# Technical Evaluation and Preliminary Determination

Utilities Commission
City of New Smyrna Beach
Volusia County, Florida
Swoope Units 3 and 4, Gas Diesel

# Permit Numbers

State: AC 64-57578

AC 64-57580

Federal: PSD-FL-089

Florida Department of Environmental Regulation Bureau of Air Quality Management Central Air Permitting

August 10, 1982

#### Public Notice

A modification to an existing air pollution source is being proposed by the City of New Smyrna Beach, Volusia County, Florida. The proposed modification is the construction of two gas diesel units, Swoope #3 and #4, with generating capacities of 2050 KW and 2275 KW, respectively. The modification will increase emissions of air pollutants, in tons per year, by the following amounts.

<u>PM</u>	S'02	$NO_{\mathbf{X}}$	CO	VOC
2:	4.	535	87	4.2.

The proposed modification has been reviewed by the Florida Department of Environmental Regulation under Chapter 403, Florida Statutes, and, Federal regulation 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The Department has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for the determination and the application for State and Federal permits submitted by the City of New Smyrna Beach are available for public review at the following offices:

Brannon Memorial Library 105 Riverside Drive New Smyrna Beach, Florida 32069 Bureau of Air Quality Management Dept. of Environmental Regulation 2600 Blair Stone Road Tallahassee, Florida 32301

St. Johns River District 3319 Maguire Drive Suite 232 Orlando, Florida 32803

No allowable PSD increments for PM or SO2 are consumed by the proposed modification.

Any person may submit written comments regarding the proposed modification. All comments, postmarked not later than 30 days from the date of this notice, will be considered in making a final determination regarding approval for construction of this source. Those comments will be made available for public review on request. Furthermore, a public hearing can be requested by any person. Such request should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. C. H. Fancy, P.E.
Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

# Technical Evaluation and Preliminary Determination

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# I. Applicant and Site Location

Utilities Commission
City of New Smyrna Beach
P.O. Box 519
New Smyrna Beach, Florida 32069

The proposed modification will occur at the Swoope Generating Station located in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

# II. Project Description

The Utilities Commission plans to construct two additional gas diesel units, Swoope #3 and #4, with generating capacities of 2050 KW and 2275 KW, respectively. Both units will be natural gas fired with 4 to 6 percent heat input from No. 2 fuel oil (diesel) as pilot fuel.

Currently there are two power generating units at the existing site. Swoope Unit #1 is a 116 MMBtu/hr steam generator and Swoope Unit #2 is a 910 KW gas diesel generator which is limited by permit condition to a 70 percent capacity factor.

The proposed modification is the addition of the two gas diesel units and an increase to 100 percent capacity factor for Swoope Unit #2.

# III. Emissions and Controls

The major air pollutant emitted from the diesel generating units while firing 95% natural gas and 5% No. 2 fuel oil (based on Btu heat input) will be  $\mathrm{No}_{\mathrm{X}}$  emissions. The projected air pollutant emissions from Swoope Unit 3 and 4 are listed as follows:

	Uni	Unit 3		t 4
	Maximum	tons per		tons per
Pollutant	lbs/hr	year <sup>.</sup>	lbs/hr	year
Nitrogen Oxides, NO <sub>X</sub>	57.1	250	55.9	245
Particulate, PM	0.25	1	0.28	1
Sulfur Dioxide, SO <sub>2</sub>	0.42	2	0.47	2
Carbon Monoxide, CO	8.9	39	9.8	43
Hydrocarbon, HC	2.5	11	3.5	15

The current maximum air pollutant emissions and the projected maximum emissions after modification are listed in the following table:

Annual Emissions from Swoope Station

	$NO_{\mathbf{x}}$	PM	SO <sub>2</sub>	CO	HC*
Current		Tor	s per	Year	
Unit 1 (steam)	140	27	1	5	8
Unit 2 (diesel)	94	0.1	0.3	<u>12</u>	<u>37</u>
TOTAL	234	27	1.	17	45
Projected					
Unit 1	140	27	1	5	8
Unit 2	134	0.2	0.4	17	53
Unit 3	250	1	2	33	11
Unit 4	245	1	2	<u>43</u>	<u>15</u>
TOTAL	769	29	5	104	87
NET INCREASE	<u>535</u>	2	4	87	42

<sup>\*</sup>Swoope Unit 2 hydrocarbons reported as total HC, Units 3 and 4 reported as non-methane HC.

There will not be any pollution control equipment installed at the site.

# IV. Rule Applicability

## State Rule

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code (FAC).

The proposed project location is in an attainment area for all the pollutants. It will make the existing minor facility become a major facility for  $NO_X$  as defined in Section 17-2.100, because  $NO_X$  emissions will increase by more than 250 tons per year due to this modification. The project is subject to the provisions of Section 17-2.500, Prevention of Significant Deterioration (PSD) which requires an air quality impact analysis and the use of Best Available Control Technology (BACT)

## Federal Rule

The proposed source is subject to federal PSD review because it is a major modification (40 CFR 52.21(b)(2)). The actual  $NO_X$  emissions increase, 535 tons per year, is above the major emission rate 250 tons per year. Therefore, emissions of  $NO_X$  are subject to an air quality impact analysis and a BACT determination under 40 CFR 52.21(i).

