



**TAMPA
ELECTRIC**

A TECO ENERGY COMPANY

Tampa, Florida

J.H. PHILLIPS STATION

**TITLE V OPERATION
PERMIT APPLICATION**

Prepared by:

ECT

Environmental Consulting & Technology, Inc.

*3701 Northwest 98th Street
Gainesville, Florida 32606*

ECT No. 94500-0011

June 1996



RECEIVED

JUN 14 1996

**BUREAU OF
AIR REGULATION**

June 13, 1996

Mr. John C. Brown, P.E.
Administrator-Title V Programs
MS 5505
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

VIA FEDEX AIRBILL #9737560954

**RE: Tampa Electric Company
J.H. Phillips Station
AIRS No. 0550018
Title V Permit Application**

Dear Mr. Brown:

Enclosed please find four (4) copies of the Title V permit application signed and sealed for the above referenced facility in accordance with 62-4.050 and 62-213.420, F.A.C.

As indicated in the permit application, please address any comments or concerns to me, as follows,

Tampa Electric Company
Janice K. Taylor
Senior Engineer
P.O. Box 111
Tampa, FL 33601-0111

Ph. No. (813) 228-4839
Fax No. (813) 228-4881

Thank you in advance for your consideration in this matter.

Sincerely,

Janice K. Taylor
Senior Engineer
Environmental Planning

Enclosures

EPanUKT757



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ELECTRONIC SUBMITTAL

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Application for Air Permit - Long Form (ELSA) (Note - TEC_JHP.ZIP contains all of the following supplemental files)	TEC_JHP.ZIP
Facility Supplemental Information	
Facility Plot Plans	D_IID2.DXF
Process Flow Diagrams	D_IID3.DXF
Precautions to Prevent Emissions of Unconfined Particulate Matter	D_IID4.WP6
List of Proposed Exempt Activities	D_IID7.WP6
List of Equipment/Activities Regulated Under Title VI	D_IID8.WP6
Emission Unit Supplemental Information	
Procedures for Startup and Shutdown	D_III6.WP6
Compliance Assurance Monitoring Plan (Reserved)	D_III12.WP6
Appendices	
Regulatory Applicability Analysis	APPEND_A.WP6

INTRODUCTION

The Tampa Electric Company (TEC) J.H. Phillips Station located in Sebring, Highlands County, Florida is a nominal 42 megawatt (MW) electric generation facility. The J.H. Phillips Station consists of two slow speed diesel engines, an auxiliary steam boiler, a steam turbine, recirculating cooling water system, fuel oil storage tanks, and ancillary support equipment. The slow speed diesel engines are each equipped with an unfired heat recovery steam boiler. Each slow speed diesel engine has a nominal maximum heat input of 172 million British thermal units per hour (MMBtu/hr) and is fired with No. 6 fuel oil. The auxiliary steam boiler has a nominal maximum heat input of 10.4 MMBtu/hr and is fired with No. 2 distillate fuel oil.

Operation of the J.H. Phillips Station is currently authorized by Florida Department of Environmental Protection (FDEP) Operation Permits AO28-234787 (Slow Speed Diesel No. 1), AO28-234794 (Slow Speed Diesel No. 2), and AO28-234735 (Auxiliary Steam Boiler). Operation Permits AO28-234787 and AO28-234794 were last amended on April 19, 1994 and expire on October 5, 1998. Operation Permit AO28-234735 was last amended on November 17, 1993 and also expires on October 5, 1998.

The TEC J.H. Phillips Station qualifies as a Title V Source pursuant to Chapter 62-210.200(173), Florida Administrative Code (F.A.C.), because potential emissions of a regulated air pollutant exceed 100 tons per year. This application package, prepared using Electronic Submission of Application (ELSA) Version 1.2.1, constitutes TEC's Title V permit application for the J.H. Phillips Station and is submitted to satisfy the requirements of Chapter 62-213.400, F.A.C.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Frank Sierra General Manager, Sebring Power	
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Tampa Electric Company Street Address: P.O. Box 111 City: Tampa State: FL Zip Code: 33601-0111	
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (813) 228-3899 Fax: (813) 228-1356	
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>	
Signature <u>Frank J Sierra</u>	Date <u>June 10, 1996</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Thomas W. Davis Registration Number: 36777	
2. Professional Engineer Mailing Address: Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 NW 98th Street City: Gainesville State: FL Zip Code: 32606	
3. Professional Engineer Telephone Numbers: Telephone: (352) 332-0444 Fax: (352) 332-6722	

