in Figure 2. Method 1 was used for determination of the number and location of sampling points. The minimum number of points (25) required for rectangular stacks was met by sampling a total of 30 points.

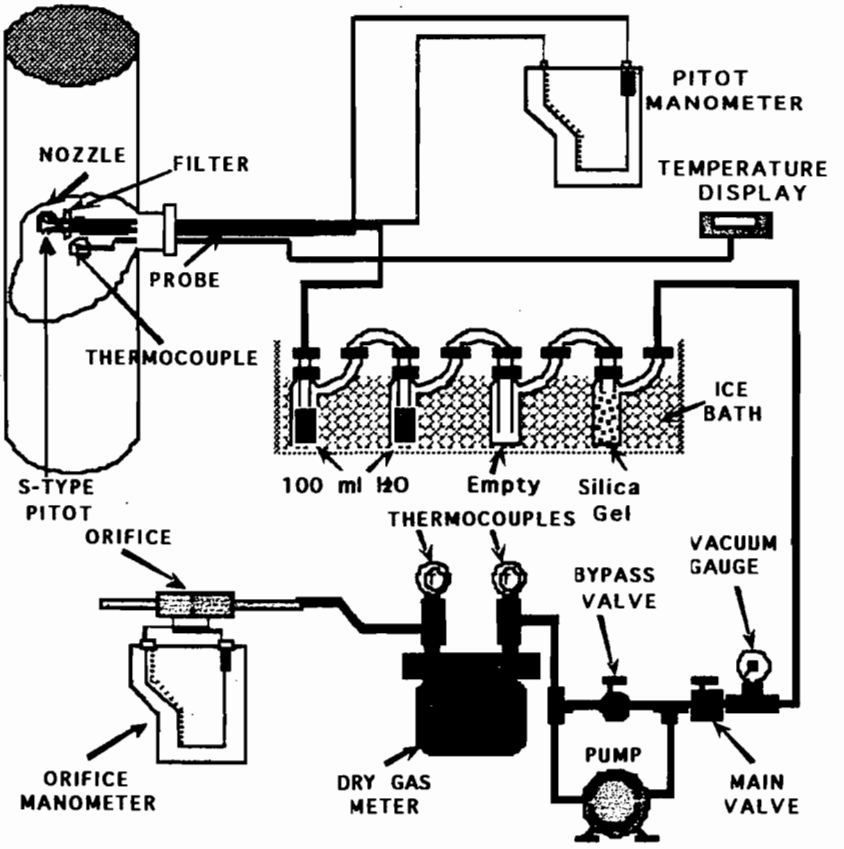
Figure 2. Sample Point Locations



5. PARTICULATE SAMPLING PROCEDURE (EPA Method 17)

The sampling procedure utilized is that specified in **40 CFR, Part 60, Appendix A, Method 17,** as modified by the governing regulatory agency. A brief description of this procedure is as follows:

Figure 3. Particulate Sampling Train



The first impingers were partially filled with 100 milliliters of deionized water. The next impinger was left empty to act as a moisture trap. Preweighed 6 to 16 mesh indication silica gel was added to the last impinger. The sampling equipment manufactured by Lear Siegler (Model 100) or Sanders Engineering (Model 200) was assembled as shown in the attached drawing. The system was leak checked by plugging the inlet to the nozzle and pulling a 15 inch mercury vacuum. A leakage rate not in excess of 0.02 cubic feet per minute was considered acceptable.

The inside dimensions of the stack liner were measured and recorded. The required number of sampling points were marked on the probe for easy visibility. The range of velocity pressure, the percent moisture, and the temperature of the effluent gases were determined. From this data, the correct nozzle size and the nomograph multiplication factor were determined.

Crushed ice was placed around the impingers. The nozzle was placed on the first traverse point with the tip pointing directly into the gas stream. The pump was started immediately and the flow was adjusted to isokinetic sampling conditions. After the required time interval had elapsed, the probe was repositioned to the next traverse point and isokinetic sampling was re-established. This was performed for each point until the run was completed. Readings were taken at each point and recorded on the field data sheet. At the conclusion of each run, the pump was turned off and the final readings were recorded.

5.1. Particulate Sample Recovery

Care was exercised in moving the collection train to the sample recovery area to minimize the loss of collected sample, or the gain of extraneous particulate matter. The volume of water in the impingers was measured, the silica gel impinger was weighed and recorded on the field data sheet. The nozzle, and all sample-exposed surfaces were washed with reagent grade acetone into a clean sample container. A brush was used to loosen any adhering particulate matter and subsequent washings were placed into the container. The filter was carefully removed from the fritted support and placed in a clean separate sample container. A sample of the acetone used in the washing was saved for a blank laboratory analysis.

5.2. Particulate Analytical Procedures

The filter and any loose particulate matter were transferred from the sample container to a clean, tared weighing dish. The filter was placed in a desiccator for at least 24 hours and then weighed to the nearest 0.1 milligram until a constant weight was obtained. The original weight of the filter was deducted, and the weight gain was recorded to the nearest 0.1 milligram.

The wash solution was transferred to a clean, tared beaker. The solution was evaporated to dryness, desiccated to a constant weight, and the weight gain was recorded to the nearest 0.1 milligram.

APPENDIX A EQUATIONS AND FIELD DATA SHEETS

EQUATIONS

1. $$P_s = P_{bar} + \frac{P_g}{13.6}$$

2. $$P_m = P_{bar} + \frac{\overline{\Delta H}}{13.6}$$

3. $$V_s = K_p C_p \overline{\sqrt{\Delta P}} \sqrt{\frac{\overline{T_s}}{M_s P_s}}$$

4. $$V_{m(Std)} = K_1 V_m Y \left[\frac{P_{bar} + \frac{\overline{\Delta H}}{13.6}}{\overline{T_m}} \right]$$

5. $$V_{w(Std)} = 0.04707\, V_{lc}$$

6. $$B_{ws} = \frac{V_{w(Std)}}{V_{m(Std)} + V_{w(Std)}}$$

7. $$M_d = 0.44\,(\%CO_2) + 0.32\,(\%O_2) + 0.28\,(\%N_2 + \%CO)$$

8. $$M_s = M_d(1 - B_{ws}) + 18\,(B_{ws})$$

9. $$EA = \left[\frac{(\%O_2 - 0.5\,(\%CO))}{0.264\,(\%N_2) - ((\%O_2) - 0.5\,(\%CO))} \right] 100$$

10. $$Q_a = (V_s)\,(A_s)\,(60)$$

11. $$Q_s = Q_a\,(1-B_{ws})\,\frac{(528)}{\overline{T_s}}\,\frac{(P_s)}{29.92}$$

12. $$E_H = \left(\frac{PMR}{H_I}\right)$$

13. $$E = C_d\,F_{O_2}\left(\frac{20.9}{20.9 - \%O_2}\right)$$

14. $$C_s = 0.0154\,\frac{M_n}{V_{m(Std)}}$$

15. $$C_{50} = \frac{21\,C_s}{21 - [(1.5)\,(\%O_2) - 0.133\,(N_2) - 0.75\,(\%CO)]}$$

16. $$C_{12} = \frac{C_s\,(12)}{\%CO_2}$$

17. $$PMR = (C_s)\,(Q_s)\,\frac{(60)}{7000}$$

18. $$V_n = \left[(0.002669)\,(V_{lc}) + \frac{V_m Y}{\overline{T_m}}\left(P_{bar} + \frac{\overline{\Delta H}}{13.6}\right)\right]\frac{\overline{T_s}}{P_s}$$

19. $$I = \frac{100\,V_n}{(60)\,\emptyset\,V_s\,A_n}$$

NOMENCLATURE

A_n = Cross-sectional area of nozzel, ft^2

A_s = Cross sectional area of stack, ft^2

B_{ws} = Wator vapor in the gas stream, proportion by volume (dimensionless)

C_p = Pitot tube coefficient (dimensionless) (0.84)

C_s = Particulate concentration, grains/SDCF

C_d = Particulate concentration, lbs/SDCF

C_{12} = Particulate concentration (C_s adjusted to 12% CO) grains/SDCF

C_{50} = Particulate concentration (C_s adjusted to 50% excess air) grains/SDCF

EA = Excess air, %

E = Emission in lb/mmBTU

E_H = Emission in lb/mmBTU, based on heat input

H_I = Total Heat Input, Million BTU per Hour (MMBTU/hr)

I = Percent of isokinetic sampling

K_1 = 17.64 °R/ inches Hg

K_p = Pitot tube constant,

$$85.49 \text{ ft/sec} \left[\frac{(\text{lb/lb-mole})\ (\text{in. Hg})}{(°\text{R})\ (\text{inc. } H_2O)} \right]^{\frac{1}{2}}$$

M_n = Total amount of particulate collected, mg

M_d = Molecular weight of stack gas; dry basis, lb/lb mole

M_s = Molecular weight of stack gas; wet basis, lb/lb mole

P_{bar} = Barometric pressure at the sampling site, in. Hg

NOMENCLATURE (continued)

P_m = Meter pressure, in. Hg

P_s = Absolute stack pressure, in. Hg

P_g = Stack static pressure, in. H_2O

PMR = Particulate mass rate, lb/Hr

Q_a = Volumetric flow rate ACFM

Q_s = Volumetric flow rate SDCFM

V_s = Average stack gas velocity, ft/sec

V_{lc} = Total volume of liquid collected in impingers & silica gel, ml

V_m = Volume of gas sample as measured by dry gas meter, ACF

$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, SDCF

$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, SCF

V_n = Volume collected at stack conditions through nozzle, ACF

Y = Dry gas meter calibration factor (dimensionless)

ΔH = Average pressure difference of orifice, in. H_2O

ΔP = Velocity head of stack gas, in. H_2O

$\overline{\sqrt{\Delta P}}$ = Average of square roots of the velocity pressure, in. H_2O

Ø = Total sampling time, minutes

$\%CO_2$, $\%O_2$, N_2, %CO - Number % by volume, dry basis, from gas analysis

F_{O_2} = Oxygen based F factor (9820 SDCF/mmBTU for bituminous coal)

T_s = Temperature of the stack, °R (° F + 460)

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.
1588 Larry Stevens Rd.
Mobile, AL 36695
Office: (205) 633-4120
FAX#: (205) 633-2225

FIELD DATA SHEET

COMPANY GPCO DATE 7-12-95 DGM# S-101

PLANT Schoffstall Steam UNIT #1 Stoker METHOD 17 PROBE N/A liner ΔH@ 0.75 in. H2O °F

	RUN 1	RUN 2	RUN 3
NOZZLE CALIBRATION PRE	.241, .241, .241, .241	.241, .241, .240, .241	.239, .239, .240, .239
NOZZLE CALIBRATION POST	.241, .241, .241, .241	.240, .241, .241, .241	.239, .240, .239, .239
FILTER NUMBER	1243	1244	1245
METER READING	464.354 / 425.300 / 39.054	504.641 / 466.000 / 38.641	545.236 / 506.300 / 38.936
LEAK CHECK SYSTEM Pre	15 in. Hg	15 in. Hg	15 in. Hg
LEAK CHECK SYSTEM Post	12 in. Hg	12 in. Hg	14 in. Hg
LEAK CHECK PITOT Pre			
LEAK CHECK PITOT Post			
LEAK CHECK SYSTEM	0.001 cfm	0.001 cfm	0.002 cfm
LEAK CHECK PITOT	0.000 cfm	0.001 cfm	0.001 cfm
VOLUME OF LIQUID WATER COLLECTED IMP. 1	140 / 100 / 40	150 / 100 / 50	150 / 100 / 50
VOLUME OF LIQUID WATER COLLECTED IMP. 2	100 / 100 / 100	100 / 100 / 0	100 / 100 / 0
VOLUME OF LIQUID WATER COLLECTED IMP. 3	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
VOLUME OF LIQUID WATER COLLECTED IMP. 4	1503.0 / 1487.0 / 16.0	1515.0 / 1503.0 / 12.0	1522.0 / 1515.0 / 7.0
VOLUME OF LIQUID WATER COLLECTED TOTAL	56.0	62.0	57.0
GAS ANALYSIS O_2	9.0 %	8.7 %	8.4 %
GAS ANALYSIS CO_2	8.5 %	9.0 %	9.0 %
GAS ANALYSIS CO	—	—	—
STATIC	+.25 in. H2O	+.25 in. H2O	+.25 in. H2O
BAROMETRIC	30.10 in. Hg	30.10 in. Hg	30.10 in. Hg

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. Hg
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
1 - 1	9:03	425.300	.51	.99	275	N/A	N/A	50	83	82	3
2	:05	426.600	.34	.66	275			✓	83	82	2.5
3	:07	427.600	.34	.66	277			✓	83	83	2.5
4	:09	428.700	.35	.69	278			✓	83	83	2.5
5	:11	429.650	.32	.63	278			✓	83	83	2.5
2 - 1	9:14	430.725	.50	.98	277			52	83	83	3
2	:16	431.850	.48	.94	280			✓	83	83	3
3	:18	433.100	.37	.73	281			✓	84	83	2.5
4	:20	434.200	.30	.59	281			✓	84	83	2.5
5	:22	435.300	.38	.74	281			✓	84	84	2.5
3 - 1	9:25	436.335	.70	1.37	281			✓	84	84	4.5
2	:27	437.700	.50	.98	281			✓	84	84	4
3	:29	438.950	.40	.78	283			✓	85	84	3
4	:31	440.100	.38	.74	283			58	85	84	3
5	:33	441.200	.40	.78	283			✓	85	84	3
4 - 1	9:41	442.325	1.37	2.70	282			✓	85	85	9
2	:43	444.500	.65	1.28	284			✓	85	85	5
3	:45	445.700	.54	1.06	285			✓	86	85	4.5
4	:47	447.000	.50	.98	285			✓	86	85	4
5	:49	448.200	.55	1.08	285			✓	86	85	4
5 - 1	9:52	449.550	1.35	2.66	285			✓	86	86	9
2	:54	451.600	.80	1.57	285			✓	86	86	6
3	:56	452.900	.52	1.02	286			✓	86	86	5
4	:58	454.300	.63	1.23	286			✓	87	86	5

1.976

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-12-95

SITE Scholtz #1 St. State RUN # 1 PAGE 2 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
S-S	10:00	455.800	.59	h16	285	N/A	N/A	60	87	87	5
6-1	:03	457.033	1.40	2.75	285			✓	87	87	9
2	:05	459.200	.80	1.57	286			✓	87	87	6.5
3	:07	460.700	.49	.96	286			✓	87	87	4.5
4	:09	461.850	.50	.98	286			✓	87	87	4.5
5	:11	463.100	.55	1.08	284			✓	87	87	4.5
Final	10:13	464.354									
			.7454		282.3						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-12-95

SITE Scholtz RUN # 1 PAGE 3 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
6 - 1	10:40	466.000	1.40	2.75	285	N/A	N/A	60	87	87	9.5
2	:42	467.800	1.0	1.96	285			✓	87	87	7
3	:44	469.800	.77	1.51	287			✓	88	87	6
4	:46	471.200	.71	1.39	287			✓	88	87	5.5
5	:48	472.800	.71	1.39	287			✓	88	88	5.5
5 - 1	:51	474.190	1.20	2.36	286			55	88	88	8
2	:53	475.900	.76	1.49	288			✓	88	88	6
3	:55	477.400	.55	1.08	288			✓	88	88	4.5
4	:57	478.700	.60	1.18	288			✓	89	88	4.5
5	:59	480.100	.57	1.12	288			✓	89	88	4.5
4 - 1	11:02	481.380	1.10	2.16	287			✓	89	89	7
2	:04	483.000	.69	1.35	288			✓	89	89	5.5
3	:06	484.600	.50	.98	288			53	89	89	4
4	:08	485.800	.48	.94	289			✓	89	89	4
5	:10	487.100	.52	1.02	288			✓	89	89	4.5
3 - 1	11:14	488.345	.60	1.18	287			✓	90	89	4.5
2	:16	489.600	.49	.96	287			✓	90	89	4.5
3	:18	490.900	.40	.78	289			✓	90	90	3.5
4	:20	492.000	.40	.78	289			✓	90	90	3.5
5	:22	493.100	.39	.76	288			✓	90	90	3.5
2 - 1	11:25	494.232	.59	1.16	288			✓	90	90	4
2	:27	495.400	.41	.80	288			✓	90	90	4
3	:29	496.600	.34	.66	288			✓	90	90	2
4	:31	497.600	.34	.66	288			✓	91	90	3

1966

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-12-95

SITE Scholtz RUN # 2 PAGE 4 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD Δi in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
2 - 5	:33	498.700	.34	.66	286	N/A	N/A	60	91	91	3
1 - 1	11:36	499.650	.37	.73	286			✓	91	91	3
2	:38	500.750	.32	.63	286			✓	91	91	3
3	:40	501.800	.32	.63	287			✓	91	91	3
4	:42	502.700	.30	.59	287			✓	91	91	3
5	:44	503.700	.27	.53	286			✓	91	91	3
Final	11:46	504.641									
			.7438		287.3						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-12-95

SITE Scholtz RUN # 2 PAGE 5 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
1 - 1	12:11	506.300	.44	.84	285	N/A	N/A	50	91	91	4
2	:13	507.400	.40	.76	285			✓	91	91	4
3	:15	508.550	.35	.66	287			✓	91	91	3.5
4	:17	509.550	.33	.63	288			✓	91	91	3.5
5	:19	510.550	.33	.63	287			✓	91	91	3.5
2 - 1	:21	511.642	.54	1.03	287			✓	91	91	4
2	:23	512.850	.47	.89	289			✓	91	91	4
3	:25	514.100	.39	.74	290			✓	91	91	4
4	:27	515.200	.36	.68	289			✓	91	91	4
5	:29	516.200	.41	.78	289			✓	91	91	4
3 - 1	:32	517.350	.65	1.24	289			✓	91	91	5.5
2	:34	518.600	.45	.85	290			✓	91	91	5
3	:36	519.900	.40	.76	291			57	91	91	4
4	:38	521.000	.38	.72	291			✓	91	91	4
5	:40	522.000	.40	.76	290			✓	92	92	4
4 - 1	12:44	523.178	.95	1.81	289			✓	92	92	6
2	:46	524.900	.65	1.24	290			✓	92	91	6
3	:48	526.200	.52	.99	291			✓	92	92	5
4	:50	527.450	.52	.99	291			✓	92	92	5
5	:52	528.700	.55	1.04	290			✓	92	92	5
5 - 1	:55	530.980	1.55	2.95	290			✓	92	92	11
2	:57	531.900	.85	1.62	291			57	92	92	7.5
3	:59	533.600	.55	1.04	291			✓	92	92	5.5
4	1:01	534.850	.54	1.03	291			✓	92	92	5.5

1.908

1.907

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-12-95

SITE Scholtz RUN # 3 PAGE 6 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
5-5	1:03	536.150	.66	1.25	291	N/A	N/A	61	92	92	5.5
6-1	1:06	537.510	1.50	2.86	290			✓	93	92	10
2	:08	539.450	.82	1.56	290			✓	93	92	7
3	:10	541.160	.77	1.46	291			✓	93	92	7
4	:12	542.400	.68	1.29	291			66	93	93	6
5	:14	543.700	.58	1.10	290			✓	93	93	6
final	1:16	545.236									
			.7548		289.5						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-17-95

SITE Scholz S.S. Unit #1 RUN # 3 PAGE 2 OF 2

LABORATORY ANALYSIS & CHAIN OF CUSTODY

COMPANY/PLANT: GPCO / Scholz

UNIT #: #1 Steady State DATE OF TEST: 7-12-95 TYPE OF TEST: ☐ M-5 ☒ M-17 ☐ OTHER ______

SAMPLE #	RELINQUISHED BY	RECEIVED BY	TIME	DATE	REASON FOR CHANGE
1243 ; wash	EAH	EAH	10:40	7-17-95	Analysis
1244 ; wash					
1245 ; wash					

UNIT # #1 Steady State

RUN # 1	FILTER # 1243	BEAKER # 14 WASH (ML) 30
FINAL WEIGHT	133.7 mg	65621.5 mg
INITIAL WEIGHT	121.2 mg	65619.8 mg
DIFFERENCE	12.5	1.7
CORRECTED TOTAL WEIGHT		14.2
RUN # 2	FILTER # 1244	BEAKER # 16 WASH (ML) 40
FINAL WEIGHT	143.4 mg	70163.8 mg
INITIAL WEIGHT	124.3 mg	70152.8 mg
DIFFERENCE	19.1	11.0
CORRECTED TOTAL WEIGHT		30.1
RUN # 3	FILTER # 1245	BEAKER # 27 WASH (ML) 40
FINAL WEIGHT	148.1 mg	68106.9 mg
INITIAL WEIGHT	125.2 mg	68102.6 mg
DIFFERENCE	22.9	4.3
CORRECTED TOTAL WEIGHT		27.2
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		

UNIT # ____

RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
WASH SOLVENT BLANK (ML)	100	BEAKER # 36 WASH (ML) 100
FINAL WEIGHT		67940.3
INITIAL WEIGHT		67940.3
DIFFERENCE		0.0
CORRECTION FACTOR (MG/ML)		0.0

ALL WEIGHTS ARE IN MILLIGRAMS (MG)

APPENDIX B SAMPLE CALCULATIONS

Input and Constants

$$f := \frac{9820\ ft^3}{mm\ btu}$$

$pg := 0.25\ in.\ H2O$

$pbar := 30.1\ in.\ Hg.$

$\Delta havg := 1.1\ in.\ H2O$

$y := 1.016$

$tm := 84.9\ °F$

$o2 := 9.$

$co2 := 8.5$

$vm := 39.054\ ft^3$

$vlc := 56.\ ml$

$theta := 60\ min$

$nozdia := 0.241\ in.$

$ts := 282.3\ °F$

$as := 89.333\ ft^2$

$mn := 14.2\ mg$

$numberofpoints := 30$

$$sqrt\Delta p := 0.7454\ in.\ H2O^{0.5}$$

$$kp := \frac{85.49\ 1\ ft\ 1\ \left(\frac{lb\ in.\ Hg.}{lb\text{-}mole\ °R\ in.\ H2O}\right)^{0.5}}{1\ sec}$$

$cp := 0.84$

$$k1 := \frac{17.64\ °R}{in.\ Hg.}$$

$$ts = \frac{(ts + 460\ °F)\ °R}{°F}$$

742.3 °R

$$tm = \frac{(tm + 460\ °F)\ °R}{°F}$$

544.9 °R

n2 = 100 - o2 - co2

82.5

$$an = \frac{nozdia^2\ 3.1416}{4\ (\frac{12\ in.}{ft})^2}$$

0.000316783 ft^2

Calculations

Equation 1

$$ps = pbar + \frac{pg}{\frac{13.6\ in.\ H2O}{1\ in.\ Hg.}}$$

30.1184 in. Hg.

Equation 2

$$pm = pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}}$$

30.1809 in. Hg.

Equation 3

$$vmstd = \frac{k1\ vm\ y\ (pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}})}{tm}$$

38.768 ft^3

Equation 4

$$vwstd = \frac{0.04707\ ft^3\ vlc}{ml}$$

2.63592 ft^3

Equation 5

$$bws = \frac{vwstd}{vmstd + vwstd}$$

0.0636636

Equation 6

$$md = \frac{(0.44\ co2 + 0.32\ o2 + 0.28\ n2)\ lb}{lb\text{–}mole}$$

$$\frac{29.72\ lb}{lb\text{–}mole}$$

Equation 7

$$ms = md\ (1 - bws) + \frac{bws\ 18\ lb}{lb\text{–}mole}$$

$$\frac{28.9739\ lb}{lb\text{–}mole}$$

Equation 8

$$vs = kp\ cp\ sqrt\Delta p\ \left(\frac{ts}{ms\ ps}\right)^{0.5}$$

$$\frac{49.369\ ft}{sec}$$

Equation 9

$$qa = \frac{vs\ as\ 60\ sec}{min}$$

$$\frac{264617.\ ft^3}{min}$$

Equation 10

$$qs = \frac{qa\ (1 - bws)\ 528\ °R\ ps}{ts\ 29.92\ in.\ Hg.}$$

$$\frac{177408.\ ft^3}{min}$$

Equation 11

$$cs = \frac{0.0154 \text{ gr mn}}{\text{mg vmstd}}$$

$$\frac{0.00564074 \text{ gr}}{\text{ft}^3}$$

Equation 12

$$pmr = \frac{cs \; qs \; 60 \text{ min}}{\text{hour} \; \frac{7000 \text{ gr}}{\text{lb}}}$$

$$\frac{8.57756 \text{ lb}}{\text{hour}}$$

Equation 13

$$e = \frac{cs \; f \; 20.9 \; 1 \text{ lb}}{(20.9 - o2) \; 7000 \text{ gr}}$$

$$\frac{0.0138979 \text{ lb}}{\text{mm btu}}$$

Equation 14

$$vn = \frac{ts \left(\frac{0.002669 \text{ in. Hg. ft}^3}{\text{ml °R}} \; vlc + \frac{vm \; y \; pm}{tm} \right)}{ps}$$

$$57.8491 \text{ ft}^3$$

Equation 15

$$i = \frac{100\ \%\ vn}{60\ sec\ theta\ vs\ an}$$

min

102.749 %

Equation 16

$$hi = \frac{pmr}{e}$$

$$\frac{617.184\ mm\ btu}{hour}$$

APPENDIX C QUALITY CONTROL

INITIAL
METER CALIBRATION FORM - DGM

DATE: 06-23-95 Box No. S-101

Ref. DGM Ser. # 1044456 Calibrated By EDWARD HARRIS

RUN #	1	2	3	4	5
DELTA H (DGM)	0.50	1.00	1.50	2.00	2.50
Y (Ref. DGM)	0.985	0.985	0.985	0.985	0.985
Reference DGM					
Gas Vol. Initial	806.700	812.800	823.200	830.325	836.536
Gas Vol. Final	812.800	819.680	830.325	836.536	842.767
Meter Box DGM					
Gas Vol. Initial	4.900	10.944	21.200	28.200	34.300
Gas Vol. Final	10.944	17.700	28.200	34.300	40.400
Reference DGM Temp.	Avg.	Avg.	Avg.	Avg.	Avg.
Deg F Initial	86	87	89	89	89
Deg F Final	86	87	89	89	89
Meter Box DGM					
Temp. Initial In	86	87	89	91	92
Temp. Initial Out	85	86	89	91	92
Temp. Final In	86	88	91	92	92
Temp. Final Out	86	88	90	92	92
P Bar IN. Hg	30.10	30.10	30.10	30.10	30.10
Time (sec.)	820	659	555	419	378
Meter Calibration Factor (Y)	1.008	1.016	1.016	1.018	1.021
Qm (C.F.M.)	0.434	0.608	0.745	0.861	0.957
Km (Std Pressure)	0.777	0.769	0.768	0.768	0.764
DELTA Ha	1.45	1.47	1.46	1.46	1.47

Average Y (Meter Calibration Factor	1.016
Average Km (Standard Pressure)	0.769
Average DELTA Ha of Orifice	1.460

Y= ≤ .03
Max & Min ≤ .02 from Avg
Final Avg within 5% of Initial Avg
ΔHa = Max & Min ≤ .2 from Avg