# V. Control Technology Review

Fuel injection retardation is an effective  $NO_{\mathbf{X}}$  control technique but results in approximately a 3% increase in fuel usage. The increased monthly cost to a consumer using 1000 kwh of electricity would be approximately one dollar. Based on a proposed NSPS for stationary internal combustion engines, FDER has determined that this technique represents the best available control technology for the proposed gas diesel units.  $NO_{\mathbf{X}}$  emissions will be limited for this modification as follows:

Unit No. 2 - 690 ppmv corrected to 15% oxygen on a dry basis
Unit No. 3 - 620 ppmv corrected to 15% oxygen on a dry basis
Unit No. 4 - 625 ppmv corrected to 15% oxygen on a dry basis

# VI. Air Quality Impact Analysis

## A. Summary

Since the proposed project is subject to both State and federal PSD review for the pollutant  $\mathrm{NO}_{\mathbf{X}}$ , an air quality impact analysis is required. This analysis includes:

- o An analysis of existing air quality;
- An ambient air quality standards analysis;
- An analysis of impact on soils, vegetation and visibility and growth-related air quality impacts.

The analysis of existing air quality may require preconstruction monitoring. The air quality standards

analysis depends on air quality modeling carried out in accordance with FDER- and EPA-approved methods. Federal PSD review also requires a good engineering practice stack height evaluation.

Based on this air quality impact analysis, FDER has reasonable assurance that the proposed project, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any State or federal ambient air quality standard. A discussion of the required analysis follows.

# B. Discussion

# Modeling Methodology

Both State and federal regulations contain only annual average standards for  $NO_2$ . The State and federal annual average standards are the same,  $100~\text{ug/m}^3$ . The FDER- and EPA-approved Industrial Source Complex Long-Term (ISCLT) model was used in the air quality impacts analysis. The conservative assumption that all  $NO_X$  is emitted as  $NO_2$  was made in the modeling. One year of National Weather Service data collected at Daytona Beach, Florida in 1964 was used in the model. These data were summarized in the STAR format. A rectangular grid with a 0.1 kilometer spacing was used and all sources were assumed to emit at maximum allowable rates, 24 hours a day, every day of the year. Final stack parameters and emission rates used in modeling the proposed project are contained in Tables VI-I and VI-2.

Table VI-1
Stack Parameters for the Existing Swoope Generating Facility

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)	Emission Rate (g/s) NO <sub>x</sub>
Swoope #1	38.1	1.38	9.5	644	4.04
Swoope #2	6.1	0.36	<b>4</b> 3.9	589	2.69

Table VI-2
Stack Parameters for Proposed Swoope Generating Station

Emission Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)	Emission Rate (g/s) NO <sub>x</sub>
Swoope #1	38.1	1.38	9.5	644	4.04
Swoope #2	6.1	0.36	43.9	589	3.84
Swoope #3	6.1	0.56	41.2	644	7.20
Swoope #4	6.1	0.56	44.2	644	7.00

# 2. Analysis of Existing Air Quality

In order to evaluate existing air quality in the area of a proposed project, FDER may require a period of continuous preconstruction monitoring for any pollutant subject to PSD review. An exemption from this requirement may be obtained if the net emissions increase of the pollutant from the modification would cause an air quality impact less than a certain de minimis level as defined in 40 CFR 52.21(i)(8) and Table 500-3 in Chapter 17-2, FAC. The federal level is 14 ug/m³, annual average, however, in the State rules the level is currently defined as 14 ug/m³, 24-hour average. Modeling predicts the impact of the proposed project to be greater than the State level, but less than the federal level.

Under the existing State regulation which requires preconstruction monitoring for  $\mathrm{NO}_{\mathbf{X}}$ , FDER has determined that existing representative  $\mathrm{NO}_{\mathbf{X}}$  ambient air monitoring data may be used. Since the Swoope facility is located in a remote area with respect to non-specified  $\mathrm{NO}_{\mathbf{X}}$  sources, FDER has determined that  $\mathrm{NO}_{\mathbf{X}}$  data gathered at a regional site may be used as representative data. FDER has chosen the Stanton Plant monitoring site in east Orange County, which is operated by the Orlando Utilities Commission, as a regional  $\mathrm{NO}_{\mathbf{X}}$  monitoring site for this project. Based on data from

this site, FDER has assumed a background  $NO_{\mathbf{X}}$  value of 12 ug/m<sup>3</sup>, annual average.

# 3. Ambient Air Quality Standards Analysis

Both State and federal PSD regulations require the permit applicant to demonstrate that, given existing air quality in an area, a proposed emissions increase subject to PSD will not cause or contribute to any violation of ambient air quality standards. For this project, an ambient air quality standards analysis is required for  $NO_X$ . Modeling results predict that the highest expected annual average impact due to the Swoope Generating Station is  $28~\text{ug/m}^3$  (this value includes a background value of  $12~\text{ug/m}^3$ ). This value is well below both the State and federal ambient air quality standard of  $100~\text{ug/m}^3$ , annual average.

The impacts of interaction of emissions from other sources with those from the Swoope facility were evaluated. Maximum  $\mathrm{NO}_{\mathrm{X}}$  concentrations from surrounding sources are very small compared to maximum concentrations from Swoope. Therefore, no violations of ambient standards are predicted to occur due to interacting sources.

## 4. Good Engineering Practice Stack Height Evaluation

The stack heights proposed for the Swoope project do not exceed the Good Engineering Practice (GEP) stack height of 65 meters for stacks uninfluenced by structures or terrain.

No downwash analysis was performed since only long-term average air quality standards exist for  $NO_{\mathbf{x}}$  emissions.

# Analysis of Impact on Soils, Vegetation and Visibility and Growth-Related Air Quality Impacts

The maximum impact of the proposed  $NO_{\mathbf{X}}$  emissions increase will be insignificant. No adverse effects on soils, vegetation and visiblity are expected.