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [X] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emission units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Thomas W. Owen

Signature

6/6/96

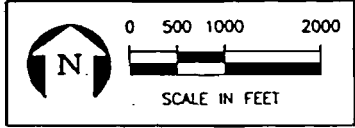
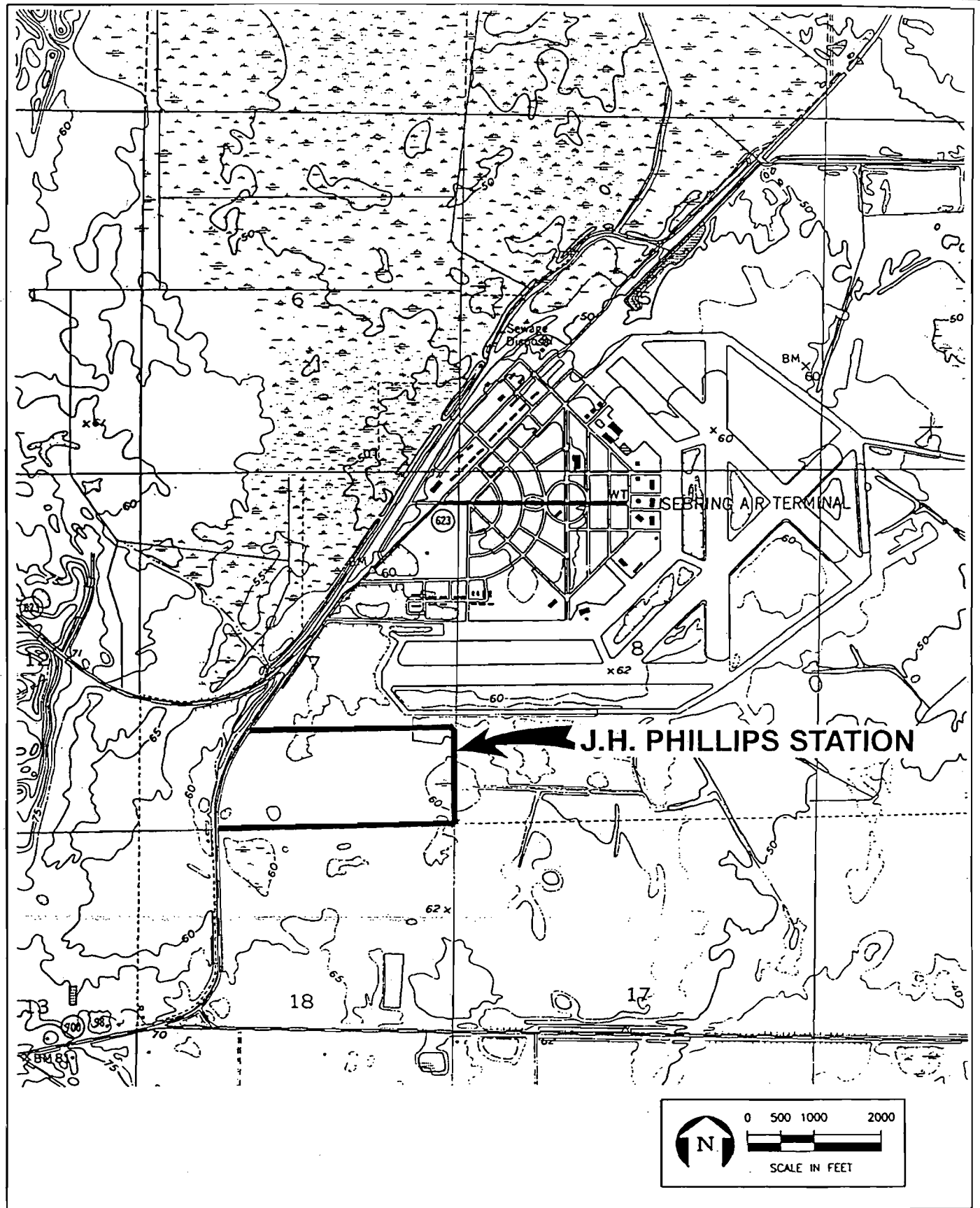
Date

(seal)

* Attach any exception to certification statement.