FINAL
METER CALIBRATION FORM - DGM

DATE: 07-17-95 Box No. S-101

Ref. DGM Ser. # 1044453 Calibrated By EDWARD HARRIS

RUN #	1	2	3	
DELTA H (DGM)	1.5	1.5	1.5	
Y (Ref. DGM)	0.995	0.995	0.995	
Reference DGM				
Gas Vol. Initial	24.600	39.645	48.307	
Gas Vol. Final	39.645	48.307	54.642	
Meter Box DGM				
Gas Vol. Initial	88.500	103.200	111.700	
Gas Vol. Final	103.200	111.700	117.900	
Reference DGM Temp.	Avg.	Avg.	Avg.	
Deg F Initial	93	95	95	
Deg F Final	93	95	95	
Meter Box DGM				
Temp. Initial In	93	95	97	
Temp. Initial Out	93	95	97	
Temp. Final In	93	97	97	
Temp. Final Out	93	97	97	
P Bar IN. Hg	30.04	30.04	30.04	
Time (sec.)	1179	681	495	
Meter Calibration Factor (Y)	1.015	1.012	1.017	
Qm (C.F.M.)	0.730	0.725	0.730	
Km (Std Pressure)	0.750	0.743	0.747	
DELTA Ha	1.51	1.52	1.50	

Average Y (Meter Calibration Factor)	1.014
Initial Y (Meter Calibration Factor)	1.016
Percent Error	0.20%
Average Km (Standard Pressure)	0.746
Average DELTA Ha of Orifice	1.51

MAGEHELIC CALIBRATION

BOX	460	2879	S-100	C-133	175	S-318	S-101	S-110
SER. NO.	91127W W137		91126AM 91	9126A M91	R90125 MR6	R74D	R22D	R20208 A617
RANGE	0-2	0-2	0-2	0-2	0-2	0-5	0-2	0-2
REFERENCE READING	FIELD DEVICE READING							
0.000	0.00		0.02	0.00	0.00	0.00	0.00	0.00
0.050								
0.150								
0.200								
0.250								
0.450								
0.50	0.50	0.51	0.50	0.50	0.50	0.49	0.50	0.50
1.00	1.00	1.02	1.00	0.99	1.00	1.01	1.00	1.00
1.30								
1.80	1.77	1.82	1.78	1.78	1.80	1.80	1.80	1.80
2.50								
4.50								
5.0								
9.0								
13.0								
22.0								

SIGNATURE: Edward F Hawes

DATE: 6/23/95

MAGEHELIC CALIBRATION

BOX #1

SER. NO.	10720-AB68	R1061-6AG48	R5031-SEB76	R1062-9JA82	R1051-3MR42	R90124 RI119
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25
REFERENCE READING	FIELD DEVICE READING					
0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.050	0.050					
0.150	0.150	0.140				
0.200	0.200					
0.250		0.250				
0.450		0.450				
0.50			0.51			
1.00			1.00			
1.30				1.30		
1.80			1.80			
2.50				2.49	2.5	
4.50				4.47		
5.0					5.0	5.0
9.0					9.1	
13.0						13.1
22.0						22.0

SIGNATURE: [illegible]

DATE: [illegible]

MAGEHELIC CALIBRATION

BOX #2

SER. NO.	10819-DR2	R1090-2AG18	R50315-EB93	R1062-9TA87	30830-AM79	R1072-2MC5
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25
REFERENCE READING	FIELD DEVICE READING					
0.000	-0.008	0.000	0.00	0.00	0.0	0.0
0.050	0.055					
0.150	0.160	0.145				
0.200	0.210					
0.250		0.250				
0.450		0.450				
0.50			0.50			
1.00			1.00			
1.30				1.26		
1.80			1.80			
2.50				2.52	2.4	
4.50				4.55		
5.0					4.9	5.0
9.0					9.0	
13.0						12.9
22.0						21.8

SIGNATURE: [signature]

DATE: 6-20-12

MAGEHELIC CALIBRATION

BOX #3

SER. NO.	R10908AG71 MRR1	R0112642	R10608CF20 CF20
RANGE	0-0.50	0-2.0	0-10
REFERENCE READING	FIELD DEVICE READING		
0.000	0.00	0.00	0.0
0.050			
0.150	0.15		
0.200			
0.250	0.245		
0.450	0.450		
0.50		0.50	
1.00		0.99	
1.50			
1.80		1.79	1.9
2.50			
4.50			
5.0			5.0
9.0			9.0
13.0			
22.0			

SIGNATURE:

DATE:

MAGEHELIC CALIBRATION

BOX #4

SER. NO.	R22D	R90051 6GT21	R90101 5CD102
RANGE	0-0.50	0-5	0-25
REFERENCE READING	FIELD DEVICE READING		
0.000	-0.010	0.00	0.0
0.050			
0.150	0.151		
0.200			
0.250	0.252		
0.450	0.458		
0.50			
1.00			
1.30		1.31	
1.80			
2.50		2.55	
4.50		4.58	
5.0			5.0
9.0			
13.0			13.2
22.0			21.9

SIGNATURE: [signature]

DATE: [illegible]

TEMPERATURE CALIBRATIONS - DEGREES FAHRENHEIT

REFERENCE DEVICE READING*	0 DEG. F	210 DEG.	420 DEG.	630 DEG.	840 DEG.	1050 DEG.	1260 DEG.	1470 DEG.	1680 DEG.	1900 DEG.
2879	0	211	421	630	840	1050	1260	1470	1680	1900
METER BOX #1 C-133 11580	0	210	419	629	840	1052	1267	1479	1687	1893
METER BOX #2 C-175 15962	1	212	417	633	839	1052	1262	1471	1683	1904
METER BOX #4 D-460 15751	0	209	420	631	838	1047	1265	1476	1683	1893
METER BOX #5 S-100 15751	0	208	416	626	841	1059	1276	1489	1696	1905
METER BOX #6 S-101 15751	0	210	420	627	838	1051	1263	1473	1679	1899
PORTABLE THERMOCOUPLE # 1 (Yellow) T105998	1	209	416	625	839	1055	1270	1480	1684	1890
PORTABLE THERMOCOUPLE # 2 (Blue)	1	209	419	625	838	1051	1265	1471	1686	1900
METER BOX #7 S-110 15751	0	212	421	630	842	1053	1264	1477	1683	1905
PINK T140293	0	209	416	630	840	1056	1271	1482	1686	1893

DATE: 6-20-95 **SIGNATURE:** Edward L. Harris

* Reference Device is an Omega Engineering CL505-A calibrated reference thermocouple-potentiometer system.

SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

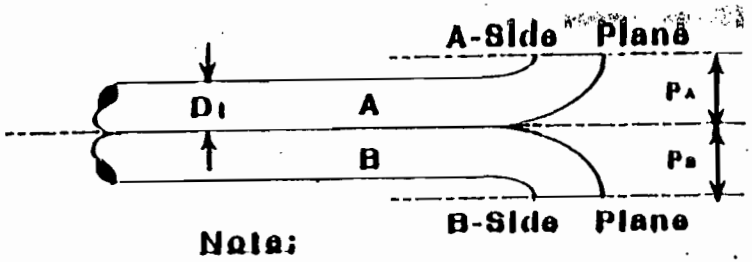
1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

The Pitot used was within the following geometric specifications:

D_t between 0.48 and 0.95 cm (3/16 and 3/8 in.)

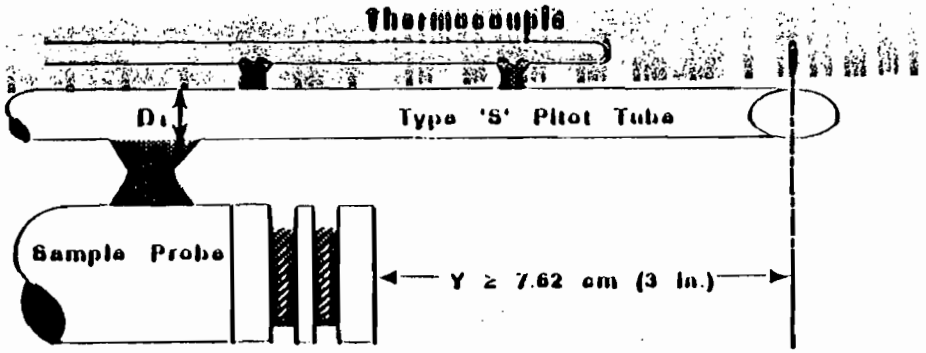
C_p = 0.84



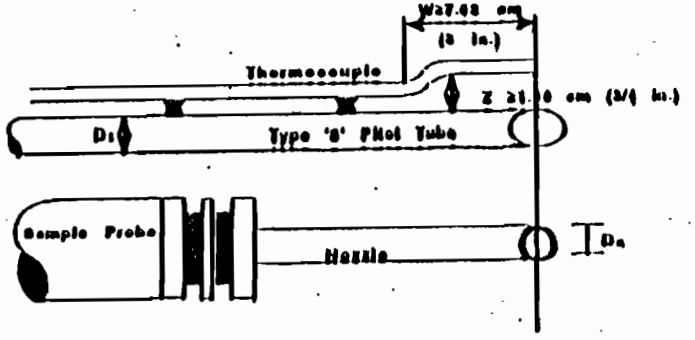
Note:

$1.05 \cdot D_t \leq 1.50\ D_t$

$P_A = P_B$



Minimum pitot-sample probe separation needed to prevent interference



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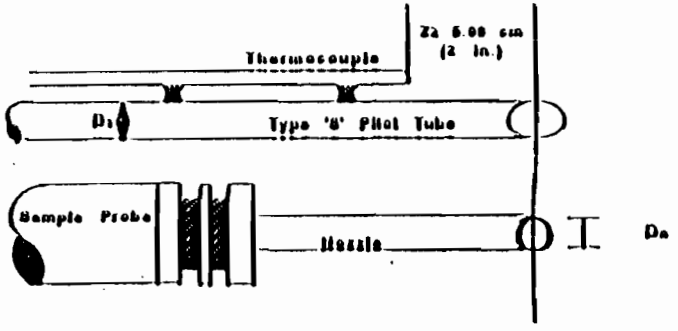

Proper thermocouple placement to prevent interference.

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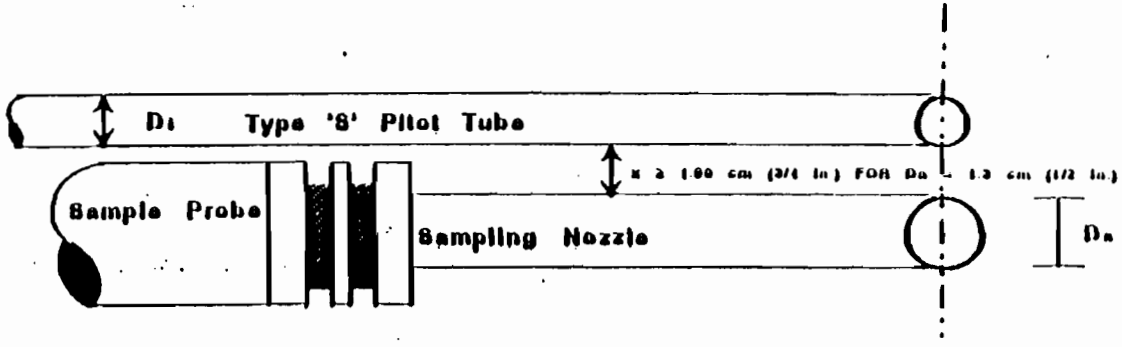
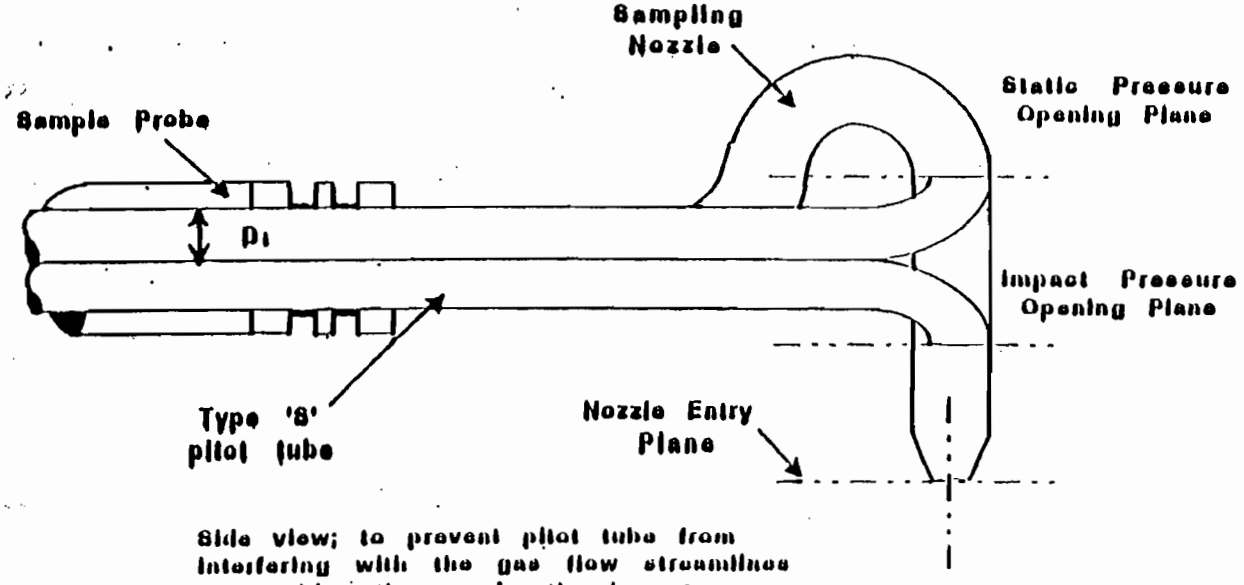
Proper pitot tube-sampling nozzel configuration to prevent aero-dynamic interference; bottonhook type nozzle; centers of nozzle and pitot opening aligned; Dt between 0.48 and 0.95 cm (3/16 and 3/8 in.)



Bottom view showing minimum pitot/nozzle separation



Side view; to prevent pitot tube from interfering with the gas flow streamlines approaching the nozzle, the impact pressure opening plane of the pitot tube shall be even with or above the nozzle entry plane.

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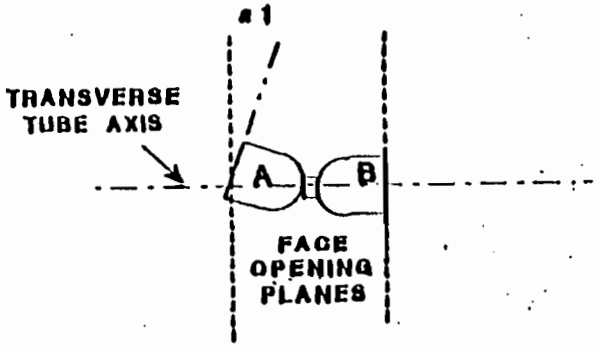
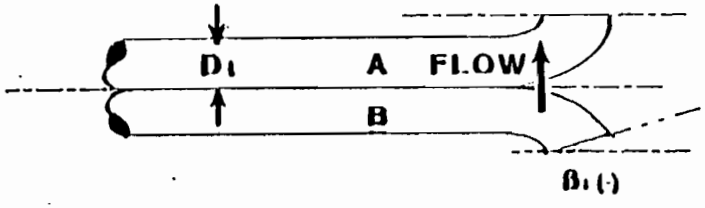
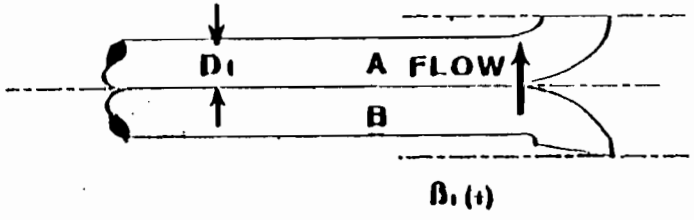
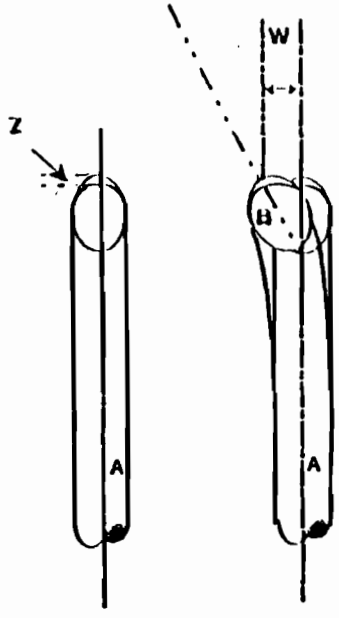
FAX#: (205) 633-2285

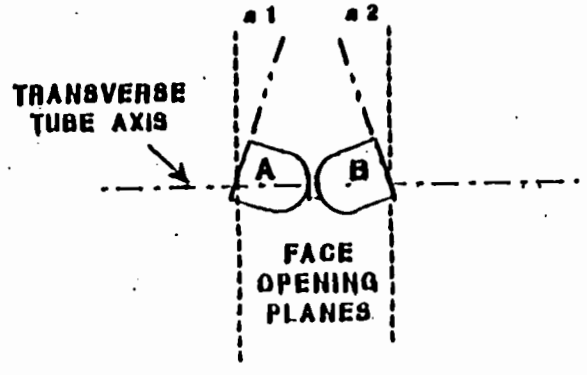
Types of face-opening misalignment that can result from field use or improper construction of type 'S' pitot tubes. These will not affect the baseline value of Cp(s) so long as $\alpha 1$ and $\alpha 2 \leq 10°$, $\beta 1$ and $\beta 2 \leq 5°$, $z \leq 0.32$ cm (1/8 in.)

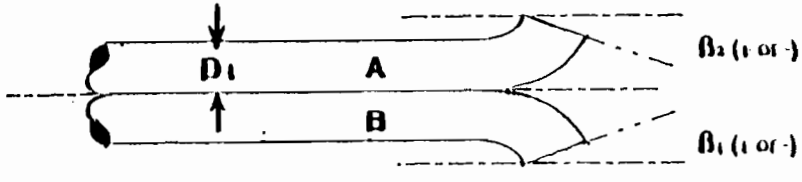












APPENDIX D OPERATIONAL DATA

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST CHRONOLOGY
UNIT # 1
STEADY STATE CONDITIONS
July 12,1995

RUN # 1	START	9:03 a.m.	No problems noted at beginning of run.
	STOP	10:13 a.m.	No problems noted at end of run.
RUN # 2	START	.10:40 a.m.	No problems noted at beginning of run.
	STOP	11:46 a.m.	No problems noted at end of run.
RUN # 3	START	12:11 p.m.	No problems noted at beginning of run.
	STOP	13:16 p.m.	No problems noted at end of run.

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 1
STEADY STATE CONDITIONS
July 12, 1995

TIME OF 6 MIN. AVERAGE	OPACITY (%)
(RUN # 1)	(RUN # 1)
8:01 - 8:06	.04
8:07 - 8:12	.04
8:13 - 8:18	.04
8:19 - 8:24	.04
8:25 - 8:30	.05
8:31 - 8:36	.04
8:37 - 8:42	.05
8:43 - 8:48	.04
8:49 - 8:54	.04
8:55 - 9:00	.04
9:01 - 9:06	.04
9:07 - 9:12	.04
9:14 - 9:18	.04
(RUN # 2)	(RUN # 2)
9:37 - 9:42	.05
9:43 - 9:48	.04
9:49 - 9:54	.04
9:55 - 10:00	.04
10:01 - 10:06	.04
10:07 - 10:12	.04
10:13 - 10:18	.04
10:19 - 10:24	.04
10:25 - 10:30	.04
10:31 - 10:36	.04
10:37 - 10:42	.04
10:43 - 10:48	.04

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 1
STEADY STATE CONDITIONS
July 12, 1995

(RUN # 3)	(RUN # 3)
11:07 - 11:12	.06
11:13 - 11:18	.08
11:19- 11:24	.08
11:25 - 11:30	.08
11:31 - 11:36	.06
11:37 - 11:42	.05
11:43 - 11:48	.05
11:49 - 11:54	.04
11:55 - 12:00	.05
12:01 - 12:06	.04
12:07 - 12:12	.06
12:13 - 12:18	.07

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1
Date 7/12/95
Load 49.6

Steady State

Run # 3
Start Time 1211
Finish Time 1316

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	109	322	.83	
B	84	312	.63	
C	65	360	.47	
D	71	381	.58	
E	81	299	.61	
F	60	274	.47	
Finish A	111	323	.81	
B	84	315	.61	
C	65	299	.47	
D	73	381	.57	
E	81	299	.61	
F	60	273	.46	

3800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1
Date 7/12/95
Load 49

Steady State

Run # 2
Start Time 1040
Finish Time 1146

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	108	321	.82	X
B	84	311	.62	X
C	65	298	.47	X
D	72	380	.58	X
E	81	299	.61	X
F	60	271	47	
Finish A	111	332	187	X
B	84	313	.62	X
C	65	300	.47	X
D	73	385	.58	
E	81	299	.61	
F	60	274	.47	

3800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1
Date 7/12/95
Load 49.9

Steady State

Run # 1
Start Time 0903
Finish Time 1013

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	110	322	.82	0
B	84	312	.62	0
C	65	297	.47	0
D	73	380	.58	0
E	81	298	.61	0
F	60	271	.47	0
Finish A	107	320	.82	0
B	84	313	.62	0
C	65	299	.47	0
D	73	381	.58	0
E	81	299	.61	0
F	60	272	.47	0

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

PARTICULATE EMISSIONS TEST REPORT
SOOT BLOWING OPERATIONS

FOR

GULF POWER COMPANY
Plant Scholz, Unit 1
Sneads, Florida

July 11, 1995

1568 LEROY STEVENS ROAD

MOBILE, ALABAMA 36695 • 205/633-4120

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

1568 LEROY STEVENS ROAD MOBILE, ALABAMA 36695 • OFFICE 334 / 633-4120
FAX 334 / 633-2285

ENVIRONMENTAL ENGINEERING
AIR & WATER QUALITY MODELING
ENVIRONMENTAL ASSESSMENTS
PSD ANALYSIS
EMERGENCY RESPONSE MONITORING

AMBIENT AIR MONITORING
CONTINUOUS IN-STACK MONITORING
SOURCE TESTING
VISIBLE EMISSIONS TESTING
CONSULTING SERVICES

REPORT CERTIFICATION

The sampling and analysis for this report was carried out under my direction and supervision.

Date: 7/19/95 Signature: Edward L. Harris

Edward L. Harris
Senior Field Service Engineer

I have reveiwed the testing details and results in this report and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date: 7-19-95 Signature: Joseph C. Sanders

Joseph C. Sanders
Manager

TABLE OF CONTENTS

LIST OF TABLES

ILLUSTRATIONS

1. INTRODUCTION

Sanders Engineering & Analytical Services, Inc. (SEAS) performed a particulate emissions test during soot blowing operations at Gulf Power Company, Plant Scholz, Unit 1, located in Sneads, Florida. The testing was conducted on July 11, 1995. The testing was performed in accordance with the applicable U.S. EPA procedures specified at **40 CFR, Part 60, Appendix A, Methods 1, 2, 3, 4, and 17**.

The purpose of the test was to demonstrate compliance with the rules and regulations of the Florida Department of Environmental Protection, and to meet the necessary requirements contained in the permit to operate issued by the Florida Department of Environmental Protection.

The test was conducted by Mr. Edward Harris and Mr. Dean Holmes of Sanders Engineering & Analytical Services, Inc., and was coordinated with Mr. John McPherson of Gulf Power Company. Mr. Lewis Nichols and Mr. Jim Boylan of the Florida Department of Environmental Protection were also present to observe the testing.

The test was conducted in accordance with the guidelines of the Florida Department of Environmental Protection. Further discussion of the test methods are included later in the report.

2. SUMMARY AND DISCUSSION OF RESULTS

The results of the particulate emissions test for the soot blowing runs, along with the results of the computations, are summarized in Table I. The equations used in the calculations of the results, along with the completed field data sheets for the testing, are presented in Appendix A. The sample calculations of the first run are presented in Appendix B. The quality control checks of the equipment used in the sampling program are included in Appendix C.

There were no problems encountered during the performance of the test. At the completion of each run, the filter and probe were removed to a relatively clean, draft-free area for clean-up.

The results of the testing indicate the particulate emission rate during soot blowing for Plant Scholz, Unit 1, is 0.014 LBS/MMBTU. The applicable Florida Department of Environmental Protection rules and regulations require an emission rate of no greater than 0.30 LBS/MMBTU. The results of the testing indicate that the unit is in compliance with the particulate emission condition of the permit to operate issued by the Florida Department of Environmental Protection.

TABLE I. PARTICULATE EMISSIONS TEST RESULTS
GULF POWER COMPANY
PLANT SCHOLZ, UNIT 1, SOOT BLOWING
7/11/95

Title of Run		RUN 1	RUN 2	RUN 3
Sampling Time -Start	Military	8:22	10:00	11:25
Sampling Time -Stop	Military	9:30	11:05	12:32
F Factor	SDCF/BTU	9820	9820	9820
Static Pressure	In. H2O	0.25	0.25	0.25
Barometric Pressure	In. Hg	30.10	30.10	30.10
Average dH	In. H20	1.2	1.1	1.1
Meter correction		1.016	1.016	1.016
Avg. Meter Temp.	Deg. F	82.1	85.6	89.5
% O2	%	10.6	10.0	10.0
%CO2	%	8.0	8.0	8.0
Volume Metered	ACF	39.723	38.680	38.278
Volume Water	Ml	54.0	67.0	61.0
Sampling Time	Minutes	60	60	60
Nozzle Diameter	Inches	0.241	0.241	0.239
Avg. Stack Temp.	Deg. F	283.5	286.2	285.8
Area of Stack	Sq. Feet	89.3330	89.3330	89.3330
Wt. of Part.	Mg.	9.8	15.2	12.1
Number of Points		30	30	30
Avg. Sqrt dP	In. H20	0.7504	0.7328	0.7353

RESULTS OF COMPUTATIONS

		RUN 1	RUN 2	RUN 3	Average
Volume of Gas Sampled	SDCF	39.648	38.353	37.677	
H2O vapor in Gas Stream	PERCENT	6.0	7.6	7.1	6.9
Avg. Stack Gas Velocity	FT/SEC	49.7	48.8	48.9	49.2
Volumetric Flow Rate	SDCF/M	179,032	172,200	173,637	174,956
Volumetric Flow Rate	ACF/M	266,510	261,628	262,203	263,447
Particulate Conc.	Grs/SDCF	0.004	0.006	0.005	0.005
Particulate Conc.	Grs/ACF	0.003	0.004	0.003	0.003
Particulate Mass Rate	Lb/Hr	5.8	9.0	7.4	7.4
Particulate Mass Rate	Lb/MMBtu F Factor	0.011	0.016	0.013	0.014
Heat Input	MMBTU/Hr	539.09	548.72	553.30	547.04
Percent of Isokinetic	%	104.1	104.7	103.7	

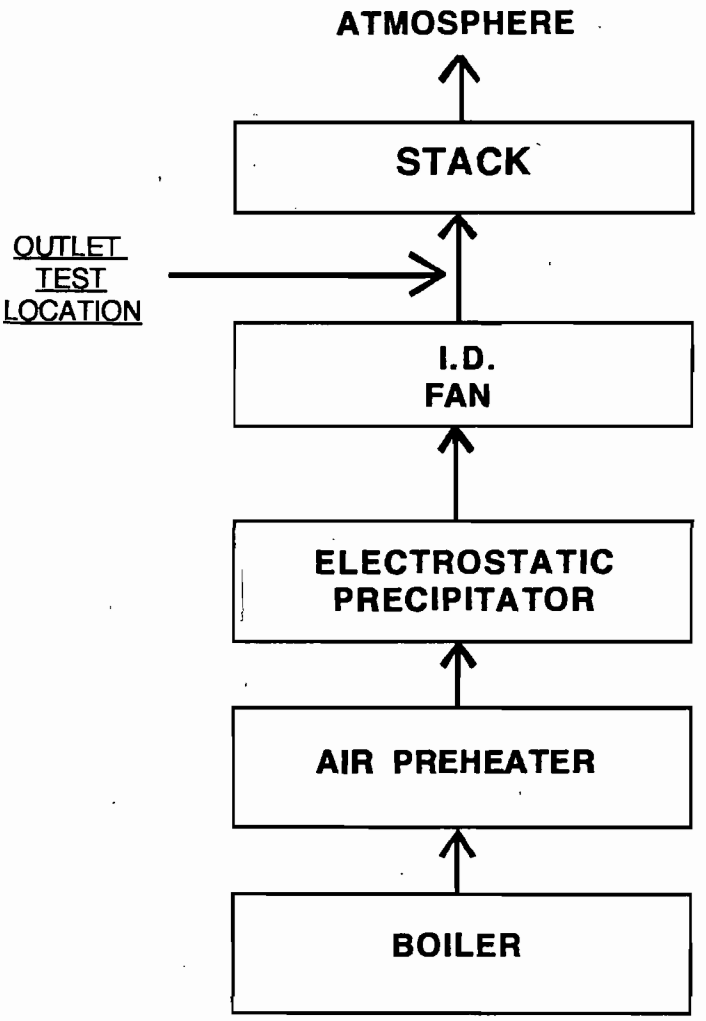
3. PROCESS DESCRIPTION

The process consists of a steam electric generating unit firing bituminous coal for the production of electric energy. The coal is received by barge, and loaded directly onto the conveyor feeding the plant, or onto the stockpile and later loaded onto the conveyor belt transporting the coal to the plant. The coal from the conveyor is loaded into bunkers capable of holding between 36 to 48 hours supply of coal. The coal is then fed to pulverizing mills before being fired in the unit through the burners. Upon combustion of the coal in the fire box, approximately 20 percent of the ash falls to the bottom of the boiler and is removed by the ash removal system. The remaining 80 percent exits with the flue gases through the heat exchange and economizer sections of the furnace, and is collected by electrostatic precipitators.