There will be no secondary residential, commercial or industrial growth which will adversely affect air quality in the area.

# VII. Conclusions

Based on evaluation of the application, FDER believes that compliance with all State and federal air regulations will be achieved provided certain specific conditions are met. The general and specific conditions are listed in the attached draft State permits (AC 64-57578 and AC 64-57580) and federal permit (PSD-FL-089).

#### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301



BOB: GRAHAM GOVERNOR: ICTORIA J. TSCHINKEL

VICTORIA J. TSCHINKEL SECRETARY

APPLICANT: Utilities Commission

City of New Smyrna Beach

P. O. Box 519

Mew Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57578

COUNTY: Volusia

PROJECT: Swoope Unit #3

Gas Diesel

This permit is issued under the provisions of Chapter:	403	, Florida Statutes, a	nd Chapter 17-2
and 17-4 Florida Administrative Code: Ti	he above named applicant; hereinafte	er called Permittee:	is hereby authorized to
perform the work or operate the facility shown on the	approved drawing(s), plans: docume	nts, and specification	ons attached hereto and.
made a part hereof and specifically described as follows:	:		

For the installation of a 2050 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

# Attachments:

- 1. Application to Construct Air Pollution Source, DER Form 17-2.122(16), received on June 28, 1982.
- 2. Best Available Control Technology (BACT) Determination dated August 18, 1982.

PAGE 1 05 4

PERMIT NO .: AC 64-57578

APPLICANT: Utilities Commission

#### GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations; and restrictions:set forth herein are: "Permit Conditions:, and assistch are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida:Statutes, Permittee is hereby placed, on notice that the department will review this permit periodically and may initiate court action for any violation of the: "Permit Conditions" by the permittee; its agents, employees; servants: or representatives.
- 2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings; exhibits; specifications; or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance; including exact dates and times; or, if not corrected; the anticipated times the non-compliance is expected to continue; and steps being taken to reduce; eliminate; and prevent recurrence of the non-compliance. 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 revocation of this permit.
- 4. As provided in subsection 403.087(6), 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee: from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities: therefore caused: by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida. Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
- 9. This permit is not transferable: Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for any non-compliance of the permitted.
- 10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:

Į	]	Determination of Best Available Control Technology (BACT)
[	]	Determination of Prevention of Significant Deterioration (PSD)
[	]	Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO .: AC 64-57578

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

- 1. The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the Unit No. 3 shall be limited to 620 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.
- 4. The 70% capacity factor restriction of Swoope Unit No. 2 shall be eliminated. The new  $NO_{\mathbf{X}}$  emission limit, which is regulated by the attached BACT determination, shall be 690 ppmv corrected to 15% oxygen on a dry basis.

PERMIT NO.: AC 64-57578
APPLICANT: Utilities Commission

Expiration Date: June 30, 1983	Issued this day of , 19
Pages Attached.	STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
	Signature

#### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301



BOB GRAHAM-GOVERNOR-VICTORIA J. TSCHINKEL SECRETARY

APPLICANT: Utili

Utilities Commission

City of New Smyrna Beach

P. O. Box 519

New Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57580

COUNTY: Volusia

PROJECT: Swoope Unit #4

Gas Diesel

This permit is issued under the provisions of Chapter.	403	Florida Statutes, and Chapter 17-2
and 17-4 Florida Administrative Code. Ti	he-above named applicant; hereinafts	ricalled Permittee, is hereby authorized to
perform the work or operate the facility shown on the	approved drawing(s), plans, docume	nts, and specifications attached hereto and
made a part hereof and specifically described as follows:	:	

For the installation of a 2275 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

# Attachments:

- Application to Construct Air Pollution Source, DER Form 17-1.122(16), received on June 28, 1982.
- 2. Best Available Control Technology (BACT) Determination dated August 18, 1982.

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PERMIT NO .: AC

AC 64-57580

APPLICANT:

Utilities Commission

#### GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations, and restrictions:set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant: to the authority of Section 403.161(1), Florida:Statutes, Permittee is hereby placed on notice that the department: will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee; its agents, employees, servants or representatives:
- 2. This permit is valid only for the specific processes and operations, indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits; specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and: (b) the period of non-compliance; including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue; and steps being taken to reduce; eliminate; and prevent recurrence of the non-compliance. 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 revocation of this permit:
- 4. As provided in subsection 403:087(6), 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare; animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
- 9. This permit is not transferable: Upon sale or legal transfer of the property or facility covered by this permit; the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
- 10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:

[	Ţ	Determination of Best Available Control Technology (BACT)
{	}	Determination of Prevention of Significant Deterioration (PSD)
[	]	Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 64-57580

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

- The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the unit shall be limited to 625 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.

Q <sub>a</sub> ,	es Attached.	STATE OF FLO	RIDA OF ENVIRONMENTA	NI SECLUATION
Expiration Date:	June 30, 1983	Issued this	day of	, 19
				• .

Signature

AC 64-57580

Utilities Commission

PERMIT NO.: APPLICANT:

# Preliminary Determination

(PSD-FL-089)

Utilties Commission City of New Smyrna Beach

The preceding Technical Evaluation and Preliminary Determination are adopted by reference for the proposed federal permit, PSD-FL-089.

Special Conditions listed in the draft State permits, AC 64-57578 and AC 64-57580 are adopted as special conditions for the draft federal permit, PSD-FL-089, for this source.