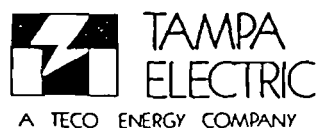
II.D.1

AREA MAP



DOCUMENT I.D.1.
J.H. PHILLIPS STATION AREA MAP

Source: USGS Quod, Lorido, FL, 1972.



II.D.13 & 14

COMPLIANCE REPORT, PLAN,
AND CERTIFICATION

III.I.2

FUEL ANALYSES

FUEL ANALYSIS OR SPECIFICATION

The J.H. Phillips Station combustion source emissions units (Slow Speed Diesels #1 and #2 and the Auxiliary Boiler) combust No. 2 and No. 6 fuel oils. Typical analyses for these two fuel oils are attached.

From: Tampa Electric Company
Central Testing Laboratory
5012 Causeway Blvd.
Tampa, FL 33619
Ph. (813) 228-4938

September 29, 1993

To: Martin Duff, CTL
Rosa Webster, Sebring
Tom Culverhouse, Sebring
Darlene Reeves, Sebring
Permanent File, CTL

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. FL01519

Location Description: Phillips Sebring Annual VE Sample


Lab submittal date: 08/30/93 Time: 10:30

Parameter	Result	Units
API Gravity @ 60 Deg F	11.4	API
Pounds/Gallon @ 60 Deg F	8.247	Lbs./Gal.
Sulfur in Oil	2.36	%
BTU/Lb., for Oil	17660	BTU/Lb.
Pounds SO2 / Million BTU	2.64	Lbs. SO2/MMBTU

Sample comments;

Sebring Phillips No. 6 Fuel, Unit 402 test sample
PSVE2, 8/27/93 @1635

Report update issue. BTU/s Recheck and recal. 9-29-93 LH


Walt Plaag

From: Tampa Electric Company
 Central Testing Laboratory
 5012 Causeway Blvd.
 Tampa, Fl. 33619
 Ph. (813) 228-4938

May 1, 1995

To: File, Central Testing Lab
 Rosa Webster, Sebring
 Joy McCloud, General Accounting
 John Yanik, Fuels

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AA22718 Location code: PP-#2-CG
 Location Description: Phillips Plant, #2 Oil, Cargo
 Sample collector: PHILLIPS
 Sample collection date: 03/20/95 Time: 10:05
 Lab submittal date: 04/04/95 Time: 14:45
 Sample Matrix: Oil

Cargo Identification Information

Shipment date: 03/20/95 Mode of shipment _____ Truck: X

Parameter	Result	Units	MDL
API Gravity @ 60 F, No. 2 Oil	33.9	API	0.1
BTU/Gal., Calculated for Oil	138840	BTU/Gal.	
Sulfur in Oil	0.165	%	0.08
Saybolt Univ. Viscosity @ 100 F	36.7	SUS	0.1
Ash, Oil	0.001	mass %	0.001
Water and Sediment, by Volume	Less than MDL	% by Volume	0.05
Flash Point, No. 2 Oil	156	Degrees F	1.0
Relative Density 60/60 Deg. F	0.8555		0.0001
Vanadium, Graphite Furnace (Oil)	Less than MDL	mg/L	0.050
Sodium, by Atomic Emission (Oil)	Less than MDL	mg/kg	0.07
Pounds SO ₂ / Million BTU, Oil	0.167	Lbs. SO ₂ /MMBTU	
BTU/Lb., for Oil	19487	BTU/Lb.	1
Pounds / Gallon @ 60 Deg. F	7.125	Lbs./Gal.	

Sample comments:

Cargo Numbers: 15155, 15120, 15146

If there are any questions regarding this data, please call.