3.1. Source Air Flow

The air flow schematic which depicts the passage of the flue gases exhausted from Scholz, Unit 1, are presented in Figure 1.

Figure 1. Air Flow Schematic



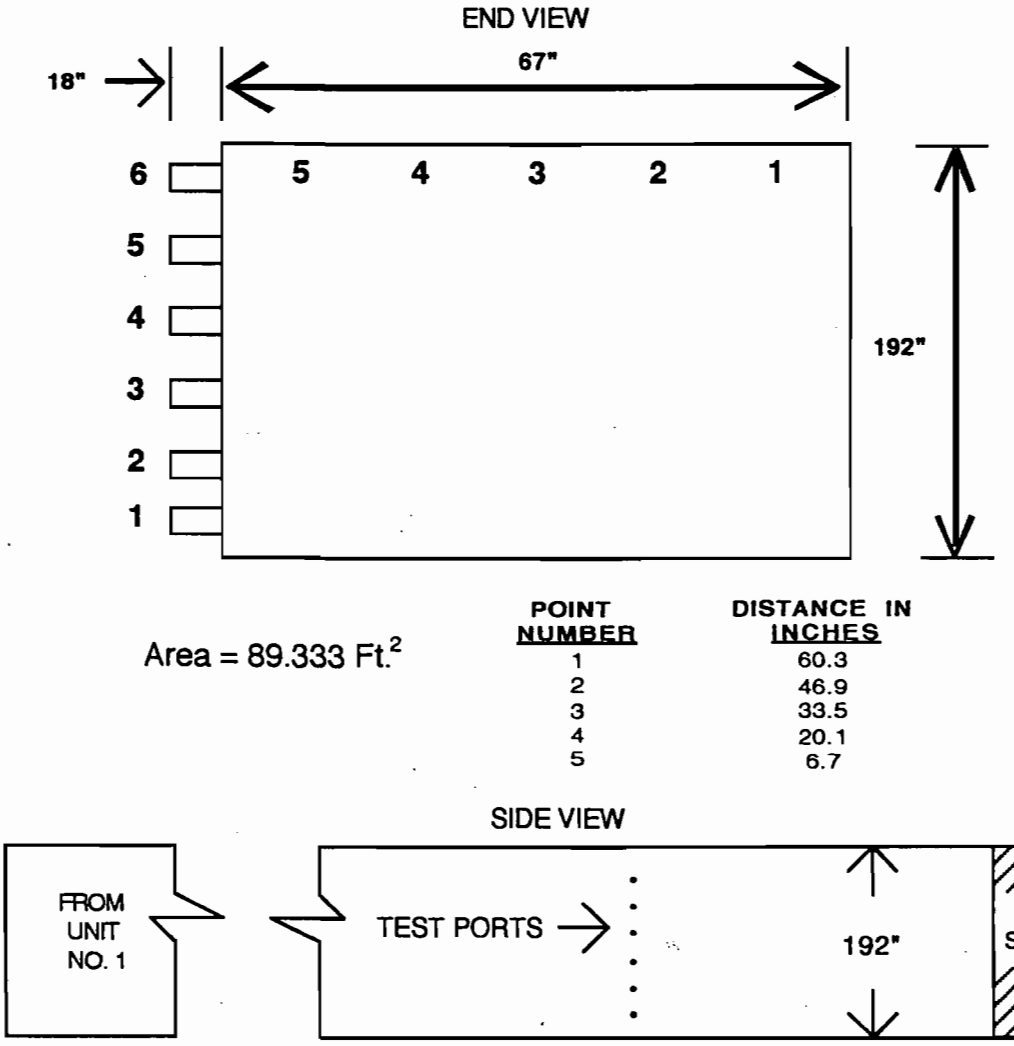
3.2. Operation During Testing

The average heat input during soot blowing operation, as based on F-factor calculations, was 547.04 million BTU per hour resulting in the production of approximately 50 megawatts of electricity. Precipitator data supplied by Gulf Power personnel is given in Appendix D.

4. SAMPLE POINT LOCATION

The sample point locations and outlet duct schematic are presented in Figure 2. Method 1 was used for determination of the number and location of sampling points. The minimum number of points (25) required for rectangular stacks was met by sampling a total of 30 points.

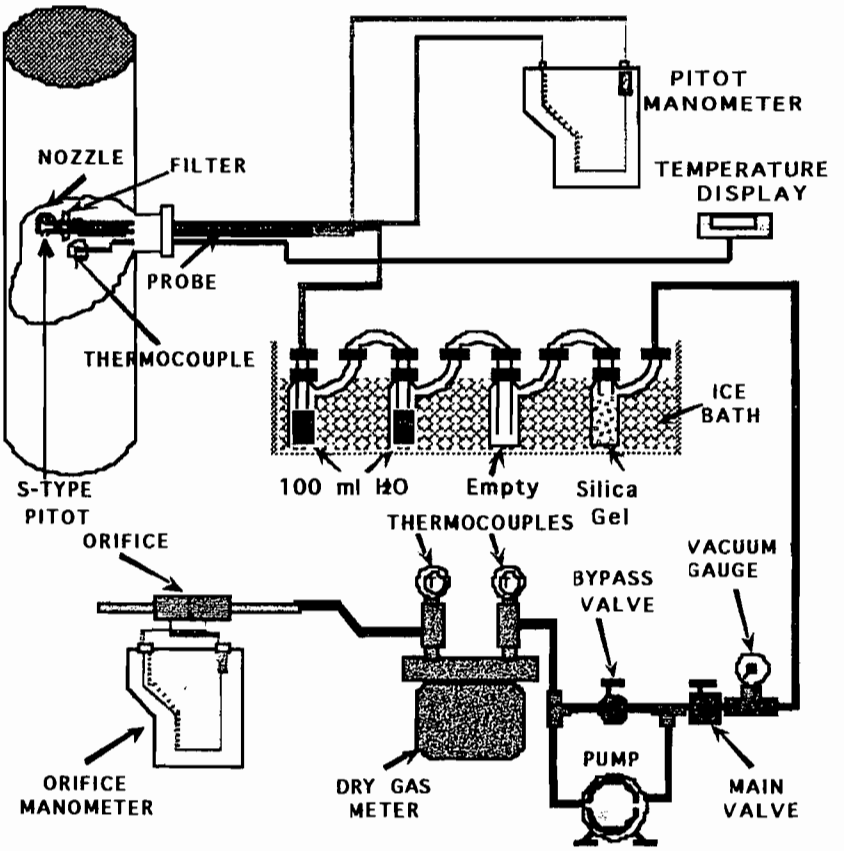
Figure 2. Sample Point Locations



5. PARTICULATE SAMPLING PROCEDURE (EPA Method 17)

The sampling procedure utilized is that specified in **40 CFR, Part 60, Appendix A, Method 17,** as modified by the governing regulatory agency. A brief description of this procedure is as follows:

Figure 3. Particulate Sampling Train



The first impingers were partially filled with 100 milliliters of deionized water. The next impinger was left empty to act as a moisture trap. Preweighed 6 to 16 mesh indication silica gel was added to the last impinger. The sampling equipment manufactured by Lear Siegler (Model 100) or Sanders Engineering (Model 200) was assembled as shown in the attached drawing. The system was leak checked by plugging the inlet to the nozzle and pulling a 15 inch mercury vacuum. A leakage rate not in excess of 0.02 cubic feet per minute was considered acceptable.

The inside dimensions of the stack liner were measured and recorded. The required number of sampling points were marked on the probe for easy visibility. The range of velocity pressure, the percent moisture, and the temperature of the effluent gases were determined. From this data, the correct nozzle size and the nomograph multiplication factor were determined.

Crushed ice was placed around the impingers. The nozzle was placed on the first traverse point with the tip pointing directly into the gas stream. The pump was started immediately and the flow was adjusted to isokinetic sampling conditions. After the required time interval had elapsed, the probe was repositioned to the next traverse point and isokinetic sampling was re-established. This was performed for each point until the run was completed. Readings were taken at each point and recorded on the field data sheet. At the conclusion of each run, the pump was turned off and the final readings were recorded.

5.1. Particulate Sample Recovery

Care was exercised in moving the collection train to the sample recovery area to minimize the loss of collected sample, or the gain of extraneous particulate matter. The volume of water in the impingers was measured, the silica gel impinger was weighed and recorded on the field data sheet. The nozzle, and all sample-exposed surfaces were washed with reagent grade acetone into a clean sample container. A brush was used to loosen any adhering particulate matter and subsequent washings were placed into the container. The filter was carefully removed from the fritted support and placed in a clean separate sample container. A sample of the acetone used in the washing was saved for a blank laboratory analysis.

5.2. Particulate Analytical Procedures

The filter and any loose particulate matter were transferred from the sample container to a clean, tared weighing dish. The filter was placed in a desiccator for at least 24 hours and then weighed to the nearest 0.1 milligram until a constant weight was obtained. The original weight of the filter was deducted, and the weight gain was recorded to the nearest 0.1 milligram.

The wash solution was transferred to a clean, tared beaker. The solution was evaporated to dryness, desiccated to a constant weight, and the weight gain was recorded to the nearest 0.1 milligram.

APPENDIX A EQUATIONS AND FIELD DATA SHEETS

EQUATIONS

1. $$P_s = P_{bar} + \frac{P_g}{13.6}$$

2. $$P_m = P_{bar} + \frac{\overline{\Delta H}}{13.6}$$

3. $$V_s = K_p C_p \overline{\sqrt{\Delta P}} \sqrt{\frac{\overline{T_s}}{M_s P_s}}$$

4. $$V_{m(Std)} = K_1 V_m Y \left[\frac{p_{bar} + \frac{\overline{\Delta H}}{13.6}}{\overline{T_m}} \right]$$

5. $$V_{w(Std)} = 0.04707\, V_{lc}$$

6. $$B_{ws} = \frac{V_{w(Std)}}{V_{m(Std)} + V_{w(Std)}}$$

7. $$M_d = 0.44\,(\%CO_2) + 0.32\,(\%O_2) + 0.28\,(\%N_2 + \%CO)$$

8. $$M_s = M_d(1 - B_{ws}) + 18\,(B_{ws})$$

9. $$EA = \left[\frac{(\%O_2 - 0.5\,(\%CO))}{0.264\,(\%N_2) - ((\%O_2) - 0.5\,(\%CO))} \right] 100$$

10. $$Q_a = (V_s)\,(A_s)\,(60)$$

11. $$Q_s = Q_a\,(1-B_{ws})\,\frac{(528)}{\overline{T_s}}\,\frac{(P_s)}{29.92}$$

12. $$E_H = \left(\frac{PMR}{H_I}\right)$$

13. $$E = C_d\,F_{O_2}\left(\frac{20.9}{20.9 - \%O_2}\right)$$

14. $$C_s = 0.0154\,\frac{M_n}{V_{m(Std)}}$$

15. $$C_{50} = \frac{21\,C_s}{21 - [(1.5)\,(\%O_2) - 0.133\,(N_2) - 0.75\,(\%CO)]}$$

16. $$C_{12} = \frac{C_s\,(12)}{\%CO_2}$$

17. $$PMR = (C_s)\,(Q_s)\,\frac{(60)}{7000}$$

18. $$V_n = \left[(0.002669)\,(V_{lc}) + \frac{V_m Y}{\overline{T_m}}\left(P_{bar} + \frac{\overline{\Delta H}}{13.6}\right)\right]\frac{\overline{T_s}}{P_s}$$

19. $$I = \frac{100\,V_n}{(60)\,\emptyset\,V_s\,A_n}$$

NOMENCLATURE

A_n = Cross-sectional area of nozzel, ft^2

A_s = Cross sectional area of stack, ft^2

B_{ws} = Wator vapor in the gas stream, proportion by volume (dimensionless)

C_p = Pitot tube coefficient (dimensionless) (0.84)

C_s = Particulate concentration, grains/SDCF

C_d = Particulate concentration, lbs/SDCF

C_{12} = Particulate concentration (C_s adjusted to 12% CO) grains/SDCF

C_{50} = Particulate concentration (C_s adjusted to 50% excess air) grains/SDCF

EA = Excess air, %

E = Emission in lb/mmBTU

E_H = Emission in lb/mmBTU, based on heat input

H_I = Total Heat Input, Million BTU per Hour (MMBTU/hr)

I = Percent of isokinetic sampling

K_1 = 17.64 °R/ inches Hg

K_p = Pitot tube constant,

$$85.49 \text{ ft/sec} \left[\frac{(\text{lb/lb-mole})(\text{in. Hg})}{(°\text{R})(\text{inc. } H_2O)} \right]^{\frac{1}{2}}$$

M_n = Total amount of particulate collected, mg

M_d = Molecular weight of stack gas; dry basis, lb/lb mole

M_s = Molecular weight of stack gas; wet basis, lb/lb mole

P_{bar} = Barometric pressure at the sampling site, in. Hg

NOMENCLATURE (continued)

P_m = Meter pressure, in. Hg

P_s = Absolute stack pressure, in. Hg

P_g = Stack static pressure, in. H_2O

PMR = Particulate mass rate, lb/Hr

Q_a = Volumetric flow rate ACFM

Q_s = Volumetric flow rate SDCFM

V_s = Average stack gas velocity, ft/sec

V_{lc} = Total volume of liquid collected in impingers & silica gel, ml

V_m = Volume of gas sample as measured by dry gas meter, ACF

$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, SDCF

$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, SCF

V_n = Volume collected at stack conditions through nozzle, ACF

Y = Dry gas meter calibration factor (dimensionless)

ΔH = Average pressure difference of orifice, in. H_2O

ΔP = Velocity head of stack gas, in. H_2O

$\overline{\sqrt{\Delta P}}$ = Average of square roots of the velocity pressure, in. H_2O

Ø = Total sampling time, minutes

$\%CO_2$, $\%O_2$, N_2, %CO - Number % by volume, dry basis, from gas analysis

F_{O_2} = Oxygen based F factor (9820 SDCF/mmBTU for bituminous coal)

T_s = Temperature of the stack, °R (° F + 460)

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.
1333 Larry Stevens Rd.
Mobile, AL 36695
Office: (205) 633-4120
FAX#: (205) 633-2225

FIELD DATA SHEET

COMPANY GPCO DATE 7-11-95 DGM# S-101

PLANT Scholtz OPERATOR ELH ΔH@ 0.75

UNIT #1 Soot Blows METHOD 17 PROBE N/A (liner) 8' (length)

	RUN 1	RUN 2	RUN 3
NOZZLE CALIBRATION PRE	.241 .241 .242 .241	.241 .241 .240 .241	.239 .239 .240 .239
NOZZLE CALIBRATION POST	.241 .241 .241 .241	.240 .241 .241 .241	.239 .239 .240 .240
FILTER NUMBER	1241	1242	1263
METER READING (initial)	125.123	164.980	205.078
METER READING (final)	85.400	126.300	166.800
METER READING (net)	39.723	38.680	38.278
LEAK CHECK SYSTEM Pre (cfm)	15	15	15
LEAK CHECK SYSTEM Post (cfm)	10	13	12
LEAK CHECK PITOT Pre (cm)	0.002	0.005	0.000
LEAK CHECK PITOT Post (cm)	0.000	0.010	0.005
VOLUME OF LIQUID WATER COLLECTED (initial) IMP. 1	138	150	150
VOLUME OF LIQUID WATER COLLECTED (initial) IMP. 2	100	100	100
VOLUME OF LIQUID WATER COLLECTED (initial) IMP. 3	0	0	0
VOLUME OF LIQUID WATER COLLECTED (initial) IMP. 4	1500.0	1531.0	1542.0
VOLUME OF LIQUID WATER COLLECTED (final) IMP. 1	100	100	100
VOLUME OF LIQUID WATER COLLECTED (final) IMP. 2	100	100	100
VOLUME OF LIQUID WATER COLLECTED (final) IMP. 3	0	0 (100)	0
VOLUME OF LIQUID WATER COLLECTED (final) IMP. 4	1484.0	1514.0	1530.0
VOLUME OF LIQUID WATER COLLECTED (net) IMP. 1	38	50	50
VOLUME OF LIQUID WATER COLLECTED (net) IMP. 2	0	0	0
VOLUME OF LIQUID WATER COLLECTED (net) IMP. 3	0	0	0
VOLUME OF LIQUID WATER COLLECTED (net) IMP. 4	16.0	17.0	11.0
VOLUME OF LIQUID WATER COLLECTED TOTAL	54.0	67.0	61.0
GAS ANALYSIS O_2	10.6 %	10.0 %	10.0 %
GAS ANALYSIS CO_2	8.0 %	8.0 %	8.0 %
GAS ANALYSIS CO	—	—	—
STATIC	± 0.25	±0.25	± 0.25
BAROMETRIC	30.10	30.10	30.10

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.
1568 Leroy Stevens Rd.
Mobile, AL 36695
Office: (205) 633-4120 334
FAX#: (205) 633-2285 334

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP In. H_2O	ORIFICE HEAD ΔH In. H_2O	TEMPERATURE °F STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. In. Hg
1 - 1	8 : 22	85.400	.50	1.02	279	N/A	N/A	57	80	80	2
2	: 24	86.700	.37	.75	279			✓	80	80	2
3	: 26	87.760	.34	.68	280			✓	80	80	2
4	: 28	88.800	.30	.60	280			✓	80	80	2
5	: 30	89.800	.30	.60	280			✓	80	80	2
2 - 1	8 : 33	90.850	.54	1.10	280			✓	81	80	3
2	: 35	92.150	.49	1.00	280			✓	81	81	3
3	: 37	93.450	.40	.82	282			✓	81	81	3
4	: 39	94.500	.35	.71	283			✓	81	81	2.5
5	: 41	95.600	.35	.71	282			✓	81	81	2.5
3 - 1	8 : 45	96.734	.62	1.27	281			48	82	81	4
2	: 47	98.200	.45	.92	284			56	82	81	3.5
3	: 49	99.300	.43	.88	284			✓	82	82	3
4	: 51	100.400	.45	.92	284			✓	82	82	3.5
5	: 53	101.500	.45	.92	284			✓	82	82	3.5
4 - 1	8 : 57	102.857	1.25	2.57	283			52	83	82	8.5
2	: 59	104.800	.61	1.25	284			✓	83	82	5
3	9 : 01	106.100	.50	1.03	285			✓	83	82	4.5
4	: 03	107.300	.50	1.03	285			✓	83	82	4.5
5	: 05	108.400	.54	1.10	286			✓	83	82	4.5
5 - 1	9 : 09	109.950	1.45	2.97	284			53	83	82	10
2	: 11	111.850	.74	1.51	286			✓	83	83	6
3	: 13	113.400	.64	1.31	287			✓	83	83	5.5
4	: 15	114.800	.70	1.43	287			✓	84	83	5.5

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 248° | + or - 28 248° | less than 88°

COMPANY GPCO OPERATER ELH

PLANT Scholtz DATE 7-11-95

UNIT #1 RUN# 1 PAGE 2 OF 7

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (~~205~~) 334 633-4120
FAX#: (~~205~~) 334 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP in. H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE F						VAC. in. Hg
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
S-5	:17	116.400	.66	1.35	287	N/A	N/A	53	84	84	5.5
6-1	9:20	117.750	1.35	2.77	286			✓	84	84	9
2	:22	119.600	.89	1.82	286			✓	84	84	7.5
3	:24	121.300	.59	1.21	286			✓	84	84	5.5
4	:26	122.700	.45	.92	286			✓	84	84	4.5
5	:28	123.800	.50	1.02	286			✓	84	84	4.5
final	9:30	125.153									
			.7504								

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 248°	+ or - 28 248°	less than 8.8°

COMPANY GPCO

OPERATER EH

PLANT Scholtz

DATE 7-11-95

UNIT #1

RUN# 1

PAGE 3 OF 7

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP In. H_2O	ORIFICE HEAD ΔH In. H_2O	TEMPERATURE °F						VAC. In. Hg
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
6-1	10:00	126.300	1.20	2.46	283	N/A	N/A	68	84	84	8.0
2	:02	128.200	.84	1.72	285			✓	84	84	5.5
3	:04	129.800	.47	.94	286			✓	84	84	3.5
4	:06	131.000	.49	.98	286			63	85	84	3.5
5	:08	132.200	.50	1.00	286			✓	85	84	3.5
5-1	10:11	133.526	1.48	2.91	285			59	85	84	9
2	:13	135.500	.82	1.65	286			✓	85	84	6
3	:15	137.000	.55	1.10	286			✓	85	84	4
4	:17	138.400	.60	1.20	287			56	85	85	4
5	:19	139.800	.65	1.31	287			✓	85	85	4
4-1	10:21	141.200	1.10	2.21	286			✓	85	85	6
2	:23	142.900	.55	1.10	286			✓	85	85	4
3	:25	144.300	.64	1.28	287			✓	85	85	4.5
4	:27	145.600	.50	1.00	287			✓	86	85	4
5	:29	146.800	.50	1.00	287			57	86	85	4
3-1	10:33	148.147	.60	1.20	286			✓	86	85	4
2	:35	149.500	.52	1.04	285			59	86	86	4
3	:37	150.800	.40	0.80	287			58	86	86	3.5
4	:39	151.900	.44	.88	287			✓	86	86	3.5
5	:41	153.100	.39	.78	286			✓	86	86	3.5
2-1	10:44	154.223	.54	1.08	287			✓	86	86	3
2	:46	155.500	.41	.82	287			✓	86	86	3
3	:48	156.700	.32	.64	287			✓	87	86	2
4	:50	157.700	.35	.70	287			✓	87	86	3

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 °F	+ or - 28 °F	less than 68 °F
248	248	68

Run #2 of SootBlow is also Run #1 of RATA

COMPANY GPCO

OPERATER ELH

PLANT Schultz

DATE 7-11-95

UNIT #1

RUN# 2

PAGE 4 OF 7

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP In. H_2O	ORIFICE HEAD ΔH In. H_2O	TEMPERATURE F						VAC. In. Hg
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
2-5	:52	158.750	.36	.72	286	N/A	N/A	58	87	87	3
1-1	10:55	159.760	.41	.82	286			✓	87	87	3
2	:57	160.800	.32	.64	286			✓	87	87	3
3	:59	162.000	.30	.60	286			✓	87	87	3
4	11:01	162.900	.35	.70	286			✓	87	87	3
5	:03	163.900	.30	.60	286			✓	87	87	3
final	:05	164.980									
			.7317		286.2						

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 248°	+ or - 28 248°	less than 88°

COMPANY GPCO

OPERATER ELH

PLANT Scholtz

DATE 7-11-95

UNIT #1

RUN# 2

PAGE 5 OF 7

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP in. H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F STACK	PROBE	NOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. in. Hg
1-1	11:25	166.800	.40	.79	287	N/A	N/A	68	88	88	3
2	:27	168.000	.41	.81	285			✓	87	88	3
3	:29	169.200	.35	.69	284			✓	88	88	3
4	:31	170.300	.25	.49	284			✓	88	88	2
5	:33	171.150	.25	.49	283			✓	88	88	2
2-1	:37	172.000	.55	1.06	283			67	88	88	3
2	:39	173.300	.43	.83	284			✓	88	88	3
3	:41	174.550	.34	.66	285			✓	88	88	3
4	:43	175.500	.39	.75	285			✓	89	88	3
5	:45	176.600	.35	.67	284			65	90	89	3
3-1	:48	177.625	.60	1.16	284			✓	90	89	4
2	:50	179.000	.44	0.85	285			✓	89	89	4
3	:52	180.150	.39	.75	286			✓	89	89	3
4	:54	181.200	.40	.77	286			✓	90	89	3
5	:56	182.300	.40	.77	286			✓	90	89	3
4-1	11:59	183.430	1.10	2.13	286			60	90	89	7
2	12:01	185.200	.61	1.18	286			✓	90	90	5
3	:03	186.400	.55	1.06	287			✓	90	90	4.5
4	:05	187.750	.52	1.00	288			✓	90	90	4.5
5	:07	189.100	.52	1.00	287			✓	90	90	4.5
5-1	:11	190.345	1.35	2.61	286			✓	91	90	9
2	:13	192.200	.72	1.39	287			66	91	90	5.5
3	:15	193.700	.55	1.06	287			✓	91	90	5
4	:17	194.950	.60	1.16	287			✓	91	91	5

1.940

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 248°	+ or - 28 248°	less than 88°

Run #3 of Soot Blow is also Run #2 of RATA

COMPANY GPCC

OPERATER EW

PLANT Scholtz

DATE 7-11-95

UNIT #1

RUN# 3

PAGE 6 OF 7

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP In. H_2O	ORIFICE HEAD ΔH In. H_2O	TEMPERATURE F						VAC. In. Hg
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
S-S	12:19	196.300	.56	1.09	287	N/A	N/A	67	91	91	4.5
6-1	12:22	197.625	1.30	2.53	287			✓	91	91	8.5
2	:24	199.400	.85	1.65	286			✓	91	91	6.5
3	:26	201.150	.75	1.46	287			✓	91	91	6
4	:28	202.500	.55	1.07	287			✓	91	91	4.5
5	:30	203.800	.50	.97	287			✓	91	91	4
final	12:32	205.078									
			.7351		285.8						

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28	+ or - 28	less than
248°	248°	68°

COMPANY GPCO

OPERATER ELH

PLANT Scholz

DATE 7-11-95

UNIT #1

RUN# 3

PAGE 7 OF 7

LABORATORY ANALYSIS & CHAIN OF CUSTODY

COMPANY/PLANT: GPCO / Scholz

UNIT #: #1 Soot Blow DATE OF TEST: 7-11-95 TYPE OF TEST: ☐ M-5 ☒ M-17 ☐ OTHER ______

SAMPLE #	RELINQUISHED BY	RECEIVED BY	TIME	DATE	REASON FOR CHANGE
1241 & wash	EFH	EFH	10:30	7-17-95	Analysis
1242 & wash					
1263 & wash					

UNIT # #1 Soot Blow

RUN # 1	FILTER # 1241	BEAKER # 3 WASH (ML) 30
FINAL WEIGHT	131.0mg	64478.5 mg
INITIAL WEIGHT	124.2mg	64475.5 mg
DIFFERENCE	6.8	3.0
CORRECTED TOTAL WEIGHT		9.8
RUN # 2	FILTER # 1242	BEAKER # 10 WASH (ML) 35
FINAL WEIGHT	134.4mg	63818.6mg
INITIAL WEIGHT	125.5mg	63812.3 mg
DIFFERENCE	8.9	6.3
CORRECTED TOTAL WEIGHT		15.2
RUN # 3	FILTER # 1263	BEAKER # 12 WASH (ML) 38
FINAL WEIGHT	133.9 mg	70466.1mg
INITIAL WEIGHT	124.5mg	70463.4mg
DIFFERENCE	9.4	2.7
CORRECTED TOTAL WEIGHT		12.1
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		

UNIT # ______

RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
WASH SOLVENT BLANK (ML)	100	BEAKER # 36 WASH (ML) 100
FINAL WEIGHT		67940.3 mg
INITIAL WEIGHT		67940.3 mg
DIFFERENCE		0.0
CORRECTION FACTOR (MG/ML)		0.0

ALL WEIGHTS ARE IN MILLIGRAMS (MG)

APPENDIX B SAMPLE CALCULATIONS

Input and Constants

$$f := \frac{9820\ ft^3}{mm\ btu}$$

$pg := 0.25\ in.\ H2O$

$pbar := 30.1\ in.\ Hg.$

$\Delta havg := 1.2\ in.\ H2O$

$y := 1.016$

$tm := 82.1\ °F$

$o2 := 10.6$

$co2 := 8.$

$vm := 39.723\ ft^3$

$vlc := 54.\ ml$

$theta := 60\ min$

$nozdia := 0.241\ in.$

$ts := 283.5\ °F$

$as := 89.333\ ft^2$

$mn := 9.8\ mg$

$numberofpoints := 30$

$$sqrt\Delta p := 0.7504\ in.\ H2O^{0.5}$$

$$kp := \frac{85.49 \cdot 1\ ft \cdot 1 \left(\frac{lb\ in.\ Hg.}{lb\text{-}mole\ °R\ in.\ H2O}\right)^{0.5}}{1\ sec}$$

$cp := 0.84$

$$kl := \frac{17.64\ °R}{in.\ Hg.}$$

$$ts = \frac{(ts + 460\ °F)\ °R}{°F}$$

743.5 °R

$$tm = \frac{(tm + 460\ °F)\ °R}{°F}$$

542.1 °R

n2 = 100 - o2 - co2

81.4

$$an = \frac{nozdia^2\ 3.1416}{4\ (\frac{12\ in.}{ft})^2}$$

0.000316783 ft^2

Calculations

Equation 1

$$ps = pbar + \frac{pg}{\frac{13.6\ in.\ H2O}{1\ in.\ Hg.}}$$

30.1184 in. Hg.