The attached General Conditions are also made a part of the proposed federal permit PSD-FL-089 for this source.

Attachment: General Conditions (federal)

#### GENERAL CONDITIONS

- 1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
- The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
- 3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
- 4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
- 5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:
  - (a) description for noncomplying emission(s),
  - (b) cause of noncompliance,
  - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

- 6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
- 7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
- 8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
  - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
  - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
  - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and

- (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
- 9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn
Chief, Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

# BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION CITY OF NEW SMYRNA BEACH VOLUSIA COUNTY

The City of New Smyrna Beach plans to increase electric power generation capacity an additional 4.33 megawatts. Two generators, each driven by a dual fuel twelve cylinder diesel engine, are to be installed at the Swoope generating station. The engines will use natural gas and No. 2 distillate oil as fuel.

The new installations identified as Swoope No. 3 and Swoope No. 4 will have a maximum engine heat input of 19.2 and 21.2 million Btu per hour, respectively. Both units are scheduled to operate 8760 hours per year.

Swoope No. 2, a similar existing 910 kilowatt unit is limited by permit conditions to operate at 70 percent of full load (AC 64-43484). The applicant has requested this permit condition be changed to allow unrestricted operation.

# Air Contaminants Summary: (tons per year)

Source	PM.	<u>so<sub>2</sub></u>	CO	$\overline{NO_{\mathbf{X}}}$	HC
No. 3 Unit	<1	2	39	250	11
No. 4 Unit	<1	2	43	245	15
Total	2	4.	82	495	26
No. 2 Unit (1)	<1	<1	5	40	16
Rate (2)	25	40	100	40	-

<sup>(1)</sup> Emissions due to increase from 70 to 100 percent operation.

The amount of  $NO_X$  emitted from the proposed sources exceed the significant emission rate and requires a BACT determination per 17-2.500(5)(c), FAC. A BACT determination is also required for Swoope No. 2 due to the relaxation of a permit limitation.

<sup>(2)</sup> Significant Emission Rate, 17-2.500, FAC, Table 500-2.

# BACT Determination Requested by the Applicant:

Pollutant

Emission Limit

 $NO_{\mathbf{x}}$ 

Natural gas firing with the ignition timing set as recommended by the manufacturer

# Date of Receipt of a BACT Application:

June 28, 1982

# Date of Publication in the Florida Administrative Weekly:

July 9, 1982

# Review Group Members:

Comments were obtained from the New Source Review Section, the Air Modeling Section in the Bureau of Air Quality Management, and DER St. Johns River District.

# BACT Determined by DER:

\*NOx Pollutant Emission Limits

Unit 2 - 690 ppmv corrected to 15% oxygen on a dry basis

Unit 3 - 620 ppmv corrected to 15% oxygen on a dry basis

Unit 4 - 625 ppmv corrected to 15% oxygen on a dry basis

\*Based on manufacturer's rated brake-specific fuel consumption at peak load. Applicant has option of using brake-specific fuel consumption as determined in the field. Test methods and operations monitoring as per the proposed NSPS 40 CFR 60.320, Subpart FF, Subsections 60.324 and 60.323.

## DER Determination Rationale:

There is a proposed NSPS for stationary internal combustion engines, 40 CFR 60.320, Subpart FF. The NSPS is in administrative review and promulgation is expected in the last quarter of 1982. The consensus was that a more stringent NO $_{\rm X}$  emission limitation than the NSPS was not justified. The department has determined BACT for NO $_{\rm X}$  emissions to be based on the NSPS formula in Subpart FF, Subsection 60.322(a)(3)(ii).

# $STD = 600 \ \frac{10.2}{Y}$

- STD = Allowable NO<sub>x</sub> emissions, ppmv corrected to 15% oxygen on a dry basis.
  - Y = Manufacturer's rated brake-specific fuel consumption at peak load (Kj/w-hr) or applicants brake-specific fuel consumption at peak load as determined in the field.

The  $\mathrm{NO}_{\mathrm{X}}$  emission limits determined as BACT are based on the manufacturer's brake-specific fuel consumption at peak load. The applicant has the option of using a brake-specific fuel consumption as determined in the field.

The NSPS was proposed July 23, 1979 (44 FR 43152) to apply to sources that commence construction after January 1982. The manufacturers of engines subject to the regulations should have had adequate time to develop a  $\mathrm{NO}_{\mathrm{X}}$  emission reduction control technique for their engines in anticipation of the NSPS being promulgated.

The applicant, therefore, should have no great difficulty in meeting the  $\mathrm{NO}_{\mathbf{X}}$  emission limits determined as BACT for Units 3 and 4. However, Unit 2 was permitted in July 1981 and that engine may require major modifications to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. In this case, the applicant may submit to the department actual field data indicating the inability to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. The department will then review the BACT determination for Unit 2 on basis of the new data presented.

The dual-fired engines serve the same application as diesel engines. In the event that natural gas should become limited the dual-fuel engines would likely operate as diesel engines. The  $\mathrm{NO}_{\mathrm{X}}$  emission limit determined as BACT also applies to diesel engines, therefore, simplifying compliance by the applicant in the event the engines are converted totally to diesel.

Fuel injection retard is an effective  $NO_{\mathbf{X}}$  control technique but results in approximately a 3% increase in fuel usage. This will increase total fuel usage by 1107 cubic feet per hour of natural gas and 0.519 gallon per hour of No. 2 oil. The increased monthly cost to a consumer using 1000 kw of electricity would be approximately one dollar. The additional fuel cost is not considered excessive.

# Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator Department of Environmental Regulation Bureau of Air Quality Management 2600 Blair Stone Road Tallahassee, Florida 32301

Recommended By:

Date: Mugust 18, 1982

Approved:

Victoria V. Tschinkel, Secretary

Date: 8)18/82

DER

JUN 28 1982

BAQM

PERMIT APPLICATIONS
AND
PSD ANALYSIS FOR NEW SMYRNA BEACH UTILITIES

SWOOPE UNIT #3 AND #4

## CONTENTS

- I CONSTRUCTION PERMIT APPLICATION SWOOPE #3
- II CONSTRUCTION PERMIT APPLICATION SWOOPE #4
- III ATTACHMENTS
  - A--Reference to Permit Section II
  - B--Manuafacturers letter-basis of emissions estimate
  - C-Flow diagram
  - D-Location map
  - E-Plot plan
  - F-PSD analysis
  - G-ISCLT computer model output

DEPARTMENT OF ENVIRONMENTAL REGULATION AC 64.5% SOURCE TYPE: City Utility/Gas Diesel APPLICATION TO OPERATE/CONSTRUCT APPLICATION TYPE: [X] Construction [] Operation [] Modification Best Available Copy COMPANY NAME: Utilities Commission, City of New Smyrna Beach Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking U. SOURCE LOCATION: APPLICANT NAME AND TITLE: <u>Utilities Commission</u>, APPLICANT ADDR'ESS: PO Box 519, New Smyrna Beach, FL 32069 City New Smyrna Beach 4. APPLICANT

I am the undersigned owner or authorized representative. of <u>Utilities Commission</u>, <u>City of New Smyrna Beach</u>, Fl certify that the statements made in this application for a pollution control correct and complete to the best of my knowledge and belief. Further, larger than a stabilishment, will be non-transferable and | will promptly notify the degardnent upon sale or legal transfer of the degardnent upon sale granted by the department will be nonstransferable and | will promptly notify the department upon sale or legal transfer of the department in transfer of the department upon sale or legal transfer or legal \*Attach letter of authorization PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.) 3. This is to certify that the angineering features of this pollution control project have been designed/examined by me and found to the treatment and disposal of pollutants characterized in th This is to certify that the angineering features of this pollution control project have been designed/examined by me and found to more is reasonable assurance in my professional judgment, that the pollution control facilities when proof. be in conformity that the engineering reatures or this pollution control project have been designed, examined and operated, will discharge an effluent that complies with all abolicable statution over the state of Florida and the state of Florida Definition of the department o erly maintained and operated, will discharge an erfluent that complies with all applicable statution control facilities and, if applicable, pollution cant a set of instructions for the proper maintenance and operation of the pollution of the pollution of the pollution control facilities and, if applicable, pollution of the applicable, pollution of the pollution control facilities and, if applicable, pollution of the pollution control facilities and, if applicable, pollution control facilities and contr (Affix Seal) 'da Registration No. Environmental 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) Name (Please Type) PO BOX ESE, Science Company Name (Please Type) Gainesville, Date: 6/22/82 Mailing Address (Please Type)

Florida 32602

— Telephane No.(904) 372-3318

# SECTION II: GENERAL PROJECT INFORMATION

formance as a result of installation. State whether the project will result in full compliance. Att  Installation and operation of diesel generating unit.	
	Unit will be
natural gas fired with 6 percent heat input from No. 2	
fuel. Unit is rated at 2880 BHP with generating capac	itv of 2050 KW.
	,
Schedule of project covered in this application (Construction Permit Application Only)	
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for in project; serving pollution control purposes. Information on actual costs shall be furnished with permit.)	
Not Applicable	
· · · · · · · · · · · · · · · · · · ·	
Indicate any previous DER permits, orders and notices associated with the emission point; inc tion dates.	uding permit issuance and o
No previous DER permits have been issued for this unit	
	•
	_
and Chapter 22F-2, Florida Administrative Code?YesX No  Normal equipment operating time: hrs/day; days/wk7 ; wks/yr52  if seasonal, describe:	; if power plant, hrs/yr 87
<u> </u>	
If this is a pay and the same a	
If this is a new source or major modification, answer the following questions. (Yes or No)	No
1. Is this source in a non-attainment area for a particular pollutant?	No
Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	No No
1. Is this source in a non-attainment area for a particular pollutant?	No
Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	No
<ol> <li>Is this source in a non-attainment area for a particular pollutant?</li> <li>If yes, has "offset" been applied?</li> <li>If yes, has "Lowest Achievable Emission Rate" been applied?</li> </ol>	No Yes
<ol> <li>Is this source in a non-attainment area for a particular pollutant?</li> <li>If yes, has "offset" been applied?</li> <li>If yes, has "Lowest Achievable Emission Rate" been applied?</li> <li>If yes, list non-attainment pollutants.</li> </ol> 2. Does best available control technology (BACT) apply to this source? If yes, see	
<ol> <li>Is this source in a non-attainment area for a particular pollutant?         <ul> <li>If yes, has "offset" been applied?</li> <li>If yes, has "Lowest Achievable Emission Rate" been applied?</li> <li>If yes, list non-attainment pollutants.</li> </ul> </li> <li>Does best available control technology (BACT) apply to this source? If yes, see Section VI.</li> <li>Does the State "Prevention of Significant Deterioriation" (PSD) requirements</li> </ol>	Yes
<ol> <li>Is this source in a non-attainment area for a particular pollutant?         <ul> <li>If yes, has "offset" been applied?</li> <li>If yes, has "Lowest Achievable Emission Rate" been applied?</li> <li>If yes, list non-attainment pollutants.</li> </ul> </li> <li>Does best available control technology (BACT) apply to this source? If yes, see Section VI.</li> <li>Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.</li> <li>Do "Standards of Performance for New Stationary Sources" (NSPS) apply to</li> </ol>	Yes

See Attachment A

considered questionable.

# SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contam	nants:	Utilization	Relate to Flow Diagram
Description	Туре	%:Wt	Rate - lbs/hr	Relate to Flow Diagram

B. Process Rate; if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted:

N	Emiss	ion <sup>1</sup>	Allowed Emission <sup>2</sup> Allowable <sup>3</sup>		Potential Emission <sup>4</sup>		Relate
Name of Contaminant	Maximum lbs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C. 	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram
Nitrogen Oxides	57.1	250	NA	NΔ	57 1	250	В
Particulate	0.25	1	_NA	NA	0.25	,	<u> </u>
Sulfur Dioxide	0.42	2	NA NA	NA	0.42	2	В
Carbon Monoxide	8.9	39	NA	NA	8.9	39	В
Hydrocarbons	2.5	11	NA	NA	2.5	11	В

D. Control Devices: (See Section V, item 4)

Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
		!		!
				1
		; ;	·	
· <del>-</del>	!	;		!
		1		

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

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<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>5</sup> If Applicable

Type (Be-Specific)	Consui	mption*	Maximum Heat Input
i ype (be-specific)	avg/hr	max./hr	(MMBTU/hr)
Natural Gas (ft <sup>3</sup> )	17,600	17,600	18.05
No. 2 Fuel Oil (gallons)	8.2	8.2	1.15

		ei Oils, barreis/hr;	Coal, lbs/hr				
uel Analysis:		s/Pilot Fuel		<b>a</b>	Ng/Ng		
ercent Sulfur: _	/=				: Nitrogen:		. •
Density:	1026 Btu/f		_	• •	-		P#11/a
	aminants (which n			ione		<del></del>	b.i O/g
raier Fuer Cont	aminantz (wnich n	tay cause air polic	100n)				
. If applicab	ele, indicate the pe	reent of fuel used	for space heat	ing Appual Av	NA NA	Maximum	NA NA
	quid or solid waste						
	liquid and s	-			n either a c	enitery cou	200
•	em or sanita			sposed or I	r eremer a sa	anical v Sewa	186
	em or sanita.	ry landilli.					
				<u> </u>			
	tack Geometry an		istics (Provide d	data, for each stac			
Stack Heig	ht:	20	ft	Stack Diameter	:	22 inches	
Stack Heig Gas Flow	ht:	20 21,200	ft: ACFM	Stack Diameter	:	700	f
Stack Heig Gas Flow	ht:	20 21,200	ft: ACFM	Stack Diameter	:	700	· · · · · · · · · · · · · · · · · · ·
Stack Heig Gas Flow	ht:	20 21,200	ft: ACFM	Stack Diameter	:	700	· · · · · · · · · · · · · · · · · · ·
Stack Heig Gas Flow	ht:	20 21,200	ft: ACFM	Stack Diameter	:	700	· · · · · · · · · · · · · · · · · · ·
Stack Heig Gas Flow	ht:	20 21,200 5	ft: ACFM %	Stack Diameter	:erature:	700	· · · · · · · · · · · · · · · · · · ·
Stack Heig Gas Flow	ht:	20 21,200 5 SECTION	ft: ACFM %	Stack Diameter Gas Exit Temp Velocity:	:erature:	700	· · · · · · · · · · · · · · · · · · ·
Stack Heig Gas Flow Water Vapo	Rate:	20 21,200 5 SECTION	ACFM %	Stack Diameter Gas Exit Temp Velocity:	:erature:	700 135 Type V	Type V!
Stack Heig Gas Flow	Rate:	20 21,200 5 SECTION	ACFM %	Stack Diameter Gas Exit Temp Velocity:  RATOR INFORM	:	700 135	FP
Stack Heig Gas Flow Water Vapo Type of Waste	ht: Rate: or Content: Type 0	20 21,200 5 SECTION N	ACFM %  IV: INCINEF ot Applica	Stack Diameter Gas Exit Temp Velocity:  RATOR INFORM ble  Type III	erature:	700 135 Type V (Liq & Gas	Type V! (Solid
Stack Heig Gas Flow Water Vapo	ht: Rate: or Content: Type 0	20 21,200 5 SECTION N	ACFM %  IV: INCINEF ot Applica	Stack Diameter Gas Exit Temp Velocity:  RATOR INFORM ble  Type III	erature:	700 135 Type V (Liq & Gas	Type V! (Solid

\_ Model No. \_

Manufacturer \_

Date Constructed \_\_\_\_

,	Volume	Heat Release	Fuel		Temperature
	(ft)3	(BTU/hr)	Type	BTU/hr	(OF)
Primary Chamber					·
Secondary Chamber					
Stack Height:		.ft. Stack Diameter _		Stack Temp	o
Gas Flow Rate:		ACFM		DSCFM** Velocity _	FPS
*If 50 or more tons per o	day design capa	city, submit the emissio	ns: rate. in grains.;	per standard. cubic. foot	dry gas corrected to 50% ex-
Type of pollution control	device: [ ] C	cyclone [ ] Wet Scrub	ber [ ] Afterbu	irner [ ] Other (spec	ify)
Brief description of opera-	tion-characterist	ics of control devices			
Brief description of opera	tingscharacterist	tics of control devices: _	• •		
Brief description of opera	ting:characterist	ics of control devices: _			
Brief description of opera	ting:characterist	ics of control devices: _			_
Brief description of opera	ting:characterist	ics of control devices: _			
Brief description of opera	ting:characterist	cics of control devices: _			
Brief description of opera	ting:characterist	ics of control devices: _			
Brief description of opera					·
					•
					· .

#### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight show derivation. Not Applicable
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
  See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See ATTACHMENT B
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for bagnouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).

  Not Applicable
- 5. With construction permit application, attach derivation of control device(s) efficiency, include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).

  Not Applicable
- 6. An 8½" x 11" flow diagram which will, without revealing trade-secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

  See ATTACHMENT C
- 7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

  See ATTACHMENT D
- 8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

  See ATTACHMENT E

9. An application fee of \$20, unless exempted by Section 17-4:05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

The supplier of the supplier o

With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

#### SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant	Rate-or Concentration
	<u> </u>
Has EPA deciared the best available control tec	chnology for this class of sources (If yes, attach copy) $\{\ \}$ Yes: $[\![\chi\ ]\!]$ No
Contaminant	Rate or Concentration
What emission levels do you propose as best av	ailable control technology? See Section IIIC  Rate or Concentration
Describe the existing control and treatment ted	chnology (if any). See Part F
1. Control Device/System:	
2. Operating Principles:	
3. Efficiency: *	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
7. Energy:	8. Maintenance Cost:
9. Emissions:	
Contaminant	Rate or Concentration
	·

<sup>\*</sup>Explain method of determining D 3 above.

	e.	Velocity:	FPS	
E. De	scribe	the control and treatment techr	nology available (As-many	types as applicable, use additional pages if necessary
1.			See Part F	
	٤.	Control Device:		
	ь.	Operating Principles:		
	c.	Efficiency*:	d.	Capital Cost:
	e.	Useful Life:	f.	Operating Cost:
	g.	Energy *:	h.	Maintenance Cost:
	i.	Availability of construction mat	erials and process chemica	nis:
	j.	Applicability to:manufacturing.	processes:	
	k.	_		e space, and operate within proposed levels:
2.		Cananal Davins		
	a.	Control Device:	•	
	b.	Operating Principles:		
	c.	Efficiency*:	d.	Capital Cost:
	e.	Useful Life:	f.	Operating Cost:
	g.	Energy **:	h.	Maintenance Costs:
	i.	Availability of construction mat	erials and process chemica	is:
	j.	Applicability to manufacturing p	processes:	
	k.	Ability to construct with contro	l device, install in available	e space, and operate within proposed levels:
*Explain	n met	hod of determining efficiency.		
••Energy	to b	e reported in units of electrical p	ower - KWH design rate.	
3.				
	a.	Control Device:		
	b.	Operating Principles:		
	c	Efficiency*:	ď.	Capital Cost:
		Life:		Operating Cost:
	e.	wire.		-

ft. b. Diameter:

ACFM d. Temperature:

att.

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Best Available Copy

	. Ava	lability of construction materials an	o process chemi	icals:
j.	Арр	licability to manufacturing processe	s:	,
k.	Abil	ity to construct with control device:	; install in availa	ble space and operate within proposed levels:
4.				
a.	Con	trol Device		
b.	Ope	rating Principles:		
c.	Effic	ciency*:	d.	Capital Cost:
e.	Life		f;	Operating Cost:
g.	Ener	gy:	h:	Maintenance Cost:
i.	Avai	lability of construction materials an	d:process chemi	icals:
j.	Арр	licability to manufacturing processes	<b>s:</b> .	
k.	Abil	ity to construct with control device,	install in availa	ble space; and operate within proposed levels:
Descri	be the	control technology selected:	See Ite	o= 10
1. Ca	ontroi l	Device:	266 116	em 10 .
2. Ef	fficienc	y*:	3.	Capital Cost:
4. Li	ife:		5.	Operating Cost:
6. Er	nergy:		7.	Maintenance Cost:
8. M	anufact	urer:		
9. Ot	ther loc	ations where employed on similar p	rocesses:	
a.				
	(1)	Company:		
	(2)	Mailing Address:		
	(3)	City:	(4	State:
	(3) (5)	City: Environmental Manager:	(4	State:
			(4	) State:
plain m	(5) (6)	Environmental Manager:	(4	) State:
plain m	(5) (6)	Environmental Manager: Telephone No.:	(4	State:
plain m	(5) (6) ethod (	Environmental Manager: Telephone No.: of determining efficiency above.	(4	Rate or Concentration
piain m	(5) (6) ethod (	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*:		
plain m	(5) (6) ethod (	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*:		
piain m	(5) (6) ethod (	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*:		
plain m	(5) (6) ethod (7)	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*: Contaminant		
	(5) (6) ethod (7)	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*: Contaminant		
	(5) (6) ethod (7) (7)	Environmental Manager: Telephone No.: of determining efficiency above. Emissions*: Contaminant  Process Rate*:		

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(6) Telephone No.:	•
(7) Emissions*:	•
Contaminant	Rate or Concentration

(8) Process, Rate\*:

(5)

10. Reason for selection and description of systems:

The BACT proposed for NO $_{\rm X}$  is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower NO $_{\rm X}$  emissions could be achieved by retarding the pilot fuel injection but this would be at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard, optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s)

#### SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

والمرورة الرابعة المحادي والأمراث أنجا وتنفي والكريمووييوييس والأناف المراج المتابع والمتابع ويعفون مهوما