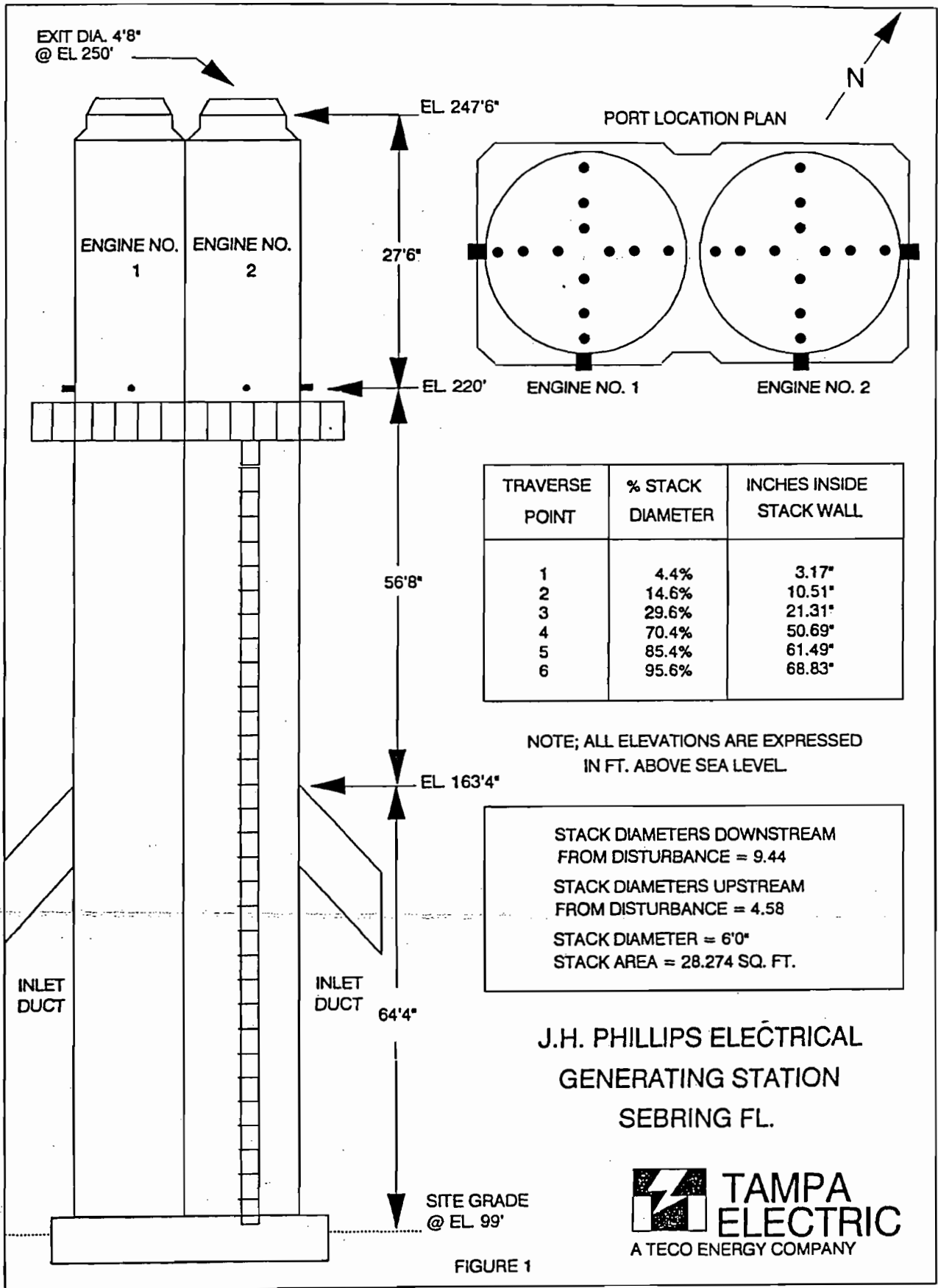
Robert L. Dorey
 Supervisor of Laboratory Services

III.I.4

DESCRIPTION OF STACK SAMPLING FACILITIES

DESCRIPTION OF STACK SAMPLING FACILITIES

For each slow speed diesel, the source sampling location consists of a circular stack 72 inches in diameter with two sample ports located 90° apart on the stack circumference. The individual exhaust stacks for each slow speed diesel are contained in a common stack support structure. The test site has adequate access, work platforms and test equipment support structures. A diagram showing the stack sampling location and other pertinent test site information is attached.