Equation 2

$$pm = pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}}$$

30.1882 in. Hg.

Equation 3

$$vmstd = \frac{k1\ vm\ y\ (pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}})}{tm}$$

39.6454 ft^3

Equation 4

$$vwstd = \frac{0.04707\ ft^3\ vlc}{ml}$$

2.54178 ft^3

Equation 5

$$bws = \frac{vwstd}{vmstd + vwstd}$$

0.0602501

Equation 6

$$md = \frac{(0.44\ co2 + 0.32\ o2 + 0.28\ n2)\ lb}{lb\text{–}mole}$$

$$\frac{29.704\ lb}{lb\text{–}mole}$$

Equation 7

$$ms = md\ (1 - bws) + \frac{bws\ 18\ lb}{lb\text{–}mole}$$

$$\frac{28.9988\ lb}{lb\text{–}mole}$$

Equation 8

$$vs = kp\ cp\ sqrt\Delta p\ \left(\frac{ts}{ms\ ps}\right)^{0.5}$$

$$\frac{49.7189\ ft}{sec}$$

Equation 9

$$qa = \frac{vs\ as\ 60\ sec}{min}$$

$$\frac{266493.\ ft^3}{min}$$

Equation 10

$$qs = \frac{qa\ (1 - bws)\ 528\ °R\ ps}{ts\ 29.92\ in.\ Hg.}$$

$$\frac{179028.\ ft^3}{min}$$

Equation 11

$$cs = \frac{0.0154 \text{ gr mn}}{\text{mg vmstd}}$$

$$\frac{0.00380675 \text{ gr}}{\text{ft}^3}$$

Equation 12

$$pmr = \frac{cs \; qs \; 60 \text{ min}}{\frac{7000 \text{ gr}}{\text{lb}} \text{ hour}}$$

$$\frac{5.84154 \text{ lb}}{\text{hour}}$$

Equation 13

$$e = \frac{cs \; f \; 20.9 \; 1 \text{ lb}}{(20.9 - o2) \; 7000 \text{ gr}}$$

$$\frac{0.0108362 \text{ lb}}{\text{mm btu}}$$

Equation 14

$$vn = \frac{ts \left(\frac{0.002669 \text{ in. Hg. ft}^3}{ml \; {}^\circ R} \; vlc + \frac{vm \; y \; pm}{tm} \right)}{ps}$$

$$59.0388 \text{ ft}^3$$

Equation 15

$$i = \frac{100\ \%\ vn}{\frac{60\ sec\ theta\ vs\ an}{min}}$$

104.124 %

Equation 16

$$hi = \frac{pmr}{e}$$

$$\frac{539.077\ mm\ btu}{hour}$$

APPENDIX C QUALITY CONTROL

INITIAL
METER CALIBRATION FORM - DGM

DATE: 06-23-95 Box No. S-101

Ref. DGM Ser. # 1044456 Calibrated By EDWARD HARRIS

RUN #	1	2	3	4	5
DELTA H (DGM)	0.50	1.00	1.50	2.00	2.50
Y (Ref. DGM)	0.985	0.985	0.985	0.985	0.985
Reference DGM					
Gas Vol. Initial	806.700	812.800	823.200	830.325	836.536
Gas Vol. Final	812.800	819.680	830.325	836.536	842.767
Meter Box DGM					
Gas Vol. Initial	4.900	10.944	21.200	28.200	34.300
Gas Vol. Final	10.944	17.700	28.200	34.300	40.400
Reference DGM Temp.	Avg.	Avg.	Avg.	Avg.	Avg.
Deg F Initial	86	87	89	89	89
Deg F Final	86	87	89	89	89
Meter Box DGM					
Temp. Initial In	86	87	89	91	92
Temp. Initial Out	85	86	89	91	92
Temp. Final In	86	88	91	92	92
Temp. Final Out	86	88	90	92	92
P Bar IN. Hg	30.10	30.10	30.10	30.10	30.10
Time (sec.)	820	659	555	419	378
Meter Calibration Factor (Y)	1.008	1.016	1.016	1.018	1.021
Qm (C.F.M.)	0.434	0.608	0.745	0.861	0.957
Km (Std Pressure)	0.777	0.769	0.768	0.768	0.764
DELTA Ha	1.45	1.47	1.46	1.46	1.47

Average Y (Meter Calibration Factor	1.016
Average Km (Standard Pressure)	0.769
Average DELTA Ha of Orifice	1.460

Y= ≤ .03
Max & Min ≤ .02 from Avg
Final Avg within 5% of Initial Avg
ΔHa = Max & Min ≤ .2 from Avg

FINAL
METER CALIBRATION FORM - DGM

DATE: 07-17-95 Box No. S-101

Ref. DGM Ser. # 1044453 Calibrated By EDWARD HARRIS

RUN #	1	2	3	
DELTA H (DGM)	1.5	1.5	1.5	
Y (Ref. DGM)	0.995	0.995	0.995	
Reference DGM				
Gas Vol. Initial	24.600	39.645	48.307	
Gas Vol. Final	39.645	48.307	54.642	
Meter Box DGM				
Gas Vol. Initial	88.500	103.200	111.700	
Gas Vol. Final	103.200	111.700	117.900	
Reference DGM Temp.	Avg.	Avg.	Avg.	
Deg F Initial	93	95	95	
Deg F Final	93	95	95	
Meter Box DGM				
Temp. Initial In	93	95	97	
Temp. Initial Out	93	95	97	
Temp. Final In	93	97	97	
Temp. Final Out	93	97	97	
P Bar IN. Hg	30.04	30.04	30.04	
Time (sec.)	1179	681	495	
Meter Calibration Factor (Y)	1.015	1.012	1.017	
Qm (C.F.M.)	0.730	0.725	0.730	
Km (Std Pressure)	0.750	0.743	0.747	
DELTA Ha	1.51	1.52	1.50	

Average Y (Meter Calibration Factor)	1.014
Initial Y (Meter Calibration Factor)	1.016
Percent Error	0.20%
Average Km (Standard Pressure)	0.746
Average DELTA Ha of Orifice	1.51

MAGEHELIC CALIBRATION

BOX	460	2879	S-100	C-133	175	S-318	S-101	S-110
SER. NO.	91127W W137		91126AM 91	9126A M91	R90125 MR6	R74D	R22D	R20208 A617
RANGE	0-2	0-2	0-2	0-2	0-2	0-5	0-2	0-2
REFERENCE READING	FIELD DEVICE READING							
0.000	0.00		0.02	0.00	0.00	0.00	0.00	0.00
0.050								
0.150								
0.200								
0.250								
0.450								
0.50	0.50	0.51	0.50	0.50	0.50	0.49	0.50	0.50
1.00	1.00	1.02	1.00	0.99	1.00	1.01	1.00	1.00
1.30								
1.80	1.77	1.82	1.78	1.78	1.80	1.80	1.80	1.80
2.50								
4.50								
5.0								
9.0								
13.0								
22.0								

SIGNATURE: Edward F. Harris

DATE: 6/23/95

MAGEHELIC CALIBRATION

BOX #1

SER. NO.	10720-AB68	R1061-6AG48	R5031-SEB76	R1062-9JA82	R1051-3MR42	R90124 RI119
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25
REFERENCE READING	FIELD DEVICE READING					
0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.050	0.050					
0.150	0.150	0.140				
0.200	0.200					
0.250		0.250				
0.450		0.450				
0.50			0.51			
1.00			1.00			
1.30				1.30		
1.80			1.80			
2.50				2.49	2.5	
4.50				4.47		
5.0					5.0	5.0
9.0					9.1	
13.0						13.1
22.0						22.0

SIGNATURE: 6 23 95

DATE: Edward J. Hamm

MAGEHELIC CALIBRATION
BOX #2

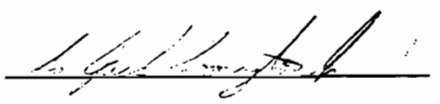
SER. NO.	10819-DR2	R1090-2AG18	R50315-EB93	R1062-9TA87	30830-AM79	R1072-2MC5
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25
REFERENCE READING	FIELD DEVICE READING					
0.000	-0.008	0.000	0.00	0.00	0.0	0.0
0.050	0.055					
0.150	0.160	0.145				
0.200	0.210					
0.250		0.250				
0.450		0.450				
0.50			0.50			
1.00			1.00			
1.30				1.26		
1.80			1.80			
2.50				2.52	2.4	
4.50				4.55		
5.0					4.9	5.0
9.0					9.0	
13.0						12.9
22.0						21.8

SIGNATURE: [signature]

DATE: 6-20-12

MAGEHELIC CALIBRATION
BOX #3

SER. NO.	R10908AG71 MRR1	R0112642	R10608CF20 CF20	
RANGE	0-0.50	0-2.0	0-10	
REFERENCE READING	FIELD DEVICE READING			
0.000	0.00	0.00	0.0	
0.050				
0.150	0.15			
0.200				
0.250	0.245			
0.450	0.450			
0.50		0.50		
1.00		0.99		
1.50				
1.80		1.79	1.9	
2.50				
4.50				
5.0			5.0	
9.0			9.0	
13.0				
22.0				

SIGNATURE: 

DATE:

MAGEHELIC CALIBRATION

BOX #4

SER. NO.	R22D	R90051 6GT21	R90101 5CD102
RANGE	0-0.50	0-5	0-25
REFERENCE READING	FIELD DEVICE READING		
0.000	-0.010	0.00	0.0
0.050			
0.150	0.151		
0.200			
0.250	0.252		
0.450	0.458		
0.50			
1.00			
1.30		1.31	
1.80			
2.50		2.55	
4.50		4.58	
5.0			5.0
9.0			
13.0			13.2
22.0			21.9

SIGNATURE: [signature]

DATE: [illegible]

TEMPERATURE CALIBRATIONS - DEGREES FAHRENHEIT

REFERENCE DEVICE READING*	0 DEG. F	210 DEG.	420 DEG.	630 DEG.	840 DEG.	1050 DEG.	1260 DEG.	1470 DEG.	1680 DEG.	1900 DEG.
2879	0	211	421	630	840	1050	1260	1470	1680	1900
METER BOX #1 C-133 11580	0	210	419	629	840	1052	1267	1479	1687	1893
METER BOX #2 C-175 15962	1	212	417	633	839	1052	1262	1471	1683	1904
METER BOX #4 D-460 15751	0	209	420	631	838	1047	1265	1476	1683	1893
METER BOX #5 S-100 15751	0	208	416	626	841	1059	1276	1489	1696	1905
METER BOX #6 S-101 15751	0	210	420	627	838	1051	1263	1473	1679	1899
PORTABLE THERMOCOUPLE # 1 (Yellow) T105998	1	209	416	625	839	1055	1270	1480	1684	1890
PORTABLE THERMOCOUPLE # 2 (Blue)	1	209	419	625	838	1051	1265	1471	1686	1900
METER BOX #7 S-110 15751	0	212	421	630	842	1053	1264	1477	1683	1905
PINK T140293	0	209	416	630	840	1056	1271	1482	1686	1893

DATE: 6-20-95 **SIGNATURE:** Edward L. Harris

* Reference Device is an Omega Engineering CL505-A calibrated reference thermocouple-potentiometer system.

SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

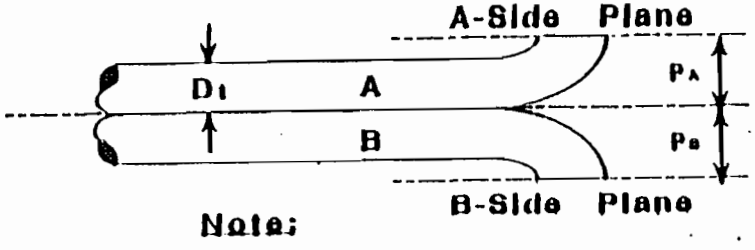
1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

The Pitot used was within the following geometric specifications:

Dt between 0.48 and 0.95 cm (3/16 and 3/8 in.)

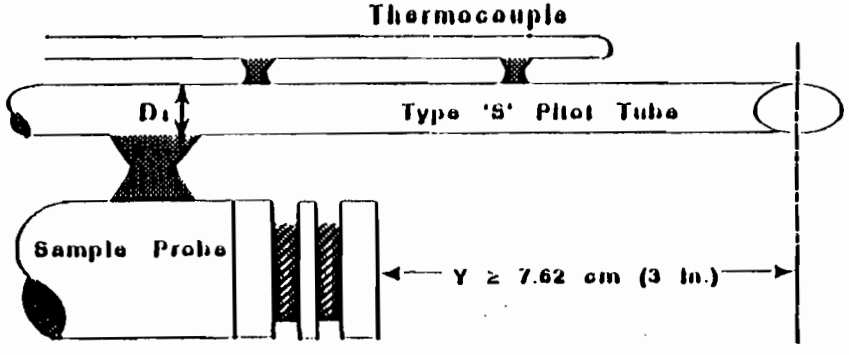
C_p = 0.84



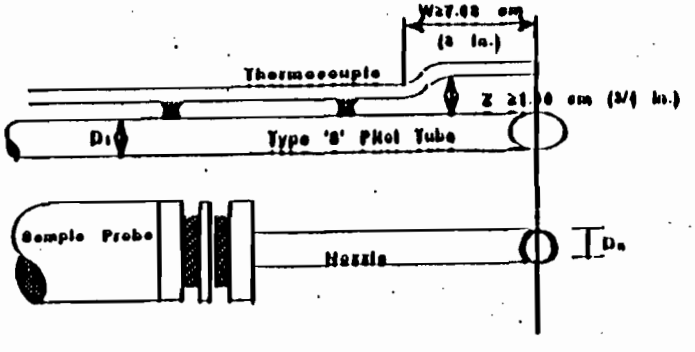
Note:

1.05 $D_t \leq 1.50\ D_t$

$P_A = P_B$



Minimum pitot-sample probe separation needed to prevent interference



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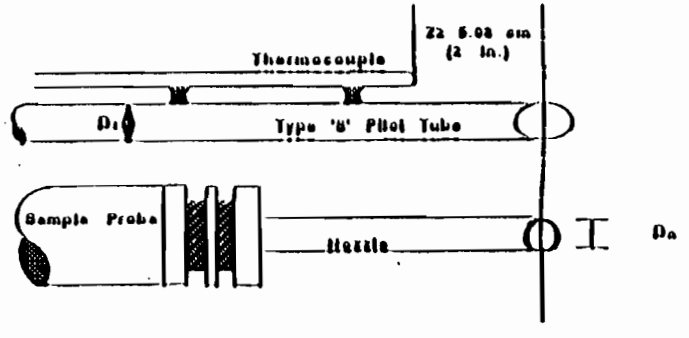

Proper thermocouple placement to prevent interference.

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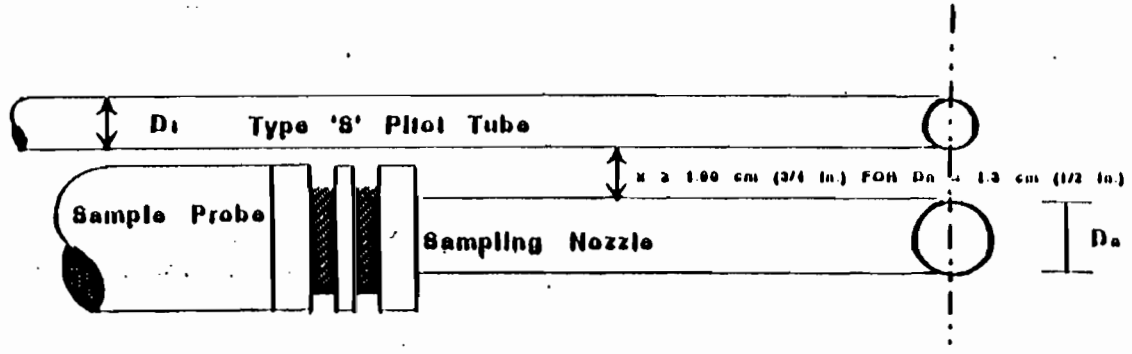
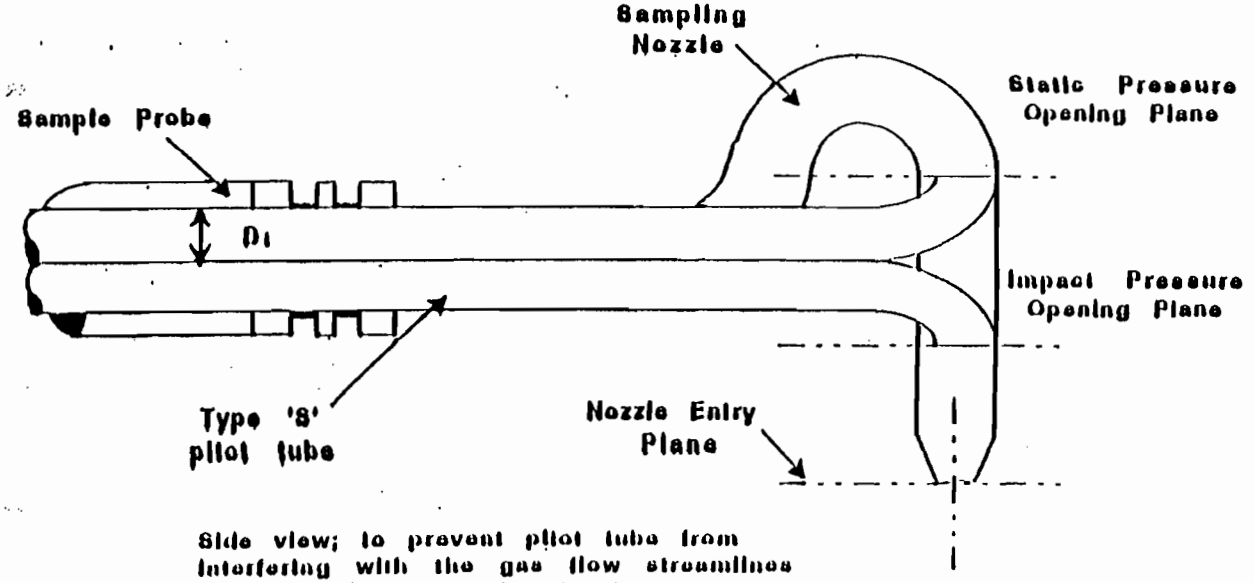
Mobile, AL 36695 FAX#: (205) 633-2285

Proper pitot tube-sampling nozzel configuration to prevent aero-dynamic interference; bottonhook type nozzle; centers of nozzle and pitot opening aligned; Dt between 0.48 and 0.95 cm (3/16 and 3/8 in.)



Bottom view showing minimum pitot/nozzle separation



Side view; to prevent pitot tube from interfering with the gas flow streamlines approaching the nozzle, the impact pressure opening plane of the pitot tube shall be even with or above the nozzle entry plane.

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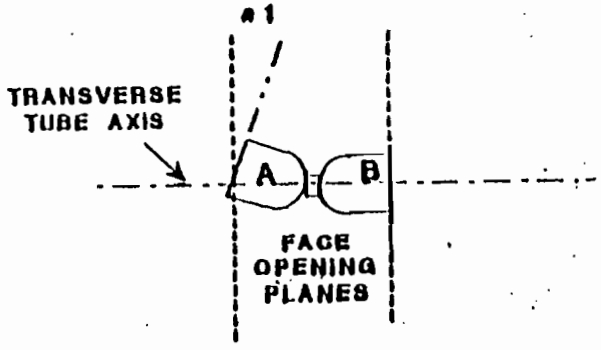
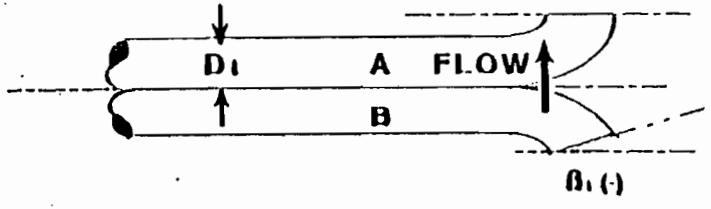
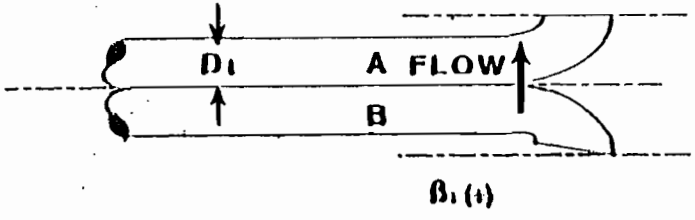
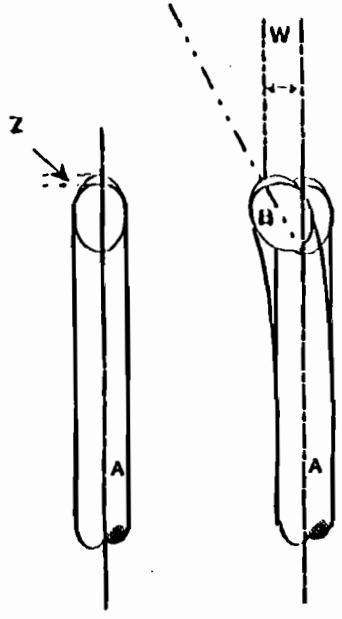
FAX#: (205) 633-2285

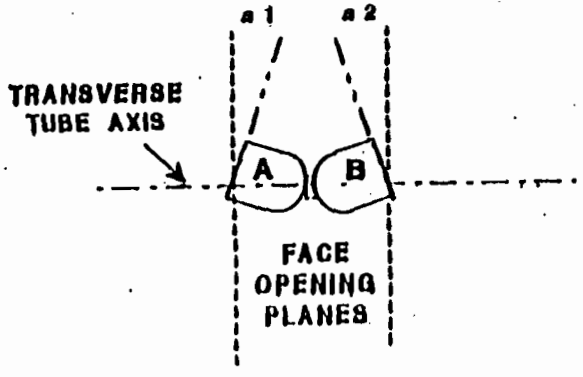
Types of face-opening misalignment that can result from field use or improper construction of type 'S' pitot tubes. These will not affect the baseline value of Cp(s) so long as $\alpha 1$ and $\alpha 2 < 10°$, $\beta 1$ and $\beta 2 < 5°$, $z \leq 0.32$ cm (1/8 in.)

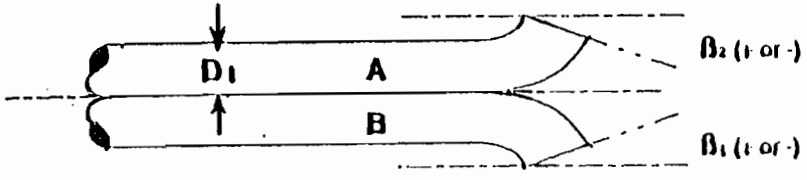












APPENDIX D OPERATIONAL DATA

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST CHRONOLOGY
UNIT # 1
SOOTBLOWING CONDITIONS
July 11, 1995

RUN # 1	START	8:22 a.m.	No problems noted at beginning of run.
	STOP	9:30 a.m.	No problems noted at end of run.
RUN # 2	START	10:00 a.m.	No problems noted at beginning of run.
	STOP	11:05 a.m.	No problems noted at end of run.
RUN # 3	START	11:25 a.m.	No problems noted at beginning of run.
	STOP	12:32 p.m.	No problems noted at end of run.

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT #1
SOOT BLOWING CONDITIONS
July 11, 1995

TIME OF 6 MIN. AVERAGE	OPACITY (%)
(RUN # 1)	(RUN # 1)
7:19 - 7:24	.4
7:25 - 7:30	.4
7:31 - 7:36	.4
7:37 - 7:42	.4
7:43 - 7:48	.4
7:49 - 7:54	.4
7:55 - 8:00	.4
8:01 - 8:06	.4
8:07 - 8:12	.4
8:14 - 8:18	.4
8:19 - 8:24	.4
8:25 - 8:30	.4
(RUN # 2)	(RUN # 2)
8:55 - 9:00	.04
9:01 - 9:06	.05
9:07 - 9:12	.04
9:13 - 9:18	.05
9:19 - 9:24	.04
9:25 - 9:30	.04
9:31 - 9:36	.04
9:37 - 9:42	.04
9:43 - 9:48	.04
9:49 - 9:54	.04
9:55 - 10:00	.04
10:01 - 10:06	.04

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 1
SOOT BLOWING CONDITIONS
July 11, 1995

(RUN # 3)	(RUN # 3)
10:25.- 10:30	.04
10:31.- 10:36	.04
10:37 - 10:42	.04
10:43 - 10:48	.04
10:49 - 10:54	.04
10:55 - 11:00	.04
11:01 - 11:06	.04
11:07 - 11:12	.06
11:14 - 11:18	.04
11:19 - 11:24	.05
11:25 -.11:30	.04
11:31 - 11:36	.04

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1 Run # 2
Date 7/11/95 Start Time 1000
Load 49.2 Soot Blowing Finish Time 1105

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	101	320	.80	
B	84	311	.62	
C	65	300	.45	
D	74	369	.52	
E	81	300	.62	
F	60	279	.42	
Finish A	106	329	.84	
B	84	319	.62	
C	63	300	.42	
D	73	09	.51	
E	51	[illegible]	[illegible]	
F	63	[illegible]	.47	

R800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1 Run # 1
Date 7/11/95 Start Time 0822
Load 79.7 Soot Blowing Finish Time 0930

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	107	329	.81	
B	84	319	.62	
C	65	299	.48	
D	[illegible]	[illegible]	[illegible]	
E	[illegible]	[illegible]	[illegible]	
F	60	[illegible]	[illegible]	
Finish A	[illegible]	[illegible]	[illegible]	
B	[illegible]	[illegible]	[illegible]	
C	[illegible]	[illegible]	[illegible]	
D	[illegible]	[illegible]	[illegible]	
E			[illegible]	
F	[illegible]	[illegible]	[illegible]	

3800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #1
Date 7/11/95
Load 48.7

Soot Blowing

Run # 3
Start Time 1125
Finish Time 1232

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	105	321	.82	
B	84	319	.62	
C	.65	300	.48	
D	[illegible]	[illegible]	[illegible]	
E	[illegible]	[illegible]	[illegible]	
F	60	[illegible]	[illegible]	
Finish A	104	321	.82	
B	84	319	.62	
C	65	[illegible]	[illegible]	
D	73	309	.58	
E	21	300	[illegible]	
F	60	279	.47	

3800706

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

PARTICULATE EMISSIONS TEST REPORT
STEADY STATE OPERATIONS

FOR

GULF POWER COMPANY
Plant Scholz, Unit 2
Sneads, Florida

July 13, 1995

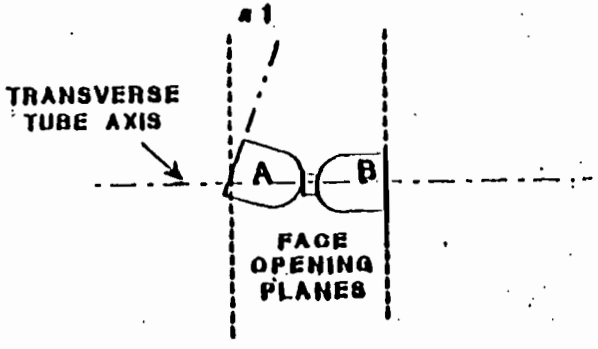
1568 LEROY STEVENS ROAD

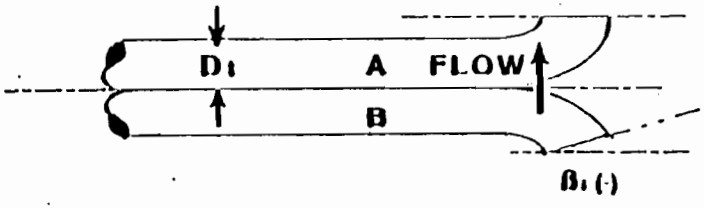
MOBILE, ALABAMA 36695 • 205/633-4120

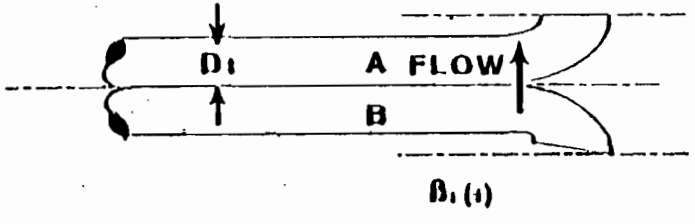
SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

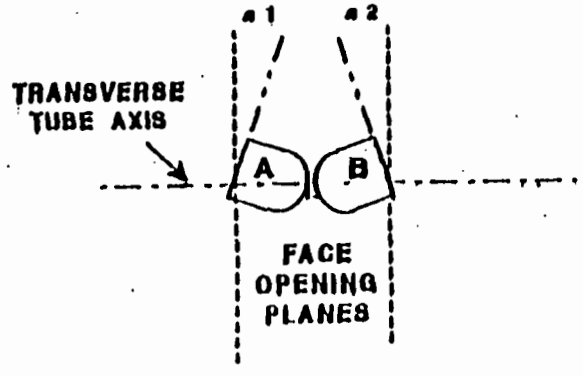
1568 Leroy Stevens Rd. Office: (205) 633-4120
Mobile, AL 36695 FAX#: (205) 633-2285

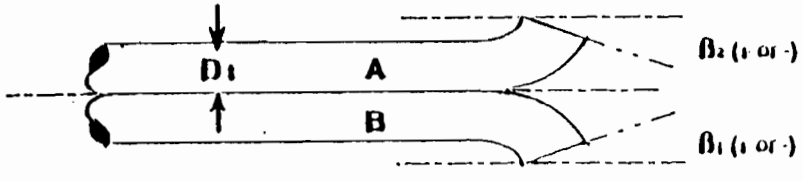
Types of face-opening misalignment that can result from field use or improper construction of type 'S' pitot tubes. These will not affect the baseline value of $C_p(s)$ so long as $\alpha 1$ and $\alpha 2 < 10°$, $\beta 1$ and $\beta 2 < 5°$, $z = 0.32$ cm (1/8 in.)

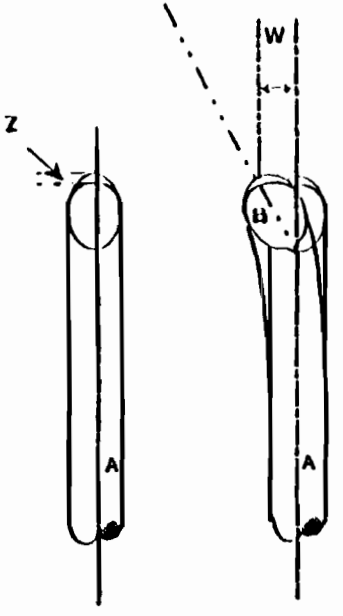












APPENDIX D OPERATIONAL DATA

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST CHRONOLOGY
UNIT # 2
STEADY STATE CONDITIONS
July 14,1995

RUN # 1	START	13:10 p.m.	No problems noted at beginning of run.
	STOP	14:15 p.m.	No problems noted at end of run.
RUN # 2	START	.14:41 p.m.	No problems noted at beginning of run.
	STOP	15:47 p.m.	No problems noted at end of run.
RUN # 3	START	16:08 p.m.	No problems noted at beginning of run.
	STOP	17:13 p.m.	No problems noted at end of run.

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 2
STEADY STATE CONDITIONS
July 14,1995

TIME OF 6 MIN. AVERAGE	OPACITY (%)
(RUN # 1)	(RUN # 1)
12:07 - 12:12	1.6
12:13 - 12:18	1.6
12:19 - 12:24	1.6
12:25 - 12:30	1.6
12:31 - 12:36	1.6
12:37 - 12:42	1.7
12:43 - 12:48	1.6
12:49 - 12:54	1.6
12:55 - 13:00	1.6
13:01 - 13:06	1.6
13:07 - 13:12	1.6
13:13 - 13:18	1.6
(RUN # 2)	(RUN # 2)
13:37 - 13:42	1.8
13:43 - 13:48	1.6
13:49 - 13:54	1.6
13:55 - 14:00	1.6
14:01 - 14:06	1.6
14:07 - 14:12	1.6
14:13 - 14:18	1.6
14:19 - 14:24	1.6
14:25 - 14:30	1.6
14:31 - 14:36	1.6
14:37 - 14:42	1.6
14:43 - 14:48	1.6

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 2
STEADY STATE CONDITIONS
July 14, 1995

(RUN # 3)	(RUN # 3)
15:01 - 15:06	1.6
15:07 - 15:12	1.6
15:13 - 15:18	1.6
15:19- 15:24	1.6
15:25 - 15:30	1.6
15:31 - 15:36	1.6
15:37 - 15:42	1.6
15:43 - 15:48	1.6
15:49 - 15:54	1.6
15:55 - 16:00	1.6
16:01 - 16:06	1.6
16:07 - 16:12	1.6
16:13 - 16:18	1.6

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #2
Date 7/14/95
Load 48.6 Steady State

Run # 1
Start Time 1310
Finish Time 1415

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	97	350	.76	
B	91	351	.74	
C	91	301	.63	
D	77	310	.62	"
E	78	275	.60	
F	37	275	.54	
Finish A	98	350	.76	
B	91	352	.74	
C	91	301	.72	
D	78	310	.62	
E	78	276	.60	
F	37	275	.54	

FD EN 183

3800706

Prec + ID + Coal samples

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit # 2
Date 7/14/95
Load 48.5

Steady State

Run # 2
Start Time 1441
Finish Time 1547

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	98	348	.76	IDFAN START 183
B	91	352	.74	
C	92	351	.73	
D	78	310	.62	"
E	78	276	.60	
F	38	275	.54	
Finish A	98	348	.76	
B	91	251	.72	
C	92	309	.73	
D	77	310	.62	
E	[illegible]	[illegible]	[illegible]	
F	[illegible]	276	[illegible]	ID FAN 184

3800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #2
Date 7/14/95
Load 48.4 Steady State

Run # 3
Start Time 1608
Finish Time 1713

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	98	350	.76	ID FAN 181
B	91	352	.74	
C	91	301	.73	
D	78	310	.62	
E	78	275	.60	
F	.38	276	.55	
Finish A	98	350	.76	
B	91	356	.74	
C	91	301	.73	
D	78	310	.62	
E	78	275	.59	
F	38	276	.54	IDF 183

3800706

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

PARTICULATE EMISSIONS TEST REPORT
SOOT BLOWING OPERATIONS

FOR

GULF POWER COMPANY
Plant Scholz, Unit 2
Sneads, Florida

July 13, 1995

1568 LEROY STEVENS ROAD

MOBILE, ALABAMA 36695 • 205/633-4120

SANDERS ENGINEERING & ANALYTICAL SERVICES, INC.

1568 LEROY STEVENS ROAD MOBILE, ALABAMA 36695 • OFFICE 334 / 633-4120
FAX 334 / 633-2285

ENVIRONMENTAL ENGINEERING
AIR & WATER QUALITY MODELING
ENVIRONMENTAL ASSESSMENTS
PSD ANALYSIS
EMERGENCY RESPONSE MONITORING

AMBIENT AIR MONITORING
CONTINUOUS IN-STACK MONITORING
SOURCE TESTING
VISIBLE EMISSIONS TESTING
CONSULTING SERVICES

REPORT CERTIFICATION

The sampling and analysis for this report was carried out under my direction and supervision.

Date: 7/19/95 Signature: Edward L. Harris

Edward L. Harris
Senior Field Service Engineer

I have reveiwed the testing details and results in this report and hereby certify that the test report is authentic and accurate to the best of my knowledge.

Date: 7-19-95 Signature: Joseph C. Sanders

Joseph C. Sanders
Manager

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ILLUSTRATIONS

1. INTRODUCTION

Sanders Engineering & Analytical Services, Inc. (SEAS) performed a particulate emissions test during soot blowing operations at Gulf Power Company, Plant Scholz, Unit 2, located in Sneads, Florida. The testing was conducted on July 13, 1995. The testing was performed in accordance with the applicable U.S. EPA procedures specified at **40 CFR, Part 60, Appendix A, Methods 1, 2, 3, 4, and 17**.

The purpose of the test was to demonstrate compliance with the rules and regulations of the Florida Department of Environmental Protection, and to meet the necessary requirements contained in the permit to operate issued by the Florida Department of Environmental Protection.

The test was conducted by Mr. Edward Harris and Mr. Dean Holmes of Sanders Engineering & Analytical Services, Inc., and was coordinated with Mr. John McPherson of Gulf Power Company. Mr. Lewis Nichols and Mr. Jim Boylan of the Florida Department of Environmental Protection were also present to observe the testing.

The test was conducted in accordance with the guidelines of the Florida Department of Environmental Protection. Further discussion of the test methods are included later in the report.

2. SUMMARY AND DISCUSSION OF RESULTS

The results of the particulate emissions test for the soot blowing runs, along with the results of the computations, are summarized in Table I. The equations used in the calculations of the results, along with the completed field data sheets for the testing, are presented in Appendix A. The sample calculations of the first run are presented in Appendix B. The quality control checks of the equipment used in the sampling program are included in Appendix C.

There were no problems encountered during the performance of the test. At the completion of each run, the filter and probe were removed to a relatively clean, draft-free area for clean-up.

The results of the testing indicate the particulate emission rate during soot blowing for Plant Scholz, Unit 2, is 0.016 LBS/MMBTU. The applicable Florida Department of Environmental Protection rules and regulations require an emission rate of no greater than 0.30 LBS/MMBTU. The results of the testing indicate that the unit is in compliance with the particulate emission condition of the permit to operate issued by the Florida Department of Environmental Protection.

TABLE I. PARTICULATE EMISSIONS TEST RESULTS

GULF POWER COMPANY

PLANT SCHOLZ, UNIT 2, SOOT BLOWING

7/13/95

Title of Run		RUN 1	RUN 2	RUN 3
Sampling Time -Start	Military	8:04	9:38	11:04
Sampling Time -Stop	Military	9:09	10:44	12:09
F Factor	SDCF/BTU	9820	9820	9820
Static Pressure	In. H2O	0.25	0.25	0.25
Barometric Pressure	In. Hg	30.11	30.11	30.11
Average dH	In. H20	1.2	1.3	1.2
Meter correction		1.016	1.016	1.016
Avg. Meter Temp.	Deg. F	79.7	85.2	88.0
% O2	%	8.4	8.7	8.8
%CO2	%	9.5	9.0	9.5
Volume Metered	ACF	38.568	40.380	39.115
Volume Water	Ml	56.0	77.0	67.0
Sampling Time	Minutes	60	60	60
Nozzle Diameter	Inches	0.241	0.241	0.239
Avg. Stack Temp.	Deg. F	319.3	324.9	326.8
Area of Stack	Sq. Feet	89.3330	89.3330	89.3330
Wt. of Part.	Mg.	17.9	16.9	15.8
Number of Points		30	30	30
Avg. Sqrt dP	In. H20	0.7761	0.8016	0.7932

RESULTS OF COMPUTATIONS

		RUN 1	RUN 2	RUN 3	Average
Volume of Gas Sampled	SDCF	38.679	40.092	38.631	
H2O vapor in Gas Stream	PERCENT	6.4	8.3	7.5	7.4
Avg. Stack Gas Velocity	FT/SEC	52.5	54.7	54.1	53.8
Volumetric Flow Rate	SDCF/M	179,889	182,277	181,088	181,085
Volumetric Flow Rate	ACF/M	281,652	293,404	289,846	288,301
Particulate Conc.	Grs/SDCF	0.007	0.006	0.006	0.007
Particulate Conc.	Grs/ACF	0.005	0.004	0.004	0.004
Particulate Mass Rate	Lb/Hr	11.0	10.1	9.8	10.3
Particulate Mass Rate	Lb/MMBtu F Factor	0.017	0.016	0.015	0.016
Heat Input	MMBTU/Hr	657.37	650.11	640.57	649.35
Percent of Isokinetic	%	101.1	103.4	102.0	

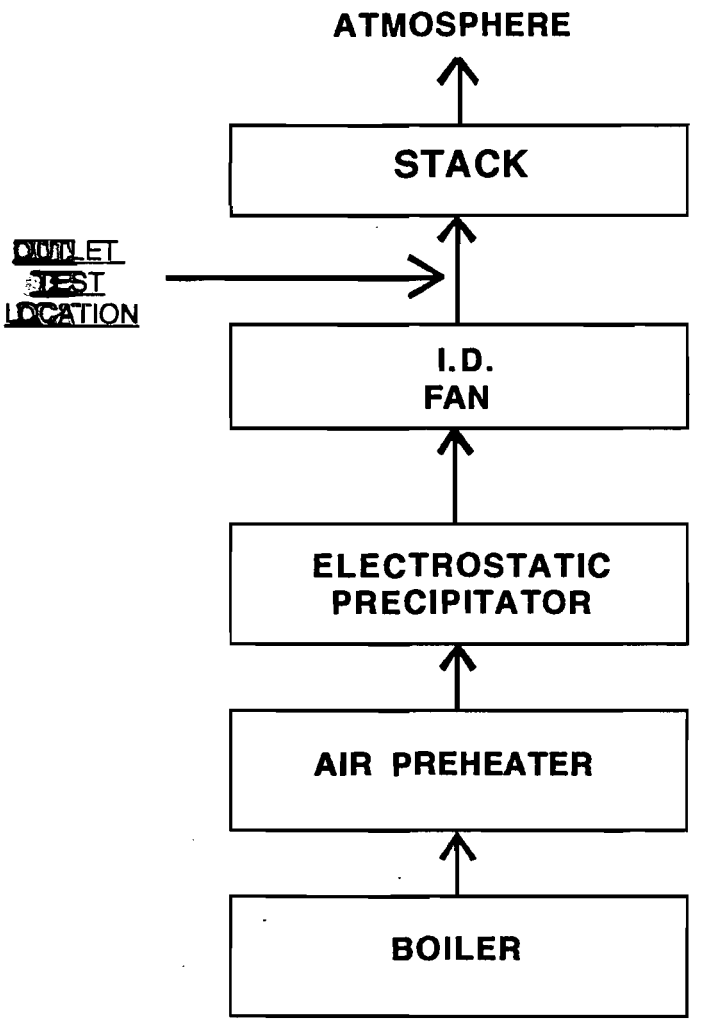
3. PROCESS DESCRIPTION

The process consists of a steam electric generating unit firing bituminous coal for the production of electric energy. The coal is received by barge, and loaded directly onto the conveyor feeding the plant, or onto the stockpile and later loaded onto the conveyor belt transporting the coal to the plant. The coal from the conveyor is loaded into bunkers capable of holding between 36 to 48 hours supply of coal. The coal is then fed to pulverizing mills before being fired in the unit through the burners. Upon combustion of the coal in the fire box, approximately 20 percent of the ash falls to the bottom of the boiler and is removed by the ash removal system. The remaining 80 percent exits with the flue gases through the heat exchange and economizer sections of the furnace, and is collected by electrostatic precipitators.

3.1. Source Air Flow

The air flow schematic which depicts the passage of the flue gases exhausted from Scholz, Unit 2, are presented in Figure 1.

Figure 1. Air Flow Schematic



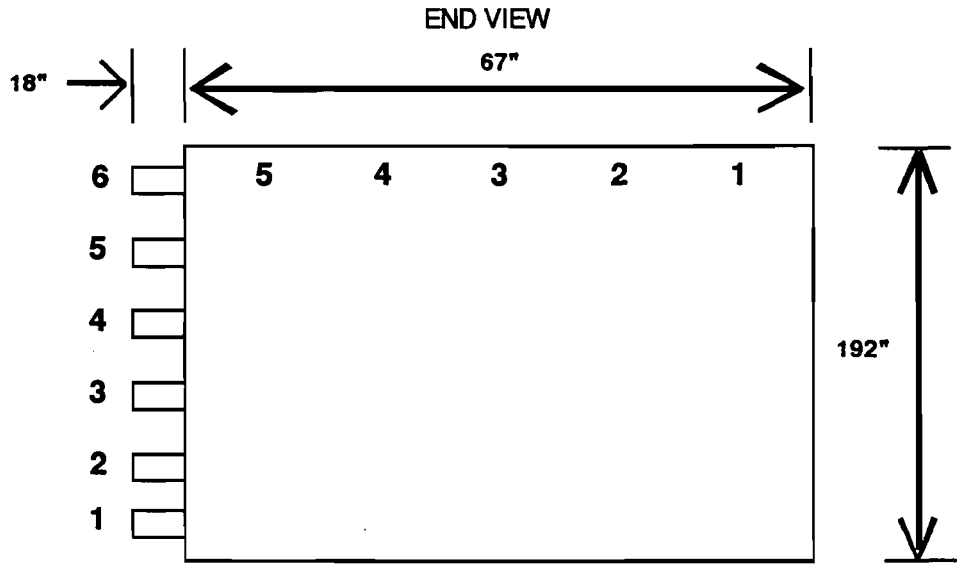
3.2. Operation During Testing

The average heat input during soot blowing operation, as based on F-factor calculations, was 649.35 million BTU per hour resulting in the production of approximately 50 megawatts of electricity. Precipitator data supplied by Gulf Power personnel is given in Appendix D.

4. SAMPLE POINT LOCATION

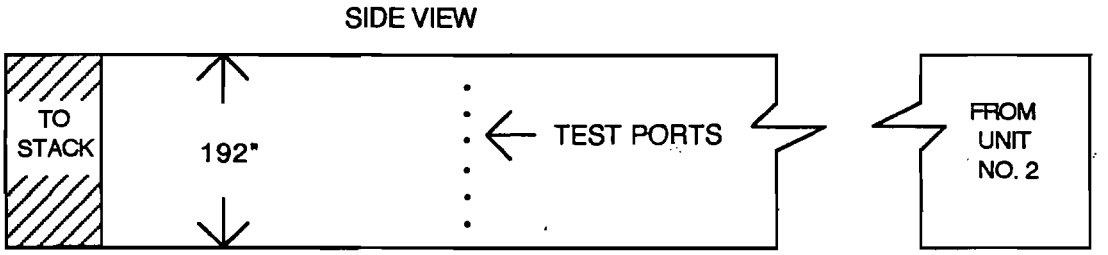
The sample point locations and outlet duct schematic are presented in Figure 2. Method 1 was used for determination of the number and location of sampling points. The minimum number of points (25) required for rectangular stacks was met by sampling a total of 30 points.

Figure 2. Sample Point Locations



Area = 89.333 Ft.^{2}

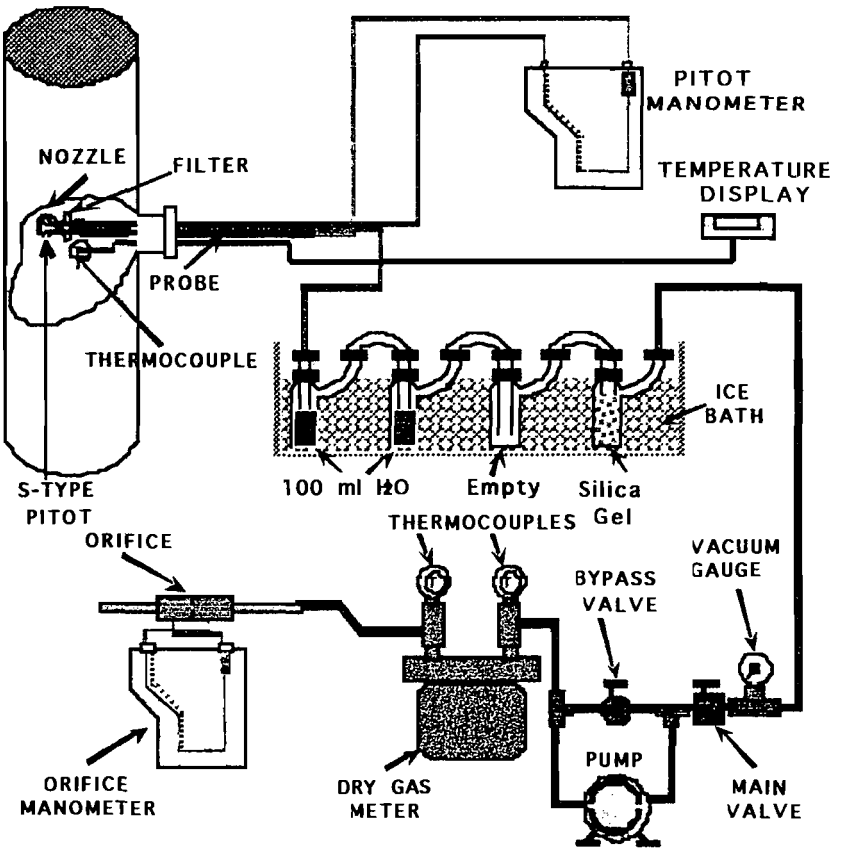
POINT NUMBER	DISTANCE IN INCHES
1	60.3
2	46.9
3	33.5
4	20.1
5	6.7



5. PARTICULATE SAMPLING PROCEDURE (EPA Method 17)

The sampling procedure utilized is that specified in **40 CFR, Part 60, Appendix A, Method 17,** as modified by the governing regulatory agency. A brief description of this procedure is as follows:

Figure 3. Particulate Sampling Train



The first impingers were partially filled with 100 milliliters of deionized water. The next impinger was left empty to act as a moisture trap. Preweighed 6 to 16 mesh indication silica gel was added to the last impinger. The sampling equipment manufactured by Lear Siegler (Model 100) or Sanders Engineering (Model 200) was assembled as shown in the attached drawing. The system was leak checked by plugging the inlet to the nozzle and pulling a 15 inch mercury vacuum. A leakage rate not in excess of 0.02 cubic feet per minute was considered acceptable.

The inside dimensions of the stack liner were measured and recorded. The required number of sampling points were marked on the probe for easy visibility. The range of velocity pressure, the percent moisture, and the temperature of the effluent gases were determined. From this data, the correct nozzle size and the nomograph multiplication factor were determined.

Crushed ice was placed around the impingers. The nozzle was placed on the first traverse point with the tip pointing directly into the gas stream. The pump was started immediately and the flow was adjusted to isokinetic sampling conditions. After the required time interval had elapsed, the probe was repositioned to the next traverse point and isokinetic sampling was re-established. This was performed for each point until the run was completed. Readings were taken at each point and recorded on the field data sheet. At the conclusion of each run, the pump was turned off and the final readings were recorded.

5.1. Particulate Sample Recovery

Care was exercised in moving the collection train to the sample recovery area to minimize the loss of collected sample, or the gain of extraneous particulate matter. The volume of water in the impingers was measured, the silica gel impinger was weighed and recorded on the field data sheet. The nozzle, and all sample-exposed surfaces were washed with reagent grade acetone into a clean sample container. A brush was used to loosen any adhering particulate matter and subsequent washings were placed into the container. The filter was carefully removed from the fritted support and placed in a clean separate sample container. A sample of the acetone used in the washing was saved for a blank laboratory analysis.

5.2. Particulate Analytical Procedures

The filter and any loose particulate matter were transferred from the sample container to a clean, tared weighing dish. The filter was placed in a desiccator for at least 24 hours and then weighed to the nearest 0.1 milligram until a constant weight was obtained. The original weight of the filter was deducted, and the weight gain was recorded to the nearest 0.1 milligram.

The wash solution was transferred to a clean, tared beaker. The solution was evaporated to dryness, desiccated to a constant weight, and the weight gain was recorded to the nearest 0.1 milligram.