APPENDIX B

EMISSION RATE SUMMARY

Tampa Electric Company
 J.H. Phillips Station Emission Limited Pollutant Summary

Criteria Pollutants

Pollutant	Emission Rates (ton/yr)		
	Slow-Speed Diesel #1	Slow-Speed Diesel #2	Auxiliary Boiler
SO ₂	459.24 25.9 2,011.5	459.24 2,011.5	22.8
NO _x	571.8 2,504.5	2,504.5	
PM	17.19 75.3	75.3	
CO	98.9 433.2	433.2	
VOC	44.7 195.8	195.8	

APPENDIX C

EMISSION INVENTORY WORKSHEETS

EMISSION INVENTORY WORKSHEET

CS-001

Tampa Electric Company - J. H. Phillips Station

EMISSION SOURCE TYPE

LARGE STATIONARY DIESEL ENGINES - CRITERIA POLLUTANTS

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Slow Speed Diesel #1 - Fired with No. 6 Fuel Oil

Emission Control Method(s)/ID No.(s): None

Emission Point ID: CS-001

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) * (1ton/ 2,000 lb)

Source: ECT, 1994.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day 7 Days/Wk 8,760 Hrs/Yr

Fuel Sulfur: 2.5 Weight %

Criteria Pollutant	Heat Input (MMBtu/hr)	Pollutant Emission Factor (lb/MMBTU)	Potential Emission Rates	
			(lb/hr)	(tpy)
SO ₂	172.0	2.67	459.3	2,011.5
NO _x	172.0	3.32	671.8	2,504.5
PM/PM ₁₀	172.0	0.100	17.2	76.3
CO	172.0	0.576	98.9	433.2
VOC ¹	172.0	0.260	44.7	195.8

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	TEC, 1994.
Fuel Sulfur (S)	TEC, 1994.
Heat Input	TEC, 1994.
Emission Factors	Set equal to allowable emission rates.

NOTES AND OBSERVATIONS

¹VOC emission rates represent total hydrocarbons (HC).

DATA CONTROL

Data Collected by:	T.Davis	Date:	10/20/94
Evaluated by:	T.Davis	Date:	1/11/95
Data Entered by:	T.Davis	Date:	4/20/96
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

CS-002

Tampa Electric Company - J. H. Phillips Station

EMISSION SOURCE TYPE

LARGE STATIONARY DIESEL ENGINES - CRITERIA POLLUTANTS

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Slow Speed Diesel #2 - Fired with No. 6 Fuel Oil

Emission Control Method(s)/ID No.(s): None

Emission Point ID: CS-002

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) * (1ton/ 2,000 lb)

Source: ECT, 1994.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day 7 Days/Wk 8,760 Hrs/Yr

Fuel Sulfur: 2.6 Weight %

Criteria Pollutant	Heat Input (MMBtu/hr)	Pollutant Emission Factor (lb/MMBTU)	Potential Emission Rates	
			(lb/hr)	(tpy)
SO ₂	172.0	2.67	459.3	2,011.5
NO _x	172.0	3.32	571.8	2,504.5
PM/PM ₁₀	172.0	0.100	17.2	75.3
CO	172.0	0.575	98.9	433.2
VOC ¹	172.0	0.260	44.7	195.8

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	TEC, 1994.
Fuel Sulfur (S)	TEC, 1994.
Heat Input	TEC, 1994.
Emission Factors	Set equal to allowable emission rates.

NOTES AND OBSERVATIONS

¹VOC emission rates represent total hydrocarbons (HC).

DATA CONTROL

Data Collected by:	T.Davis	Date:	10/20/94
Evaluated by:	T.Davis	Date:	1/11/95
Data Entered by:	T.Davis	Date:	4/20/96
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

CS-003

Tampa Electric Company - J. H. Phillips Station

EMISSION SOURCE TYPE

INDUSTRIAL BOILERS (DISTILLATE FUEL OIL) - CRITERIA POLLUTANTS

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxilliary Boiler - Fired with No. 2 Distillate Fuel Oil

Emission Control Method(s)/ID No.(s): None

Emission Point ID: CS-003

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) * (1ton/ 2,000 lb)

Source: ECT, 1994.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day 7 Days/Wk 8,760 Hrs/Yr

Fuel Sulfur: 0.6 Weight %

Criteria Pollutant	Heat input (MMBtu/hr)	Pollutant Emission Factor (lb/MMBTU)	Potential Emission Rates	
			(lb/hr)	(tpy)
SO ₂	10.4	0.50	5.2	22.8

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	TEC, 1994.
Fuel Sulfur (S)	TEC, 1994.
Heat Input	TEC, 1994.
Emission Factor, SO ₂	Set equal to allowable emission rate.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T.Davis	Date:	10/20/94
Evaluated by:	T.Davis	Date:	1/11/95
Data Entered by:	T.Davis	Date:	4/20/96
Reviewed by:		Date:	