APPENDIX A EQUATIONS AND FIELD DATA SHEETS

EQUATIONS

1. $$P_s = P_{bar} + \frac{P_g}{13.6}$$

2. $$P_m = P_{bar} + \frac{\overline{\Delta H}}{13.6}$$

3. $$V_s = K_p C_p \sqrt{\overline{\Delta P}} \sqrt{\frac{\overline{T_s}}{M_s P_s}}$$

4. $$V_{m(Std)} = K_1 V_m Y \left[\frac{p_{bar} + \frac{\overline{\Delta H}}{13.6}}{\overline{T_m}} \right]$$

5. $$V_{w(Std)} = 0.04707\, V_{lc}$$

6. $$B_{ws} = \frac{V_{w(Std)}}{V_{m(Std)} + V_{w(Std)}}$$

7. $$M_d = 0.44\,(\%CO_2) + 0.32\,(\%O_2) + 0.28\,(\%N_2 + \%CO)$$

8. $$M_s = M_d(1 - B_{ws}) + 18\,(B_{ws})$$

9. $$EA = \left[\frac{(\%O_2 - 0.5\,(\%CO))}{0.264\,(\%N_2) - ((\%O_2) - 0.5\,(\%CO))} \right] 100$$

10. $Q_a = (V_s)\ (A_s)\ (60)$

11. $$Q_s = Q_a\ (1-B_{ws})\ \frac{(528)}{\overline{T_s}}\ \frac{(P_s)}{29.92}$$

12. $$E_H = \left(\frac{PMR}{H_l}\right)$$

13. $$E = C_d\ F_{O_2}\ \left(\frac{20.9}{20.9 - \%O_2}\right)$$

14. $$C_s = 0.0154\ \frac{M_n}{V_{m(Std)}}$$

15. $$C_{50} = \frac{21\ C_s}{21 - [(1.5)\ (\%O_2) - 0.133\ (N_2) - 0.75\ (\%CO)]}$$

16. $$C_{12} = \frac{C_s\ (12)}{\%CO_2}$$

17. $$PMR = (C_s)\ (Q_s)\ \frac{(60)}{7000}$$

18. $$V_n = \left[\ (0.002669)\ (V_{lc}) + \frac{V_m Y}{\overline{T_m}}\left(P_{bar} + \frac{\overline{\Delta H}}{13.6}\right)\right]\ \frac{\overline{T_s}}{P_s}$$

19. $$I = \frac{100\ V_n}{(60)\ \emptyset\ V_s\ A_n}$$

NOMENCLATURE

A_n = Cross-sectional area of nozzel, ft^2

A_s = Cross sectional area of stack, ft^2

B_{ws} = Wator vapor in the gas stream, proportion by volume (dimensionless)

C_p = Pitot tube coefficient (dimensionless) (0.84)

C_s = Particulate concentration, grains/SDCF

C_d = Particulate concentration, lbs/SDCF

C_{12} = Particulate concentration (C_s adjusted to 12% CO) grains/SDCF

C_{50} = Particulate concentration (C_s adjusted to 50% excess air) grains/SDCF

EA = Excess air, %

E = Emission in lb/mmBTU

E_H = Emission in lb/mmBTU, based on heat input

H_I = Total Heat Input, Million BTU per Hour (MMBTU/hr)

I = Percent of isokinetic sampling

K_1 = 17.64 °R/ inches Hg

K_p = Pitot tube constant,

$$85.49 \text{ ft/sec} \left[\frac{(\text{lb/lb-mole})\ (\text{in. Hg})}{(°\text{R})\ (\text{inc. } H_2O)} \right]^{\frac{1}{2}}$$

M_n = Total amount of particulate collected, mg

M_d = Molecular weight of stack gas; dry basis, lb/lb mole

M_s = Molecular weight of stack gas; wet basis, lb/lb mole

P_{bar} = Barometric pressure at the sampling site, in. Hg

NOMENCLATURE (continued)

P_m = Meter pressure, in. Hg

P_s = Absolute stack pressure, in. Hg

P_g = Stack static pressure, in. H_2O

PMR = Particulate mass rate, lb/Hr

Q_a = Volumetric flow rate ACFM

Q_s = Volumetric flow rate SDCFM

V_s = Average stack gas velocity, ft/sec

V_{lc} = Total volume of liquid collected in impingers & silica gel, ml

V_m = Volume of gas sample as measured by dry gas meter, ACF

$V_{m(std)}$ = Volume of gas sample measured by dry gas meter, corrected to standard conditions, SDCF

$V_{w(std)}$ = Volume of water vapor in gas sample, corrected to standard conditions, SCF

V_n = Volume collected at stack conditions through nozzle, ACF

Y = Dry gas meter calibration factor (dimensionless)

ΔH = Average pressure difference of orifice, in. H_2O

ΔP = Velocity head of stack gas, in. H_2O

$\overline{\sqrt{\Delta P}}$ = Average of square roots of the velocity pressure, in. H_2O

Ø = Total sampling time, minutes

$\%CO_2$, $\%O_2$, N_2, %CO - Number % by volume, dry basis, from gas analysis

F_{O_2} = Oxygen based F factor (9820 SDCF/mmBTU for bituminous coal)

T_s = Temperature of the stack, °R (° F + 460)

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FIELD DATA SHEET

COMPANY GPCO DATE 7-13-95 DGM# S-101

PLANT Scholz OPERATOR ELH ΔH@ .75

UNIT #2 Boiler Soot Blow METHOD 17 PROBE N/A (liner) 8' (length)

	RUN 1	RUN 2	RUN 3
NOZZLE CALIBRATION PRE	.241, .241, .241, .241	.241, .241, .240, .241	.239, .239, .239, .239
NOZZLE CALIBRATION POST	.241, .241, .241, .241	.241, .240, .241, .240	.239, .239, .239, .239
FILTER NUMBER	1246	1247	1248
METER READING (final)	746.168	787.980	828.615
METER READING (initial)	707.600	747.600	789.500
METER READING (net)	38.568	40.380	39.115
LEAK CHECK SYSTEM Pre	15	15	15
LEAK CHECK SYSTEM Post	12	12	13
LEAK CHECK PITOT Pre			
LEAK CHECK PITOT Post			
LEAK CHECK SYSTEM Pre (cfm)	0.000	0.001	0.000
LEAK CHECK SYSTEM Post (cfm)	0.000	0.002	0.005
VOLUME OF LIQUID WATER COLLECTED IMP. 1	142	154	160
VOLUME OF LIQUID WATER COLLECTED IMP. 2	100	100	100
VOLUME OF LIQUID WATER COLLECTED IMP. 3	0	0	0
VOLUME OF LIQUID WATER COLLECTED IMP. 4	1364.0	1442.0	1454.0
VOLUME OF LIQUID WATER COLLECTED (final)	100	100	100
VOLUME OF LIQUID WATER COLLECTED (final)	100	100	100
VOLUME OF LIQUID WATER COLLECTED (final)	0	0	0
VOLUME OF LIQUID WATER COLLECTED (final)	1350.0	1424.0	1447.0
VOLUME OF LIQUID WATER COLLECTED (net)	42	54	60
VOLUME OF LIQUID WATER COLLECTED (net)	0	0	0
VOLUME OF LIQUID WATER COLLECTED (net)	0	0	0
VOLUME OF LIQUID WATER COLLECTED (net)	14.0	23.0	7.0
VOLUME OF LIQUID WATER COLLECTED TOTAL	56.0	77.0	67.0
GAS ANALYSIS O_2	8.4 %	8.7 %	8.8 %
GAS ANALYSIS CO_2	9.5 %	9.0 %	9.5 %
GAS ANALYSIS CO	-	-	-
STATIC	+.25	+.25	+.25
BAROMETRIC	30.11	30.11	30.11

SANDERS ENGINEERING & ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

PORT # / POINT #	TIME	GAS METER VOLUME (cu.ft.)	VEL. HEAD ΔP In. H_2O	ORIFICE HEAD ΔH In. H_2O	TEMPERATURE °F STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. In. Hg
1- 1	8:04	707.600	1.10	2.04	319	N/A	N/A	47	77	77	6
2	:06	709.300	.81	1.50	320			✓	77	77	5
3	:08	710.700	.52	.96	320			✓	77	77	3
4	:10	712.000	.85	1.57	320			✓	78	77	4
5	:12	713.500	.90	1.66	300			✓	78	77	4.5
2- 6	8:14	715.030	1.20	2.21	320			✓	78	78	6
2	:16	716.800	1.0	1.84	321			✓	78	78	6
3	:18	718.400	.76	1.40	321			✓	78	78	5
4	:20	719.800	1.0	1.84	320			✓	78	78	5.5
5	:22	721.500	1.35	2.49	317			✓	79	78	7
3- 1	8:26	723.380	1.10	2.03	320			58	79	79	6
2	:28	725.100	.56	1.03	320			✓	79	79	3.5
3	:30	726.300	.45	.83	320			✓	79	79	3
4	:32	727.450	.40	.73	320			✓	79	79	2.5
5	:34	728.600	.62	1.14	320			✓	80	79	3.5
4- 1	8:37	729.850	1.0	1.85	320			60	80	79	6
2	:39	731.400	.77	1.42	322			✓	80	79	5
3	:41	732.950	.50	.92	321			✓	80	80	3.5
4	:43	734.200	.45	.83	321			✓	80	80	3.5
5	:45	735.250	.52	.96	317			✓	80	80	5.5
5- 1	8:48	736.400	.63	1.17	320			✓	81	80	3.5
2	:50	737.700	.51	.94	321			60	81	81	3.5
3	:52	738.850	.30	.55	321			✓	82	81	2.5
4	:54	739.800	.30	.55	321			✓	82	81	2.5

"✓" INDICATES TEMPERATURES MEET REQUIRED LIMITS

+ or - 28 248°	+ or - 28 248°	less than 68°

COMPANY GPCO

OPERATER ELH

PLANT Scholz S.B.

DATE 7-13-95

UNIT #2

RUN# 1

PAGE 2 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
5 - 5	8:56	740.800	.32	.59	319	N/A	N/A	61	82	82	2.5
6 - 1	:59	741.700	.45	.83	320			✓	82	82	3
2	:01	742.800	.27	.50	320			✓	82	82	2.5
3	:03	743.800	.25	.46	320			✓	83	82	2.5
4	:05	744.650	.24	.44	320			✓	83	82	2.5
5	:07	745.500	.16	.29	319			✓	83	83	2
Final	9:09	746.168									
			.7761		319.3						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-13-95

SITE Scholz S.B. Unit 2 RUN # 2 PAGE 3 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
6 - 1	9:38	747.600	.45	.83	322	N/A	N/A	56	83	83	2
2	:40	748.700	.25	.46	322			✓	83	83	2
3	:42	749.600	.24	.44	322			✓	83	83	2
4	:44	750.600	.24	.44	322			✓	84	84	2
5	:46	751.300	.17	.31	322			✓	84	84	1.5
5 - 1	:49	752.100	.69	1.28	322			56	84	84	3
2	:51	753.400	.53	.99	325			✓	84	84	3
3	:53	754.600	.34	.63	325			✓	84	84	2.5
4	:55	755.800	.30	.55	324			✓	84	84	2
5	:57	756.800	.35	.65	321			✓	84	84	2.5
4 - 1	10:00	757.640	.95	1.77	327			✓	85	84	5
2	:02	759.250	.71	1.32	327			✓	85	85	5
3	:04	760.600	.50	.93	327			✓	85	85	4
4	:06	761.900	.50	.93	325			✓	85	85	4
5	:08	763.000	.55	1.02	323			✓	85	85	4
3 - 1	10:12	764.350	1.05	1.95	323			✓	86	85	6
2	:14	766.180	.70	1.30	327			✓	86	85	5
3	:16	767.500	.50	.93	326			✓	86	86	4
4	:18	768.700	.50	.93	326			✓	86	86	4
5	:20	769.900	.68	1.27	326			✓	86	86	4
2 - 1	:23	771.260	1.40	2.61	326			✓	86	86	8
2	:25	773.200	1.0	1.87	328			✓	86	86	6.5
3	:27	774.900	.95	1.77	327			✓	86	86	6.5
4	:29	776.500	1.10	2.05	327			✓	86	86	6.5

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-13-95

SITE Scholz #2 S.B. RUN # 2 PAGE 4 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
2-5	10:31	778.200	1.45	2.71	320	N/A	N/A	54	87	87	8.5
1-1	:34	780.180	1.25	2.33	326			✓	87	87	7
2	:36	782.000	.85	1.59	328			✓	87	87	5.5
3	:38	783.400	.90	1.68	328			✓	87	87	5.5
4	:40	785.100	.75	1.40	327			✓	87	87	5.5
5	:42	786.500	.75	1.40	325			✓	87	87	5.5
final	10:44	787.980									
			.8016		324.9°F						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-13-95

SITE Scholz #2 S.B. RUN # 2 PAGE 5 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	VAC. in. H_g
1 - 1	11:04	789.500	1.25	2.25	328	N/A	N/A	52	87	87	7
2	:06	791.400	.93	1.67	329			✓	87	87	6
3	:08	793.000	.70	1.26	329			✓	87	87	5
4	:10	794.300	.82	1.47	329			✓	87	87	5
5	:12	795.800	.85	1.53	327			✓	87	87	5
2 - 1	11:15	797.390	1.50	2.70	327			52	87	87	8.5
2	:17	799.250	.99	1.78	329			✓	87	87	6.5
3	:19	800.900	.92	1.65	328			✓	87	87	6
4	:21	802.400	1.09	1.96	328			✓	87	87	6
5	:23	804.100	1.30	2.30	324			✓	87	87	7
3 - 1	11:26	805.880	1.20	2.16	326			✓	88	88	6
2	:28	807.600	.69	1.24	328			✓	88	88	5
3	:30	809.000	.53	.95	329			✓	88	88	5
4	:32	810.200	.52	.93	328			✓	88	88	4
5	:34	811.400	.65	1.17	328			✓	88	88	4.5
4 - 1	11:37	812.740	1.0	1.80	328			✓	88	88	6
2	:39	814.300	.55	.99	328			✓	88	88	4
3	:41	815.700	.46	.82	328			✓	88	88	4
4	:43	816.800	.32	.57	327			✓	89	88	3
5	:45	817.700	.55	.99	325			✓	89	88	4
5 - 1	11:49	818.865	.75	1.35	327			✓	89	89	5
2	:51	820.200	.52	.94	326			✓	89	89	4.5
3	:53	821.450	.33	.59	326			✓	89	89	3.5
4	:55	822.350	.30	.54	325			✓	89	89	3

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-13-95

SITE Scholz #2 S.B. RUN # 3 PAGE 6 OF 7

PORT # / POINT #	TIME	GAS METER VOL. (cu.ft.)	VEL. HEAD ΔP in.H_2O	ORIFICE HEAD ΔH in. H_2O	TEMPERATURE °F						VAC. in. H_g
					STACK	PROBE	HOT BOX	IMP.	GAS METER IN	GAS METER OUT	
S-S	:57	823.300	.29	.52	322	N/A	N/A	53	89	89	3
6-1	11:59	824.250	.40	.72	326			✓	89	89	3
2	12:01	825.200	.29	.52	326			✓	89	89	3
3	:03	826.200	.25	.45	324			✓	89	89	3
4	:05	827.100	.17	.30	324			✓	86	89	2.5
5	:07	827.800	.20	.36	324			✓	89	89	2.5
Final	12:09	828.615									
			.7732		326.8						

CHECK INDICATES TEMPERATURES MEET REQUIRED LIMITS.

COMPANY GPCO DATE 7-13-95

SITE Scholz #2 S.B. RUN # 3 PAGE 7 OF 7

LABORATORY ANALYSIS & CHAIN OF CUSTODY

COMPANY/PLANT: GPCO / Scholz

UNIT #: #2 Soot Blow DATE OF TEST: 7-13-95 TYPE OF TEST: ☐ M-5 ☒ M-17 ☐ OTHER ______

SAMPLE #	RELINQUISHED BY	RECEIVED BY	TIME	DATE	REASON FOR CHANGE
1246 & Wash	EAH	EAH	10:43	7-17-95	Analysis
1247 & Wash					
1248 & Wash					

UNIT # 2 Soot Blow

RUN # 1	FILTER # 1246	BEAKER # 28 WASH (ML) 30
FINAL WEIGHT	135.2mg	67789.4mg
INITIAL WEIGHT	121.4mg	67785.3mg
DIFFERENCE	13.8	4.1
CORRECTED TOTAL WEIGHT		17.9
RUN # 2	FILTER # 1247	BEAKER # 44 WASH (ML) 30
FINAL WEIGHT	139.4mg	66934.3mg
INITIAL WEIGHT	124.4mg	66932.4mg
DIFFERENCE	15.0	1.9
CORRECTED TOTAL WEIGHT		16.9
RUN # 3	FILTER # 1248	BEAKER # 45 WASH (ML) 30
FINAL WEIGHT	139.8mg	67590.2mg
INITIAL WEIGHT	125.2mg	67589.0mg
DIFFERENCE	14.6	1.2
CORRECTED TOTAL WEIGHT		15.8
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		

UNIT # ______

RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		
RUN # ____	FILTER # ____	BEAKER # ____ WASH (ML) ____
FINAL WEIGHT		
INITIAL WEIGHT		
DIFFERENCE		
CORRECTED TOTAL WEIGHT		

WASH SOLVENT BLANK (ML)	100	BEAKER # 36 WASH (ML) 100
FINAL WEIGHT		67940.3
INITIAL WEIGHT		67940.3
DIFFERENCE		0.0
CORRECTION FACTOR (MG/ML)		0.0

ALL WEIGHTS ARE IN MILLIGRAMS (MG)

APPENDIX B SAMPLE CALCULATIONS

Input and Constants

$$f := \frac{9820\ ft^3}{mm\ btu}$$

$pg := 0.25\ in.\ H2O$

$pbar := 30.11\ in.\ Hg.$

$\Delta havg := 1.2\ in.\ H2O$

$y := 1.016$

$tm := 79.7\ °F$

$o2 := 8.4$

$co2 := 9.5$

$vm := 38.568\ ft^3$

$vlc := 56.\ ml$

$theta := 60\ min$

$nozdia := 0.241\ in.$

$ts := 319.3\ °F$

$as := 89.333\ ft^2$

$mn := 17.9\ mg$

$numberofpoints := 30$

$$sqrt\Delta p := 0.7761\ in.\ H2O^{0.5}$$

$$kp := \frac{85.49\ 1\ ft\ 1\ \left(\frac{lb\ in.\ Hg.}{lb\text{-}mole\ °R\ in.\ H2O}\right)^{0.5}}{1\ sec}$$

$cp := 0.84$

$$k1 := \frac{17.64\ °R}{in.\ Hg.}$$

$$ts = \frac{(ts + 460\ °F)\ °R}{°F}$$

779.3 °R

$$tm = \frac{(tm + 460\ °F)\ °R}{°F}$$

539.7 °R

n2 = 100 - o2 - co2

82.1

$$an = \frac{\frac{nozdia^2}{12\ in.^2}\ 3.1416}{4\ (------)}$$
$$ft$$

$$0.000316783\ ft^2$$

Calculations

Equation 1

$$ps = pbar + \frac{pg}{\frac{13.6\ in.\ H2O}{1\ in.\ Hg.}}$$

30.1284 in. Hg.

Equation 2

$$pm = pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}}$$

30.1982 in. Hg.

Equation 3

$$vmstd = \frac{k1\ vm\ y\ (pbar + \frac{\Delta havg}{\frac{13.6\ in.\ H2O}{in.\ Hg.}})}{tm}$$

38.6766 ft^3

Equation 4

$$vwstd = \frac{0.04707\ ft^3\ vlc}{ml}$$

2.63592 ft^3

Equation 5

$$bws = \frac{vwstd}{vmstd + vwstd}$$

0.0638044

Equation 6

$$md = \frac{(0.44\ co2 + 0.32\ o2 + 0.28\ n2)\ lb}{lb\text{–}mole}$$

$$\frac{29.856\ lb}{lb\text{–}mole}$$

Equation 7

$$ms = md\ (1 - bws) + \frac{bws\ 18\ lb}{lb\text{–}mole}$$

$$\frac{29.0995\ lb}{lb\text{–}mole}$$

Equation 8

$$vs = kp\ cp\ sqrt\Delta p\ \left(\frac{ts}{ms\ ps}\right)^{0.5}$$

$$\frac{52.5453\ ft}{sec}$$

Equation 9

$$qa = \frac{vs\ as\ 60\ sec}{min}$$

$$\frac{281642.\ ft^3}{min}$$

Equation 10

$$qs = \frac{qa\ (1 - bws)\ 528\ °R\ ps}{ts\ 29.92\ in.\ Hg.}$$

$$\frac{179890.\ ft^3}{min}$$

Equation 11

$$cs = \frac{0.0154 \text{ gr mn}}{\text{mg vmstd}}$$

$$\frac{0.0071273 \text{ gr}}{\text{ft}^3}$$

Equation 12

$$pmr = \frac{cs \; qs \; 60 \text{ min}}{\text{hour} \; \frac{7000 \text{ gr}}{\text{lb}}}$$

$$\frac{10.9897 \text{ lb}}{\text{hour}}$$

Equation 13

$$e = \frac{cs \; f \; 20.9 \; 1 \text{ lb}}{(20.9 - o2) \; 7000 \text{ gr}}$$

$$\frac{0.0167176 \text{ lb}}{\text{mm btu}}$$

Equation 14

$$vn = \frac{ts \left(\frac{0.002669 \text{ in. Hg. ft}^3 \; vlc}{ml \; °R} + \frac{vm \; y \; pm}{tm} \right)}{ps}$$

$$60.5785 \text{ ft}^3$$

Equation 15

$$i = \frac{100\ \%\ vn}{60\ sec\ theta\ vs\ an} \quad \text{min}$$

101.093 %

Equation 16

$$hi = \frac{pmr}{e}$$

$$657.371\ \frac{mm\ btu}{hour}$$

APPENDIX C QUALITY CONTROL

INITIAL
METER CALIBRATION FORM - DGM

DATE: 06-23-95 Box No. S-101

Ref. DGM Ser. # 1044456 Calibrated By EDWARD HARRIS

RUN #	1	2	3	4	5
DELTA H (DGM)	0.50	1.00	1.50	2.00	2.50
Y (Ref. DGM)	0.985	0.985	0.985	0.985	0.985
Reference DGM					
Gas Vol. Initial	806.700	812.800	823.200	830.325	836.536
Gas Vol. Final	812.800	819.680	830.325	836.536	842.767
Meter Box DGM					
Gas Vol. Initial	4.900	10.944	21.200	28.200	34.300
Gas Vol. Final	10.944	17.700	28.200	34.300	40.400
Reference DGM Temp.	Avg.	Avg.	Avg.	Avg.	Avg.
Deg F Initial	86	87	89	89	89
Deg F Final	86	87	89	89	89
Meter Box DGM					
Temp. Initial In	86	87	89	91	92
Temp. Initial Out	85	86	89	91	92
Temp. Final In	86	88	91	92	92
Temp. Final Out	86	88	90	92	92
P Bar IN. Hg	30.10	30.10	30.10	30.10	30.10
Time (sec.)	820	659	555	419	378
Meter Calibration Factor (Y)	1.008	1.016	1.016	1.018	1.021
Qm (C.F.M.)	0.434	0.608	0.745	0.861	0.957
Km (Std Pressure)	0.777	0.769	0.768	0.768	0.764
DELTA Ha	1.45	1.47	1.46	1.46	1.47

Average Y (Meter Calibration Factor	1.016
Average Km (Standard Pressure)	0.769
Average DELTA Ha of Orifice	1.460

Y= ≤ .03
Max & Min ≤ .02 from Avg
Final Avg within 5% of Initial Avg
ΔHa = Max & Min ≤ .2 from Avg

FINAL
METER CALIBRATION FORM - DGM

DATE: 07-17-95 Box No. S-101

Ref. DGM Ser. # 1044453 Calibrated By EDWARD HARRIS

RUN #	1	2	3	
DELTA H (DGM)	1.5	1.5	1.5	
Y (Ref. DGM)	0.995	0.995	0.995	
Reference DGM				
Gas Vol. Initial	24.600	39.645	48.307	
Gas Vol. Final	39.645	48.307	54.642	
Meter Box DGM				
Gas Vol. Initial	88.500	103.200	111.700	
Gas Vol. Final	103.200	111.700	117.900	
Reference DGM				
Temp.	Avg.	Avg.	Avg.	
Deg F Initial	93	95	95	
Deg F Final	93	95	95	
Meter Box DGM				
Temp. Initial In	93	95	97	
Temp. Initial Out	93	95	97	
Temp. Final In	93	97	97	
Temp. Final Out	93	97	97	
P Bar IN. Hg	30.04	30.04	30.04	
Time (sec.)	1179	681	495	
Meter Calibration Factor (Y)	1.015	1.012	1.017	
Qm (C.F.M.)	0.730	0.725	0.730	
Km (Std Pressure)	0.750	0.743	0.747	
DELTA Ha	1.51	1.52	1.50	

Average Y (Meter Calibration Factor)	1.014
Initial Y (Meter Calibration Factor)	1.016
Percent Error	0.20%
Average Km (Standard Pressure)	0.746
Average DELTA Ha of Orifice	1.51

MAGEHELIC CALIBRATION

BOX	460	2879	S-100	C-133	175	S-318	S-101	S-110
SER. NO.	91127W W137		91126AM 91	9126A M91	R90125 MR6	R74D	R22D	R20208 A617
RANGE	0-2	0-2	0-2	0-2	0-2	0-5	0-2	0-2
REFERENCE READING	FIELD DEVICE READING							
0.000	0.00		0.02	0.00	0.00	0.00	0.00	0.00
0.050								
0.150								
0.200								
0.250								
0.450								
0.50	0.50	0.51	0.50	0.50	0.50	0.49	0.50	0.50
1.00	1.00	1.02	1.00	0.99	1.00	1.01	1.00	1.00
1.30								
1.80	1.77	1.82	1.78	1.78	1.80	1.80	1.80	1.80
2.50								
4.50								
5.0								
9.0								
13.0								
22.0								

SIGNATURE: Edward F. Harris

DATE: 6/23/95

MAGEHELIC CALIBRATION
BOX #1

SER. NO.	10720-AB68	R1061-6AG48	R5031-SEB76	R1062-9JA82	R1051-3MR42	R90124 RI119	
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25	
REFERENCE READING	FIELD DEVICE READING						
0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0.050	0.050						
0.150	0.150	0.140					
0.200	0.200						
0.250		0.250					
0.450		0.450					
0.50			0.51				
1.00			1.00				
1.30				1.30			
1.80			1.80				
2.50				2.49	2.5		
4.50				4.47			
5.0					5.0	5.0	
9.0					9.1		
13.0						13.1	
22.0						22.0	

SIGNATURE: [illegible]

DATE: [illegible]

MAGEHELIC CALIBRATION

BOX #2

SER. NO.	10819-DR2	R1090-2AG18	R50315-EB93	R1062-9TA87	30830-AM79	R1072-2MC5
RANGE	0-0.25	0-0.50	0-2	0-5	0-10	0-25
REFERENCE READING	FIELD DEVICE READING					
0.000	-0.008	0.000	0.00	0.00	0.0	0.0
0.050	0.055					
0.150	0.160	0.145				
0.200	0.210					
0.250		0.250				
0.450		0.450				
0.50			0.50			
1.00			1.00			
1.30				1.26		
1.80			1.80			
2.50				2.52	2.4	
4.50				4.55		
5.0					4.9	5.0
9.0					9.0	
13.0						12.9
22.0						21.8

SIGNATURE: [signature]

DATE: 6-28-12

MAGEHELIC CALIBRATION

BOX #3

SER. NO.	R10908AG71 MRR1	R0112642	R10608CF20 CF20
RANGE	0-0.50	0-2.0	0-10
REFERENCE READING	FIELD DEVICE READING		
0.000	0.00	0.00	0.0
0.050			
0.150	0.15		
0.200			
0.250	0.245		
0.450	0.450		
0.50		0.50	
1.00		0.99	
1.50			
1.80		1.79	1.9
2.50			
4.50			
5.0			5.0
9.0			9.0
13.0			
22.0			

SIGNATURE:

DATE:

MAGEHELIC CALIBRATION

BOX #4

SER. NO.	R22D	R90051 6GT21	R90101 5CD102
RANGE	0-0.50	0-5	0-25
REFERENCE READING	FIELD DEVICE READING		
0.000	-0.010	0.00	0.0
0.050			
0.150	0.151		
0.200			
0.250	0.252		
0.450	0.458		
0.50			
1.00			
1.30		1.31	
1.80			
2.50		2.55	
4.50		4.58	
5.0			5.0
9.0			
13.0			13.2
22.0			21.9

SIGNATURE: _____

DATE: 5-30-95

TEMPERATURE CALIBRATIONS - DEGREES FAHRENHEIT

REFERENCE DEVICE READING*	0 DEG. F	210 DEG.	420 DEG.	630 DEG.	840 DEG.	1050 DEG.	1260 DEG.	1470 DEG.	1680 DEG.	1900 DEG.
2879	0	211	421	630	840	1050	1260	1470	1680	1900
METER BOX #1 C-133 11580	0	210	419	629	840	1052	1267	1479	1687	1893
METER BOX #2 C-175 15962	1	212	417	633	839	1052	1262	1471	1683	1904
METER BOX #4 D-460 15751	0	209	420	631	838	1047	1265	1476	1683	1893
METER BOX #5 S-100 15751	0	208	416	626	841	1059	1276	1489	1696	1905
METER BOX #6 S-101 15751	0	210	420	627	838	1051	1263	1473	1679	1899
PORTABLE THERMOCOUPLE # 1 (Yellow) T105998	1	209	416	625	839	1055	1270	1480	1684	1890
PORTABLE THERMOCOUPLE # 2 (Blue)	1	209	419	625	838	1051	1265	1471	1686	1900
METER BOX #7 S-110 15751	0	212	421	630	842	1053	1264	1477	1683	1905
PINK T140293	0	209	416	630	840	1056	1271	1482	1686	1893

DATE: 6-20-95 **SIGNATURE:** Edward L. Harris

* Reference Device is an Omega Engineering CL505-A calibrated reference thermocouple-potentiometer system.

SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

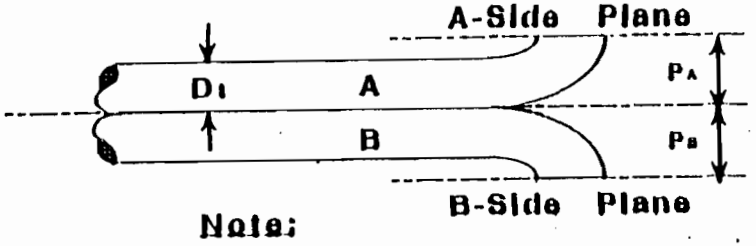
1568 Leroy Stevens Rd.
Mobile, AL 36695

Office: (205) 633-4120
FAX#: (205) 633-2285

The Pitot used was within the following geometric specifications:

D_t between 0.48 and 0.95 cm (3/16 and 3/8 in.)

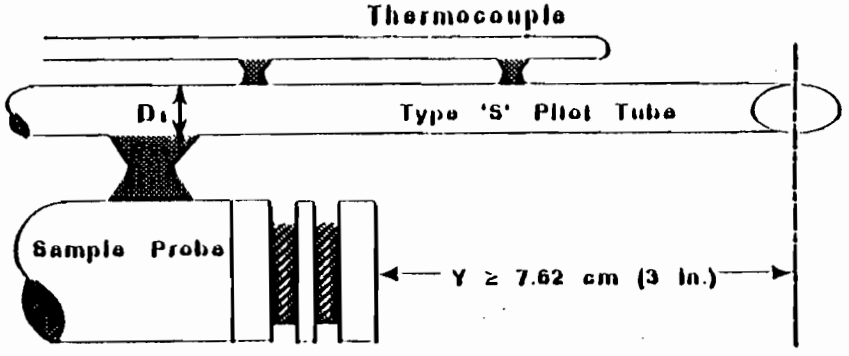
$C_p = 0.84$



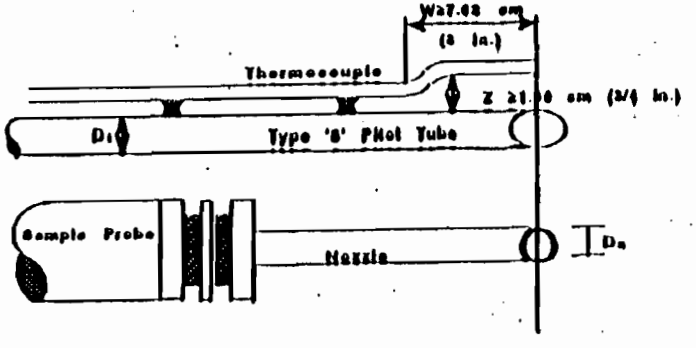
Note:

$1.05 \cdot D_t \leq 1.50 \cdot D_t$

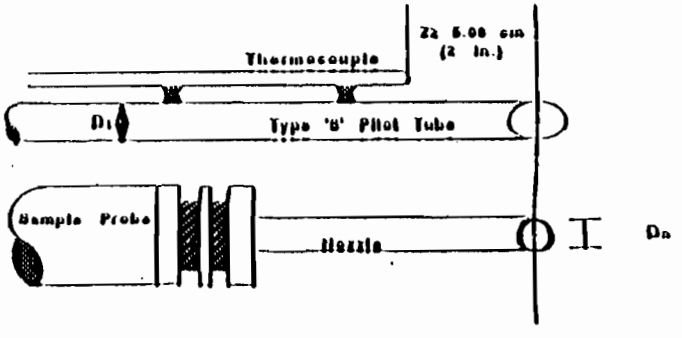
$P_A = P_B$



Minimum pitot-sample probe separation needed to prevent interference



OR

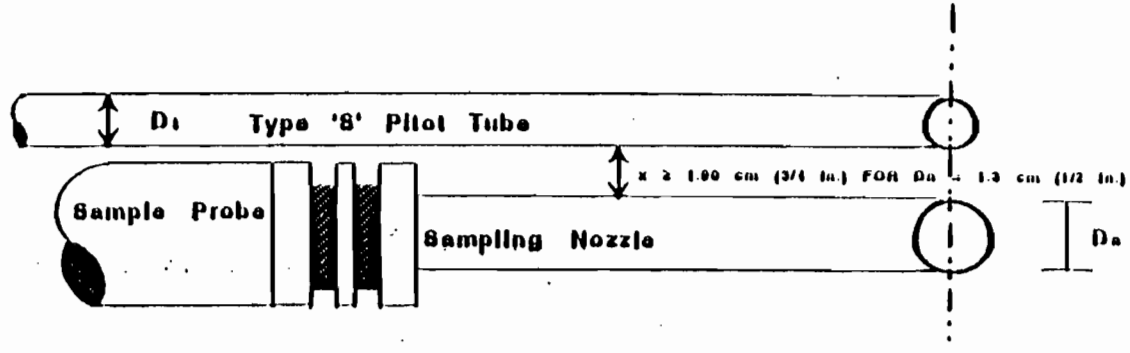


Proper thermocouple placement to prevent interference.

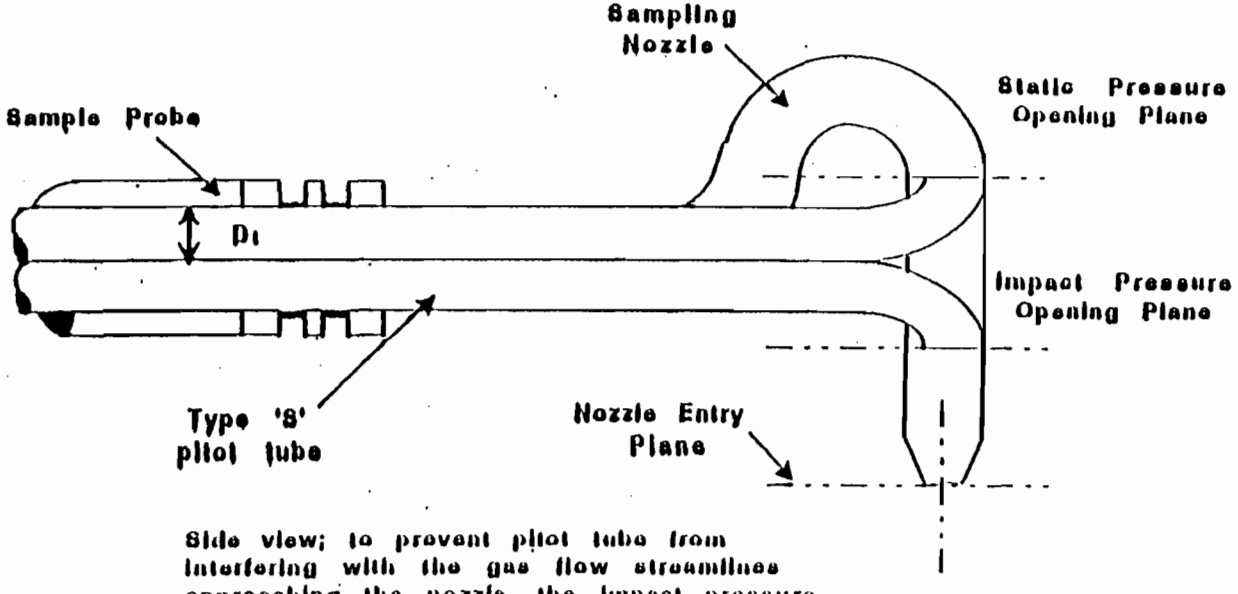
SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

1568 Leroy Stevens Rd. Office: (205) 633-4120
Mobile, AL 36695 FAX#: (205) 633-2286

Proper pitot tube-sampling nozzel configuration to prevent aero-dynamic interference; bottonhook type nozzle; centers of nozzle and pitot opening aligned; Dt between 0.48 and 0.95 cm (3/16 and 3/8 in.)



Bottom view showing minimum pitot/nozzle separation

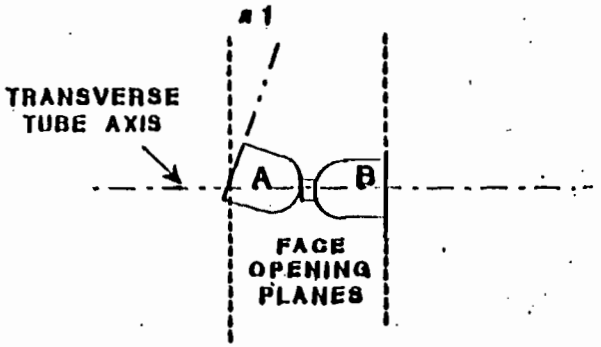


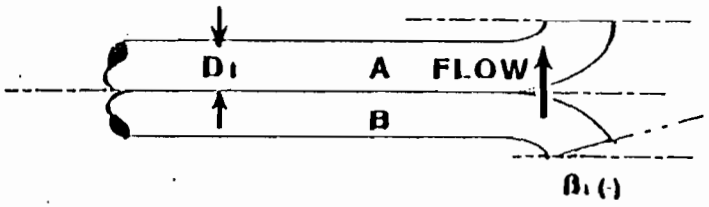
Side view; to prevent pitot tube from interfering with the gas flow streamlines approaching the nozzle, the impact pressure opening plane of the pitot tube shall be even with or above the nozzle entry plane.

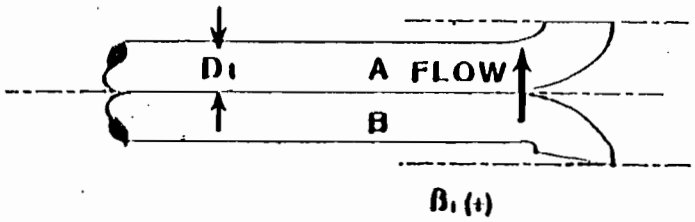
SANDERS ENGINEERING &
ANALYTICAL SERVICES, Inc.

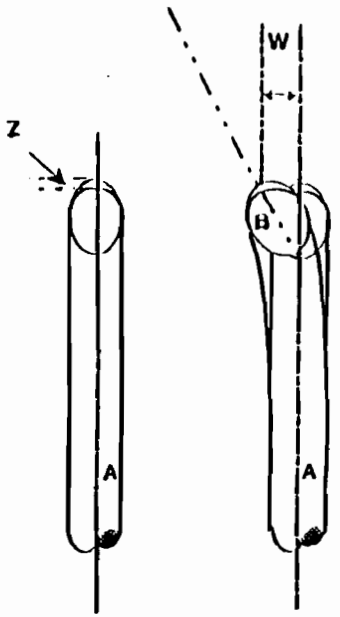
1568 Leroy Stevens Rd. Office: (205) 633-4120
Mobile, AL 36695 FAX#; (205) 633-2285

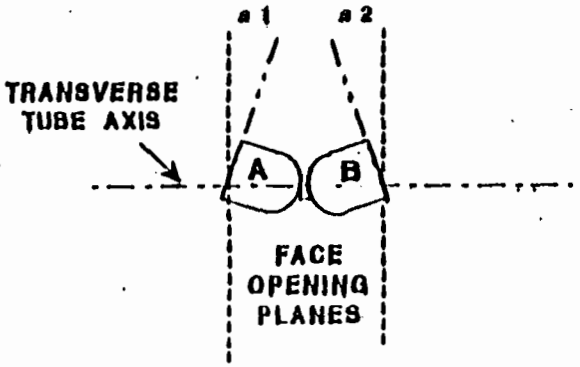
Types of face-opening misalignment that can result from field use or improper construction of type 'S' pitot tubes. These will not affect the baseline value of Cp(s) so long as $\alpha 1$ and $\alpha 2 < 10°$, $\beta 1$ and $\beta 2 < 5°$, $\leq$ 0.32 cm (1/8 in.)

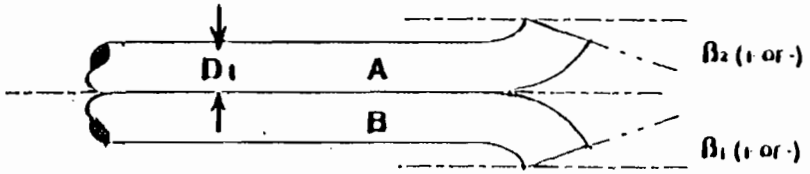












APPENDIX D OPERATIONAL DATA

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST CHRONOLOGY
UNIT # 2
SOOTBLOWING CONDITIONS
July 13, 1995

RUN # 1	START	8:04 a.m.	No problems noted at beginning of run.
	STOP	9:09 a.m.	No problems noted at end of run.
RUN # 2	START	9:38 a.m.	No problems noted at beginning of run.
	STOP	10:44 a.m.	No problems noted at end of run.
RUN # 3	START	11:04 p.m.	No problems noted at beginning of run.
	STOP	12:09 p.m.	No problems noted at end of run.

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT #2
SOOT BLOWING CONDITIONS
July 13, 1995

TIME OF 6 MIN. AVERAGE	OPACITY (%)
(RUN # 1)	(RUN # 1)
7:01 - 7:06	1.6
7:07 - 7:12	1.7
7:13 - 7:18	1.6
7:19 - 7:24	1.6
7:25 - 7:30	1.6
7:31 - 7:36	1.6
7:37 - 7:42	1.6
7:43 - 7:48	1.6
7:49 - 7:54	1.6
7:55 - 8:00	1.6
8:01 - 8:06	1.6
8:07 - 8:12	1.6
(RUN # 2)	(RUN # 2)
8:37 - 8:42	1.6
8:43 - 8:48	1.6
8:49 - 8:54	1.6
8:55 - 9:00	1.6
9:01 - 9:06	1.6
9:07 - 9:12	1.7
9:13 - 9:18	1.6
9:19 - 9:24	1.6
9:25 - 9:30	1.6
9:31 - 9:36	1.6
9:37 - 9:42	1.6
9:43 - 9:48	1.6

SCHOLZ ELECTRIC GENERATING PLANT
PARTICULATE COMPLIANCE TEST
SIX - MINUTE OPACITY AVERAGES
UNIT # 2
SOOT BLOWING CONDITIONS
July 13, 1995

(RUN # 3)	(RUN # 3)
10:01 - 10:06	1.6
10:07 - 10:12	1.6
10:13 - 10:18	1.6
10:19 - 10:24	1.6
10:25 - 10:30	1.6
10:31 -.10:36	1.6
10:37 - 10:42	1.6
10:43 - 10:48	1.6
10:49 - 10:54	1.6
10:55 - 11:00	1.6
11:01 - 11:06	1.6
11:07 - 11:12	1.6

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #2
Date 7/13/95
Load 48.7

Soot Blowing

Run # 3
Start Time 1104
Finish Time 1209

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	97	350	.76	
B	91	350	.74	
C	91	300	.72	
D	77	316	.62	
E	79	275	.60	
F	57	260	.52	
Finish A	97	345	.78	
B	90	351	.74	
C	91	301	.73	
D	78	316	.64	
E	79	312	.66	
F	57	240	.52	

3800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit # 2 Run # 2
Date 7/13/95 Start Time 0938
Load 48.2 Soot Blowing Finish Time 1044

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	96	340	.76	
B	90	350	.74	
C	.91	301	.72	
D	76	309	.61	
E	79	279	.60	
F	32	260	.34	
Finish A	96	310	.72	
B	90	351	.72	
C	91	301	.72	
D	77	310	.61	
E	-	-	-	
F	-	-	-	

800706

SCHOLZ ELECTRIC GENERATING PLANT

Precipitator Readings

Unit #2
Date 7/13/95
Load 48.7

Soot Blowing

Run # 1
Start Time 0804
Finish Time 0909

Precipitator Cabinet	Primary AMPS	Primary Volts	Secondary AMPS	Secondary Voltage
Start A	97	340	.76	
B	90	350	.74	
C	91	301	.73	
D	77	309	.62	
E	79	279	.60	
F	58	260	.55	
Finish A	96	341	.76	
B	90	350	.74	
C	91	300	.72	
D	77	309	.62	
E			.45	
F				

3800706

EUS-6

Plant Scholz Startup Procedures

The steam generators at Plant Scholz are non-reheat, balanced draft, front wall fired boilers, manufactured by Babcock and Wilcox . The primary fuel for normal operations is coal . Distillate #2 fuel oil is used to light off the coal burners and to stabilize the flame. The start-up procedures for Unit 1 and Unit 2 are basically the same and is follows:

Prior to startup, it is insured that all personal and foreign materials are out of the boiler and ductwork before the access and observation doors are closed and secured, including the induced draft (ID) fan and the forced draft (FD) fan and pulverizers. The boiler valves are checked to be in the startup position. The ID fan is started and a negative draft of approximately .25 inches of water is established. The forced draft fan is then started, and a total air flow equal to or greater than 25% of the total full load air flow is maintained through the boiler. After five minute purge, the pulverizer seal air fan and scanner cooling fan are started. After the air flow has stabilized, the first oil gun is lighted using distillate oil. Upon stable combustion, the first pulverizer is brought into service by bringing approximately .8 inches of air through the pulverizer. The coal feeder is started with a minimum coal flow and increased gradually until establishing the firing rate for minimum load. After about four hours of operation, enough steam temperature and pressure is obtained in the boiler to roll and warm the turbine. This process continues for at least 1 1/2 hours until the unit is tied "on-line" which refers to the transmission of electrical power to the switchyard for power distribution. During the process of raising the boiler pressure, the air heater outlet gas temperature is increased. When this temperature reaches approximately 200 degrees F, the "Buell" cold-side precipitators can safely be placed in service. This process takes six to twelve hours from the time when a fire is established in the boiler but is dictated directly by ambient temperature, fuel quality, the number of equipment malfunctions encountered during startup, and the turbine warm-up conditions. After the unit is on-line, the firing rate is increased by placing more burners in service until the minimum electrical output on the generator is met. Startup operations are complete when the plant laboratoryman checks the quality of the boiler water and its ancillary equipment and processes and releases the unit for full boiler pressure and generator load.

Shutdown Procedures

Shutdown operations can be separated into two categories: emergency shutdown or normal shutdown. An emergency shutdown occurs when a piece of equipment fails or an electrical fault occurs within the system and causes the unit to trip off-line. At this point, all of the fuel is immediately taken out of the boiler. The unit is stabilized; and depending on what was at fault, the unit is either left down or the malfunction is corrected and the unit is brought back on line. A normal controlled shutdown is usually due to load demands within the Southern System and how the units are dispatched. When a unit is requested to shutdown by the Southern Company Central Dispatch Office, the fuel is slowly restricted to the boiler while the steam pressure is allowed to drop. When all of the fuel has been removed from the boiler, the ID and FD fans are left running to cool the boiler. When the temperature drops to approximately 100 to 125 degrees, the fans are shut down, and the precipitator is taken out of service.

An emergency shutdown typically takes from a half hour to several hours, depending on the nature of the emergency and whether the unit is placed back "on-line" after correcting the equipment malfunction. A typical normal shutdown takes approximately ten to twelve hours to cool down the boiler and shut down the fans and precipitator. This depends on the ambient temperature and the number of equipment malfunctions encountered during shutdown.

EUS-10

ALTERNATIVE METHODS OF OPERATION
SCHOLZ UNIT 1

1. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**

2. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**

3. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.**

4. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of #2 oil.**

5. **Unit is operated under normal conditions utilizing subituminous coal as the primary fuel.**

6. **Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**

ALTERNATIVE METHODS OF OPERATION
SCHOLZ UNIT 2

1. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**

2. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**

3. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.**

4. **Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of #2 oil.**

5. **Unit is operated under normal conditions utilizing subituminous coal as the primary fuel.**

6. **Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**

EUS-12

received
4/20/92

Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997
County: Jackson
Latitude/Longitude: 30°40'08"N/84°53'13"W
Section/Township/Range: 12/3N/7W
Project: Scholz Units No. 1 and No. 2
Coal Fired Boilers

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operation of Scholz Units No. 1 and No. 2, both coal fired boilers, generating 50 megawatts of electricity for each unit. Particulate emissions from each Unit are controlled by an electrostatic precipitator manufactured by Buell Model BAL 2X38L-44-2P. Sulfur dioxide emissions are controlled by the sulfur content of the coal used as fuel. Sulfur dioxide, nitrogen dioxide, oxygen and opacity are monitored by continuous emission monitors on each Unit.

Located at the south end of State Road 271, 2.2 miles south of U.S. 90, three miles southeast of Sneads, west bank of Apalachicola River.

Specific Condition No. 7 requires logging excess emissions.
Specific Condition No. 8 requires keeping a maintenance log.
Specific Condition No. 9 requires submitting quarterly excess emissions reports.
Specific Condition No. 11 requires annual particulate emissions tests due before the end of September.
Specific Condition No. 12 requires maintenance of a QC program.
Specific Condition No. 14 requires reporting of excess emissions as soon as possible.
Specific Condition No. 15 requires actions taken upon particulate test failures.
Specific Condition No. 18 requires submittal of permit renewal application by February 1, 1997.

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997

SPECIFIC CONDITIONS:

1. The attached General Conditions are part of this permit.

2. The maximum allowable heat inputs are those heat inputs necessary to maintain electrical load output at 110% of the level at which the most recent successful particulate emissions compliance test was conducted for each unit. If the test was conducted at less than 90% of rated capacity of the unit, permittee may operate the unit at loads up to the rated capacity (50 megawatts for each unit) for purposes of preparation for testing for up to ten calendar days. The Department shall be advised in writing prior to each testing.

3. Particulate emissions shall not exceed 0.1 pounds per million Btu heat input.

4. Sulfur dioxide emissions shall not exceed 6.17 pounds per million Btu heat input.

5. Visible emissions shall not exceed 40% opacity.

6. Excess emissions are defined as:

   A. Any six-minute average for opacity which exceeds the standard.
   B. Any 24-hour average for sulfur dioxide which exceeds the standard.

7. A log shall be maintained showing the:

   A. Duration of excess visible emissions and their causes.
   B. Duration of excess SO_2 emissions.

8. A maintenance log of the continuous monitoring system shall be kept showing:

   A. Time out of service.
   B. Calibrations and adjustments.

9. A quarterly report of excess emissions shall be submitted within 30 days following the end of each calendar quarter. The report shall consist of each individual exceedance of opacity or SO_2 emissions (Specific Conditions 6 and 7) with duration, magnitude and cause. Any exceedance that is beyond the allowances of FAC Rule 17-2.250 shall be highlighted with note indicating compliance with Specific Condition 14 below.

10. Units 1 and 2 use a common stack. Visible emission violations from this stack shall be attributed to both Units unless opacity meter results show the specific Unit causing the violation.

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997

SPECIFIC CONDITIONS:

11. Particulate emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with EPA methods 1, 2, 3 and 17. Such tests shall be conducted once per year before the end of September. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

12. Continuous SO_2 emission monitoring 24-hour averages are required to demonstrate compliance with the standard of the Department (Specific Condition 4). A valid 24-hour average shall consist of no less than 18 hours of valid data capture per calendar day. In the event that valid data capture is not available, the permittee shall initiate as-fired fuel sampling to demonstrate compliance with the SO_2 emission standard. The as-fired fuel sampling shall be initiated no later than 36 hours after the permittee has verified the problem or no later than 36 hours after the end of the affected calendar day. Fuel sampling shall continue until such time as the valid data capture is restored. In lieu of as-fired fuel sampling the permittee may elect to demonstrate SO_2 emission compliance by the temporary use of a spare SO_2 emission monitor. The spare SO_2 emissions monitor must be installed and collecting data in the same time frame as required above for as-fired fuel sampling.

Maintain a QC program. As a minimum the QC program must include written procedures which should describe in detail complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS.
2. CD determination and adjustment of CEMS.
3. Preventative maintenance of CEMS (including spare parts inventory).
4. Data recording, calculations and reporting.
5. Accuracy audit procedures including sampling and analysis methods.
6. Program of corrective action for malfunctioning CEMS.

13. Excess emissions as stated in Florida Administrative Code Rule 17-2.250 shall be allowed.

14. The Department shall be notified as soon as possible (by telephone) of excess emissions that are beyond the allowances of FAC Rule 17-2.250, such as:

A. Any soot blowing or load changes that cause excess visible emissions for a period longer than three hours, or that exceed 60% opacity (six minute average) more than four times in any one day.

B. Any malfunction that causes visible emissions for a period longer than two hour in any one day.

C. A 24-hour average of SO_2 emissions measured by the continuous monitor that exceeds the standard, or daily average SO_2 emissions measured by coal analysis (in the event the permittee chooses) that exceeds the standard.

Immediately upon notification of excess emissions that are beyond the allowances, the permittee shall take the necessary steps to determine the cause and arrange a meeting with the Department within 72 hours to discuss a settlement of the violation with corrective action to avoid recurrence.

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
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Expiration Date: April 1, 1997

SPECIFIC CONDITIONS:

15. Immediately upon notification of a particulate test report that fails to demonstrate compliance with the particulate emission limit of 0.1 pounds per million Btu heat input, the permittee shall take necessary steps to determine the cause of the test failure and arrange a meeting with the Department within 72 hours to discuss a settlement of the violation and a schedule for retesting when the cause of the test failure has been determined and corrected.

16. An annual operation report (DER Form 17-1.202(6) attached) shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

17. An application to renew this permit shall be submitted prior to February 1, 1997.

18. The permanent source identification numbers for these point sources are:
10PCY32001401 Scholz Unit No. 1, and
10PCY32001402 Scholz Unit No. 2.
Please cite the appropriate number on all test reports and other correspondence specific to a permitted point source.

19. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 436-8300, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 488-1320. For routine business, telephone (904) 872-4375 during normal working hours.

Expiration date:

April 1, 1997

Issued this 17th day of April, 1992.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

ROBERT V. KRIEGEL
District Director

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of this permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. A description of and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:

Gulf Power Company

I.D. Number: 10PCY32001401 and 02
Permit/Certification Number: AO32-211311
Date of Issue: April 17, 1992

Expiration Date: April 1, 1997

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurement;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 19___ prior to March 1st of the following year.

I GENERAL INFORMATION

1. Source Name: _____

2. Permit Number: _____

3. Source Address: _____

_____

4. Description of Source: _____

_____

II ACTUAL OPERATING HOURS: _____hrs/day _____days/wk _____wks/yr

III RAW MATERIAL INPUT PROCESS WEIGHT: (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight
_____	_____tons/yr
_____	_____tons/yr
_____	_____tons/yr
_____	_____tons/yr
_____	_____tons/yr

IV PRODUCT OUTPUT (Specify applicable units)

_____

_____

_____

_____

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

APPLICATION FOR RENEWAL OF PERMIT TO OPERATE AIR POLLUTION SOURCE(S)

If major alterations have occurred, the applicant should complete the Standard Air Permit Application Form.

Source Type: _____ Renewal of DER Permit No. _____

Company Name: _____ County: _____

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired):

_____

Source Location: Street: _____ City: _____

UTM: East _____ North _____

Latitude: __ __° __ __' __ __"N. Longitude: __ __° __ __' __ __"W.

1. Attach a check made payable to the Department of Environmental Regulation in accordance with operation permit fee schedule set forth in Florida Administrative Code Rule 17-4.05.

2. Have there been any alterations to the plant since last permitted? [ ] Yes [ ] No If minor alterations have occurred, describe on a separate sheet and attach.

3. Attach the last compliance test report required per permit conditions if not submitted previously.

4. Have previous permit conditions been adhered to? [ ] Yes [ ] No If no, explain on a separate sheet and attach.

5. Has there been any malfunction of the pollution control equipment during tenure of current permit? [ ] Yes [ ] No If yes, and not previously reported, give brief details and what action was taken on a separate sheet and attach.

6. Has the pollution control equipment been maintained to preserve the collection efficiency last permitted by the Department? [ ] Yes [ ] No

7. Has the annual operating report for the last calendar year been submitted? [ ] Yes [ ] No If no, please attach.

Gulf Power Company
500 Bayfront Parkway
Post Office Box 1151
Pensacola, FL 32520
Telephone 904 444-6111

Gulf Power

August 10, 1993

Ms. Carolyn Salmon
Florida Department of Environmental Protection
Northwest Florida
160 Governmental Center
Pensacola, Florida 32501-5794

Dear Ms. Salmon: Carolyn

SCHOLZ ELECTRIC GENERATING PLANT
FDEP # 328520652

As discussed with you earlier today, Gulf Power is preparing to burn, for energy recovery, approximately 370 cubic yards of soil contaminated with #2 fuel oil at Plant Scholz. The soil contamination is possibly related to historical fuel oil spills near the fuel oil tanks. Soil samples analyzed using the TCLP indicated no hazardous constituents present.

Attached find a copy of the March 3, 1993 letter to Mr. Ed Middleswart concerning an earlier burning of contaminated soil at our Lansing Smith Plant. There seems to be no prohibition against recovering energy from this material and using incineration as a method of disposal. The soil will be maintained in a manner to minimize any further environmental contamination.

This Initial Remedial Action is associated with an ongoing Contamination Assessment at Plant Scholz (notification made to FDEP on 07/12/93).

If you have any questions, please feel free to call me at 444-6311.

Sincerely,

J. O. Vick
Supervisor of
Environmental Affairs

rc/0042JLM
Attachment

cc: R. L. Allen
M. L. Gilchrist
C. R. Lee
J. L. Mintz
P. Parker
G. D. Waters

Post Office Box 1151
Pensacola, FL 32520
Telephone 904 444-6111

Gulf Power

August 24, 1993

Mr. Ed K. Middleswart, P.E.
Florida Department of Environmental Protection
Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Dear Mr. Middleswart:

OIL CONTAMINATED MATERIALS

On August 18, 1993, Andy Allen of your staff and I discussed current regulations covering energy recovery of oil contaminated soils. Pursuant to those discussions, I agreed to document to the department Gulf's current understanding of recycling requirements and overview our present practices.

Recently, Gulf Power has made several notifications to the waste and air sections of FDEP regarding energy recovery operations concerning oil contaminated soils at Plants Smith and Scholz. Florida regulations currently exempt operations of this type for electric utility sources as long as the material is considered non-hazardous and the material is handled in a responsible manner. In lieu of continuing the process of making courteous notifications, the Department and Gulf have reached an agreement that no further notification is needed for small de-minus operations. Operations involving major cleanup operations will continue to be noticed by Gulf for monitoring purposes. For example, Gulf Power is preparing a Contamination Assessment Report (CAR) for a situation at Plant Smith. Energy recovery of this type of material will be managed on a case by case basis as part of an approved cleanup plan.

If you have any questions or need further information, please call me at (904) 444-6527.

Sincerely,

G. Dwain Waters
Senior Environmental Affairs Specialist

cc: Florida Department of Environmental Protection
Mike Kennedy

Gulf Power Company
M. L. Gilchrist
J. A. Tucker
J. O. Vick

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET NE
ATLANTA GEORGIA 30365

PHASE I ACID RAIN PERMIT

Issued to: Gulf Power Company-Scholz
Operated by: Gulf Power Company
Effective: January 1, 1995 to December 31, 1999

Summary of Previous Actions

This page will be replaced to document new EPA actions each time a new action is taken by the Agency. The following actions have been taken:

1. Draft permit, including SO_2 compliance plan, issued for public comment (See page 1) — November 4, 1994

2. SO_2 portion of permit finalized and issued — December 27, 1994

3. Permit revised to activate the conditional SO_2 Substitution Plan for Units 1 and 2, issued as an administrative amendment (See page 3 and 4) — February 14, 1995

4. Permit revised to include a draft nitrogen oxides Emissions Averaging Plan for Units 1 and 2, issued for public comment on the NO_x portion only, consistent with 40 CFR part 76 (as promulgated on April 13, 1995) (see page 3(a) and 4(a) and the NO_x compliance plan) — September 21, 1995

Present Action

5. NO_x portion of permit revised to reflect changes in the draft NO_x averaging plan for Units 1 and 2, issued as a permit modification (see page 3(a) and 4(a) and the NO_x compliance plan)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

Plant Name: Scholz
State: Florida
ORIS Code: 0642

6. Permit revised to include a SO_2 reduced utilization plan for Units 1 and 2, issued as an administrative amendment (See page 3 and 4 and the SO_2 compliance plan)

James F. Miller for 12/14/95

Signature *Date*

Winston A. Smith
Director, Air, Pesticides and Toxics Management Division
U.S. Environmental Protection Agency, Region 4
345 Courtland Street, N.E.
Atlanta, Georgia 30365
Telephone: (404) 347-3043 Facsimile: (404) 347-5207

Plant Name: Scholz
State: Florida
ORIS Code: 0642
Boiler ID#: 0001

Phase I SO_2 Allowance Allocation

	1995	1996	1997	1998	1999
Table 1 *40 CFR 73.10*	N/A	N/A	N/A	N/A	N/A
Phase I Extension *40 CFR 72.42*	N/A	N/A	N/A	N/A	N/A
Substitution *40 CFR 72.41*	8,282	8,282	8,282	8.282	8,282
Reduced Utilization *40 CFR 72.43*	0	N/A	N/A	N/A	N/A

Comments, notes and justifications regarding permit decisions, and changes made to the permit application forms during the review process:

See changes made to the Permit Application form on Statement of Basis, page 2.

Consistent with the Partial Settlement Agreement in Environmental Defense Fund v. Carol M. Browner, No. 93-1203 (executed on May 4, 1994):

1. EPA approves a substitution plan for this unit for 1995-1999 in which it is designated as a substitution unit for Gulf Power Company-Crist Unit 7, a Phase I unit. This substitution unit will receive the allowances indicated above. In this plan, Scholz Unit 2, Crist Unit 4 and Unit 5, and Lansing Smith Unit 1 and Unit 2 are also designated as substitution units by the Phase I unit.

2. The value in step 3, column e, of the substitution plan for this unit reflects the lesser of (i) the unit's 1985 actual emission rate from NADB, (ii) the unit's 1985 allowable emission rate from NADB, (iii) the greater of the unit's 1989 or 1990 actual emissions rate, or (iv) the unit's most stringent federally enforceable or state enforceable emissions limitation for Phase I as of November 15, 1990.

3. EPA approves a reduced utilization plan for this unit for 1995 that designates these Southern Company units (see attachments to plan dated October 16, 1995) as compensating units or sulfur free generators. This plan results in the use of improved unit efficiency measures or the shifting of electrical generation to account for underutilization of this unit. There is no allowance allocation for the use of this compliance measure.

R. SCOTT DAVIS — *Permit Reviewer*

R. Scott Davis — *Signature*

12-11-95 — *Date*

Plant Name: Scholz
State: Florida
ORIS Code: 0642
Boiler ID#: 0001

NO_x Compliance Plan

EPA approves a nitrogen oxides emissions averaging plan for this unit for 1996-1999. For each year under the plan, this unit's actual annual average emission rate for NO_x shall not exceed the alternative contemporaneous annual emission limitation of 0.70 lbs/mmBtu, and this unit's actual annual heat input shall not be greater than the annual heat input limit of 723,608 mmBtu.

The other units designated in the plan are Scholz Unit 2, Watson Unit 4 and Unit 5, Daniel Unit 1 and Unit 2, and Crist Unit 4, Unit 5, and Unit 6. Under the plan, the actual Btu-weighted annual average emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitation in 40 CFR 76.5. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emission limitation and annual heat input limit.

R. SCOTT DAVIS	R. Scott Davis	12-11-95
Permit Reviewer	*Signature*	*Date*

Plant Name: Scholz
State: Florida
ORIS Code: 0642
Boiler ID#: 0002

Phase I SO_2 Allowance Allocation

	1995	1996	1997	1998	1999
Table 1 *40 CFR 73.10*	N/A	N/A	N/A	N/A	N/A
Phase I Extension *40 CFR 72.42*	N/A	N/A	N/A	N/A	N/A
Substitution *40 CFR 72.41*	8,572	8,572	8,572	8,572	8,572
Reduced Utilization *40 CFR 72.43*	0	N/A	N/A	N/A	N/A

Comments, notes and justifications regarding permit decisions, and changes made to the permit application forms during the review process:

See changes made to the Permit Application form on Statement of Basis, page 2.

Consistent with the Partial Settlement Agreement in Environmental Defense Fund v. Carol M. Browner, No. 93-1203 (executed on May 4, 1994):

1. EPA approves a substitution plan for this unit for 1995-1999 in which it is designated as a substitution unit for Gulf Power Company-Crist Unit 7, a Phase I unit. This substitution unit will receive the allowances indicated above. In this plan, Scholz Unit 1, Crist Unit 4 and Unit 5, and Lansing Smith Unit 1 and Unit 2 are also designated as substitution units by the Phase I unit.

2. The value in step 3, column f, of the substitution plan for this unit reflects the lesser of (i) the unit's 1985 actual emission rate from NADB, (ii) the unit's 1985 allowable emission rate from NADB, (iii) the greater of the unit's 1989 or 1990 actual emissions rate, or (iv) the unit's most stringent federally enforceable or state enforceable emissions limitation for Phase I as of November 15, 1990.

3. EPA approves a reduced utilization plan for this unit for 1995 that designates these Southern Company units (see attachments to plan dated October 16, 1995) as compensating units or sulfur free generators. This plan results in the use of improved unit efficiency measures or the shifting of electrical generation to account for underutilization of this unit. There is no allowance allocation for the use of this compliance measure.

R. SCOTT DAVIS R. Scott Davis 12-11-95

Permit Reviewer *Signature* *Date*

Plant Name: Scholz
State: Florida
ORIS Code: 0642
Boiler ID#: 0002

NO_x Compliance Plan

EPA approves a nitrogen oxides emissions averaging plan for this unit for 1996-1999. For each year under the plan, this unit's actual annual average emission rate for NO_x shall not exceed the alternative contemporaneous annual emission limitation of 0.75 lbs/mmBtu, and this unit's actual annual heat input shall not be greater than the annual heat input limit of 731,528 mmBtu.

The other units designated in the plan are Scholz Unit 1, Watson Unit 4 and Unit 5, Daniel Unit 1 and Unit 2, and Crist Unit 4, Unit 5, and Unit 6. Under the plan, the actual Btu-weighted annual average emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitation in 40 CFR 76.5. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emission limitation and annual heat input limit.

R. SCOTT DAVIS	R. Scott Davis	12-11-95
Permit Reviewer	*Signature*	*Date*

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Expires 12-31-96

NO_x Averaging Plan

Page 1

RECEIVED
12-11-95

For more information, see instructions and refer to 40 CFR 76.11

This submission is: ___ New X Revised

Page 1 of 1

STEP 1
Identify the units participating in this averaging plan by plant name, State, and boiler ID# from NADB. In column (a), fill in each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7. In column (b), assign an alternative contemporaneous annual emissions limitation in lb/mmBtu to each unit. In column (c), assign an annual heat input limitation in mmBtu to each unit. Continue on page 3 if necessary

Plant Name	State	ID#	(a) Emission Limitation	(b) Alt. Contemp. Emission Limitation	(c) Annual Heat Input Limit
Watson	MS	4	.50	.57	12086872
Watson	MS	5	.50	.57	20127887
Daniel	MS	1	.45	.35	21244417
Daniel	MS	2	.45	.35	29987051
Crist	FL	4	.45	.60	4330920
Crist	FL	5	.45	.60	3518988
Crist	FL	6	.50	.60	13451097
Scholz	FL	1	.50	.70	723608
Scholz	FL	2	.50	.75	731528

STEP 2
Use the formula to enter the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan and the Btu-weighted annual average emission rate for the same units if they are operated in compliance with 40 CFR 76.5, 76.6, or 76.7. The former must be less than or equal to the latter

Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan		Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7
.4720	≤	.4722

$$\frac{\sum_{i=1}^{n} (R_{Li} \times HI_i)}{\sum_{i=1}^{n} HI_i} \leq \frac{\sum_{i=1}^{n} (R_{li} \times HI_i)}{\sum_{i=1}^{n} HI_i}$$

Where,

R_{Li} = Alternative contemporaneous annual emission limitation for unit i, in lb/mmBtu, as specified in column (b) of Step 1;

R_{li} = Applicable emission limitation for unit i, in lb/mmBtu, as specified in column (a) of Step 1;

HI_i = Annual heat input for unit i, in mmBtu, as specified in column (c) of Step 1;

n = Number of units in the averaging plan

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	State	ORIS Code
Scholz	FL	642

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

		Compliance Plan		
a	b	c	d	e
Boiler ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units Commence Operation Date	New Units Monitor Certification Deadline
1	Yes	No		
2	Yes	No		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

F Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72, Rules 62-214.320 and 330, F.A.C. in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain permit.
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the permitting authority; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1)

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. L. Gilchrist	
Signature M. L. Gilchrist	Date 12/8/95

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

AIRS
FINDS

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-
Expires 9-

EPA Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	Scholz Electric Generating Plant	State	FL	ORIS Code	642

STEP 2
Enter requested information for the designated representative

Name	Frederick D. Kuester
Address	2992 West Beach Boulevard P. O. Box 4079 Gulfport, MS 39502
Phone Number	(601) 865-5964
Fax Number	(601) 865-5873

STEP 3
Enter requested information for the alternate designated representative (optional)

Name	M. L. Gilchrist
Address	Gulf Power Company P. O. Box 1151 Pensacola, FL 32520-0328
Phone Number	(904) 444-6236
Fax Number	(904) 444-6705

STEP 4
Complete Step 5, read the certifications and sign and date

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affect unit at the source.

I certify that I have given notice of the agreement, selecting me as the designated representative or alter designated representative, as applicable for the affected source and each affected unit at the source identified in this certificate of representation, daily for a period of one week in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general publ notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rai Program on behalf of the owners and operators of the affected source and of each affected unit at the s and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was sele as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source sh bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected un where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designatec representative, as applicable, and of the agreement by which I was selected to each owner and oper of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowan contract, that allowances and the proceeds of transactions involving allowances will be deemed to c or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative includes a procedure the owners and operators of the source and affected units at the source to authorize the alternate desic representative to act in lieu of the designated representative.

Scholz Electric Generating Plant Plant Name (from Step 1)

Certificate Page

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in the document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative)	Date 12/21/94
Signature (alternate)	Date 12/21/94

STEP 5
Provide the name of every owner and operator of the source and each affected unit at the source. Identify the units they own and/or operate by boiler ID# from NADB. For owners only, identify each state or local utility regulatory authority with jurisdiction over each owner

Name Gulf Power Company					XX Owner	XX Operator
ID# 1	ID# 2	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities: Florida Public Service Commission						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

M. L. Gilchrist
Manager, Planning and Environmental Affairs

Gulf Power

December 14, 1995

Mr. John C. Brown (MS 5505)
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Brown:

GULF POWER COMPANY
PHASE II ACID RAIN PERMIT APPLICATIONS
PLANT CRIST (ORIS CODE 641)
PLANT SCHOLZ (ORIS CODE 642)
PLANT LANSING SMITH (ORIS CODE 643)

Gulf Power Company hereby submits to the Florida Department of Environmental Protection one original and 3 copies of the Title IV Phase II Acid Rain Permit Applications for Plant Crist, Plant Scholz and Plant Lansing Smith. Also included are copies of the Certificate of Representation for the Designated Representative (DR) and the Alternate Designated Representative (ADR) for each facility. Please note that the DR for Gulf Power is Mr. Rick Kuester, Vice-President of Power Generation and Delivery at Mississippi Power Company. Mr. Kuester was chosen DR because of an EPA rule that requires a centralized designated representative for a NOx averaging plan that has units in more than one state and that has different owners or operators. As you are aware, Gulf Power has two "Named" Phase I Acid Rain affected units (Crist 6 & 7) and has elected to bring into compliance early, four additional sources as "Substitution" units, i.e. Crist 4 & 5, Scholz 1 & 2. All of these units, plus four units from Mississippi Power are included in a Gulf/Mississippi Power NOx Averaging Plan for Phase I NOx compliance. Because of the problems with timely responses inherent in the permitting process, please copy Mr. Lane Gilchrist, Gulf's ADR, on all correspondences in the Phase II permitting process.

If you have any questions or need further information concerning Gulf's Phase I or II applications or permits, please call me or Dwain Waters at (904) 444-6527.

Sincerely,

M. L. Gilchrist

Attachments (2)
See Distribution List

DISTRIBUTION LIST

U. S. Environmental Protection Agency
R. Scott Davis

Southern Company Services
Danny Herrin

Gulf Power Company
G. Edison Holland, Jr.
M. L. Gilchrist
J. A. Babbitt
C. R. Lee
C. A. Tugwell
P. Parker
J. O. Vick
G. D. Waters
H. L. Witt

Mississippi Power Company
Frederick D. Kuester

ATTACHMENT 1

(1 Original + 3 copies of Phase II Applications for Plant Crist, Plant Scholz and Plant Lansing Smith)

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	State	ORIS Code
Crist	FL	641

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

a	b	c	d	e
Boiler ID#	Compliance Plan: Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Compliance Plan: Repowering Plan	New Units: Commence Operation Date	New Units: Monitor Certification Deadline
1	Yes	No		
2	Yes	No		
3	Yes	No		
4	Yes	No		
5	Yes	No		
6	Yes	No		
7	Yes	No		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

P. Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72, Rules 62-214.320 and 330, F.A.C. in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain permit.
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the permitting authority; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1)

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. L. Gilchrist	
Signature M L Gilchrist	Date 12/8/95

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

S
FINDS

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	State	ORIS Code
Scholz	FL	642

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

a	b	c	d	e
	Compliance Plan			
Boiler ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Repowering Plan	New Units Commence Operation Date	New Units Monitor Certification Deadline
1	Yes	No		
2	Yes	No		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

F Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72, Rules 62-214.320 and 330, F.A.C. in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain permit.
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the permitting authority; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
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Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
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(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1)

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

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(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. L. Gilchrist	
Signature M. L. Gilchrist	Date 12/8/95

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

AIRS
FINDS

Phase II Permit Application

For more information, see instructions and refer to 40 CFR 72.30 and 72.31 and Chapter 62-214, F.A.C.

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	State	ORIS Code
Lansing Smith	FL	643

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

a	b	c	d	e
Boiler ID#	Compliance Plan: Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	Compliance Plan: Repowering Plan	New Units: Commence Operation Date	New Units: Monitor Certification Deadline
1	Yes	No		
2	Yes	No		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

Pt. Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Submit a complete Acid Rain part application (including a compliance plan) under 40 CFR part 72, Rules 62-214.320 and 330, F.A.C. in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain part application and issue or deny an Acid Rain permit.
(2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain part application or a superseding Acid Rain part issued by the permitting authority; and
(ii) Have an Acid Rain Part.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75, and Rule 62-214.420, F.A.C.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each Acid Rain unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

Plant Name (from Step 1)

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 75, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain part application, an Acid Rain part, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. L. Gilchrist	
Signature M. L. Gilchrist	Date 12/8/95

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

AIRS
FINDS

ATTACHMENT 2

(4 copies of Certificate of Representation for Plant Crist, Plant Scholz and Plant Lansing Smith)

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-
Expires 6-1

Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name: Crist Electric Generating Plant State: FL ORIS Code: 641

STEP 2
Enter requested information for the designated representative

Name: Frederick D. Kuester

Address:
2992 West Beach Boulevard
P. O. Box 4079
Gulfport, MS 39502

Phone Number: (601) 865-5964 Fax Number: (601) 865-5873

STEP 3
Enter requested information for the alternate designated representative (optional)

Name: M. L. Gilchrist

Address:
Gulf Power Company
P. O. Box 1151
Pensacola, FL 32520-0328

Phone Number: (904) 444-6236 Fax Number: (904) 444-6705

STEP 4
Complete Step 5, read the certifications and sign and date

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affecte unit at the source.

I certify that I have given notice of the agreement, selecting me as the designated representative or alter designated representative, as applicable for the affected source and each affected unit at the source identified in this certificate of representation, daily for a period of one week in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general publi notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rai Program on behalf of the owners and operators of the affected source and of each affected unit at the s and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was sele as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source sh bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected un where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and oper of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowan contract, that allowances and the proceeds of transactions involving allowances will be deemed to b or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative includes a procedure

Crist Electric Generating Plant
Plant Name (from Step 1)

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative) Frederick D Kuester — Date 12/21/94

Signature (alternate) [signature] — Date 12/21/94

STEP 5
Provide the name of every owner and operator of the source and each affected unit at the source. Identify the units they own and/or operate by boiler ID# from NADB. For owners only, identify each state or local utility regulatory authority with jurisdiction over each owner

Name Gulf Power Company					[XX] Owner	[XX] Operator
ID# 1	ID# 2	ID# 3	ID# 4	ID# 5	ID# 6	ID# 7
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities: Florida Public Service Commission						

Name					[ ] Owner	[ ] Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					[ ] Owner	[ ] Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					[ ] Owner	[ ] Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060
Expires 9

Certificate of Representation

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	Scholz Electric Generating Plant	State	FL	ORIS Code	642

STEP 2
Enter requested information for the designated representative

Name	Frederick D. Kuester
Address	2992 West Beach Boulevard P. O. Box 4079 Gulfport, MS 39502
Phone Number	(601) 865-5964
Fax Number	(601) 865-5873

STEP 3
Enter requested information for the alternate designated representative (optional)

Name	M. L. Gilchrist
Address	Gulf Power Company P. O. Box 1151 Pensacola, FL 32520-0328
Phone Number	(904) 444-6236
Fax Number	(904) 444-6705

STEP 4
Complete Step 5, read the certifications and sign and date

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affec unit at the source.

I certify that I have given notice of the agreement, selecting me as the designated representative or alte designated representative, as applicable for the affected source and each affected unit at the source identified in this certificate of representation, daily for a period of one week in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general pub notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Ra Program on behalf of the owners and operators of the affected source and of each affected unit at the s and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was sel as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source sh bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected un where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designate representative, as applicable, and of the agreement by which I was selected to each owner and ope of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowar contract, that allowances and the proceeds of transactions involving allowances will be deemed to b or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative includes a procedur the owners and operators of the source and affected units at the source to authorize the alternate desi representative to act in lieu of the designated representative.

Scholz Electric Generating Plant
Plant Name (from Step 1)

Certificate Type

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative) Frederick D Thrasher	Date 12/21/94
Signature (alternate)	Date 12/21/94

STEP 5
Provide the name of every owner and operator of the source and each affected unit at the source. Identify the units they own and/or operate by boiler ID# from NADB. For owners only, identify each state or local utility regulatory authority with jurisdiction over each owner

Name Gulf Power Company					XX Owner	XX Operator
ID# 1	ID# 2	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities Florida Public Service Commission						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#

United States
Environmental Protection Agency
Acid Rain Program

OMB No 2060-02
Expires 6-30-

Certificate of Representation

Page

For more information, see instructions and refer to 40 CFR 72.24

This submission is: ☐ New ☒ Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

Plant Name	Smith Electric Generating Plant	State	FL	ORIS Code	643

STEP 2
Enter requested information for the designated representative

Name	Frederick D. Kuester
Address	2992 West Beach Boulevard P. O. Box 4079 Gulfport, MS 39502
Phone Number	(601) 865-5964
Fax Number	(601) 865-5873

STEP 3
Enter requested information for the alternate designated representative (optional)

Name	M. L. Gilchrist
Address	Gulf Power Company P. O. Box 1151 Pensacola, FL 32520-0328
Phone Number	(904) 444-6236
Fax Number	(904) 444-6705

STEP 4
Complete Step 5, read the certifications and sign and date

I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the affected source and each affected unit at the source.

I certify that I have given notice of the agreement, selecting me as the designated representative or alternat designated representative, as applicable for the affected source and each affected unit at the source identified in this certificate of representation, daily for a period of one week in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.

I certify that I have all necessary authority to carry out my duties and responsibilities under the Acid Rain Program on behalf of the owners and operators of the affected source and of each affected unit at the sou and that each such owner and operator shall be fully bound by my actions, inactions, or submissions.

I certify that I shall abide by any fiduciary responsibilities imposed by the agreement by which I was selecte as designated representative or alternate designated representative, as applicable.

I certify that the owners and operators of the affected source and of each affected unit at the source shall bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.

Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, an affected unit, where a utility or industrial customer purchases power from an affected unit under life-of-the-unit, firm pow contractual arrangements, I certify that:

I have given a written notice of my selection as the designated representative or alternate designated representative, as applicable, and of the agreement by which I was selected to each owner and operato of the affected source and of each affected unit at the source; and

Allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement or, if such multiple holders have expressly provided for a different distribution of allowances contract, that allowances and the proceeds of transactions involving allowances will be deemed to be h or distributed in accordance with the contract.

The agreement by which I was selected as the alternate designated representative includes a procedure fo the owners and operators of the source and affected units at the source to authorize the alternate designa representative to act in lieu of the designated representative.

Smith Electric Generating Plant
Plant Name (from Step 1)

Certificate - Page 2

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature (designated representative) Frederick D Kuester	Date 12/21/94
Signature (alternate)	Date 12/21/94

STEP 5
Provide the name of every owner and operator of the source and each affected unit at the source. Identify the units they own and/or operate by boiler ID# from NADB. For owners only, identify each state or local utility regulatory authority with jurisdiction over each owner

Name Gulf Power Company					☒ Owner	☒ Operator
ID# 1	ID# 2	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities Florida Public Service Commission						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐ Operator
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						

Name					☐ Owner	☐ Op
ID#	ID#	ID#	ID#	ID#	ID#	ID#
ID#	ID#	ID#	ID#	ID#	ID#	ID#
Regulatory Authorities						