A.	Company Monitored Data Not Applica	ble	
	1 no sites TSP	( ) so <sup>2</sup> *	. Wind spd/dir
	Period of monitoring / /	to/ /	_
	month day ye	ar month day year	
	Other data recorded:		· · · · · · · · · · · · · · · · · · ·
	Attach all data or statistical summaries to this appl	ication.	
	2. Instrumentation, Field and Laboratory		
	a) Was instrumentation EPA referenced or its ed	quivalent?' Yes N	•
	b) Was instrumentation calibrated in accordance	with Department procedures?	Yes No Unknown
В.	Meteorological Data: Used: for Air Quality Modeling		
	1. 1 Year(s) of data from 1 / 1 / month day ye	64 to: 12 / 31 / 64 ar month day year	-
	2. Surface data obtained from (location)	NA	
	3. Upper air (mixing height) data obtained from (loca	tion)NA	
	4. Stability wind rose (STAR) data obtained from (lo	Daytona (WBAN 128	334)
C.	Computer Models Used		
-	1 Industrial Source Complex Long T	erm	Modified? If yes, attach description
	3		
	4		Modified? If yes, attach description
	Attach copies of all final model runs showing input da	ta, receptor locations, and princip	ile output tables.
D.	Applicants Maximum Allowable Emission Data		
	Pollutant	Emission R	tate
	X <del>XX</del> NO	7.2	grams/sec
	\$82.		grams/sec
Ε.	Emission Data Used in Modeling see Permit	Application and ATTACH	
	Attach list of emission sources. Emission data require UTM coordinates, stack data, allowable emissions, and	ed is source name, description on	
۴	Attach all other information supportive to the PSD rev	riew.	
*Spe	cify bubbler (B) or continuous (C).	See ATTACHMENT	F
G.	Discuss the social and economic impact of the select duction, taxes, energy, etc.). Include assessment of the		
	The installation of this unit will	improve the reliabilit	ry of the community
	electrical system without signific	•	•
	impacts.	•	

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

AC64-5-45-53



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

# DER

## APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

JUN 28 1982

SOU	RCETYPE: _City	Utility/Gas Diesel	[Σ] New <sup>1</sup> [ ] Existing <sup>1</sup> <b>RΔ</b> ΩΛΛ
APP	LICATION TYPE:	[X] Construction [ ] Operation	n [] Modification
COM	PANY NAME: <u>Uti</u>	lities Commission, Cit	v of New Smyrna Beach COUNTY: Volusia
loen No.	tify the specific emis 2, Gas Fired)Sw	sion point source(s) addressed in coope Unit 4 Gas Diesel	this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit
sou	RCE LOCATION:	Street 2495 N. Dixie H	ighwav City New Smyrna Beach
		UTM: East505.8	North 3214.8
		Latitude <u>29</u> o <u>03</u> '	47 "N Longitude 80 ° 56 ′ 25 "W
APP	LICANT NAME AND	TITLE: Utilities Com	ission, City of New Smyrna Beach
APP	LICANT ADDRESS:	PO Box 519, Ne	w Smyrna Beach, FL 32069
	, , , , , , , , , , , , , , , , , , ,		
		SECTION I: STATEME	NTS BY APPLICANT AND ENGINEER
A.	APPLICANT		Herritary of the Charles of the Charles
	I am the undersigned	downer or authorized representa	Utilities Commission, City of New Smyrna Beach
*Att	permit are true, cor pollution control so Florida Statutes, an	rect: and complete to the best ource and pollution control faci d all the rules and regulations o rtment, will be non-transferable nent.	for a Construction Permit Application of my knowledge and belief. Further, I agree to maintain and operate the lities in such a manner as to comply with the provision of Chapter 403, if the department and revisions thereof. I also understand that a permit, if and I will promptly notify the department upon sale of legal transfer of the  Signed:  P. A. Korelich, Chief Engineer  Name and Title (Please Type)  Date: 6/24/82  Telephone No. 904-427-1361
В.	PROFESSIONAL EN	NGINEER REGISTERED IN FL	ORIDA (where required by Chapter 471, F.S.)
	be in conformity wi permit application. erly maintained and rules and regulations	th modern engineering principle. There is reasonable assurance, in operated, will discharge an efflu s of the department. It is also agr	pollution control project have been designed/examined by me and found to a applicable to the treatment and disposal of pollutants characterized in the my professional judgment, that the pollution control facilities, when propert that complies with all applicable statutes of the State of Florida and the eed that the undersigned will furnish, if authorized by the owner, the appliand operation of the pollution control facilities and, if applicable, pollution
		•	Signed: David U. Buth
			David A. Buff, P.E.
	(Affix Seal)		Name (Please Type) Environmental Science and Engineering, Inc.
			Company Name (Please Type) PO Box ESE, Gainesville, Florida 32602
			Mailing Address (Please Type)
	Florida Registration	No19011	Date: 6/22/82 Telephone No. (904) 372-3318

See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

#### SECTION II: GENERAL PROJECT INFORMATION

Installation and operation of diesel generating unit. Unit w	
fired with 6 percent heat input from No. 2 oil as pilot fuel.	. Unit is rated
at 3168 BHP with generating capacity of 2275 kw.	
Schedule of project: covered in this:application (Construction Permit Application Only)	•
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only fo project serving pollution control purposes. Information on actual costs shall be furnished permit.)	d with the application for ope
Not Applicable	
<u> </u>	
Indicate any previous DER permits; orders and notices associated with the emission point, tion dates.	including permit issuance and e
No previous DER permits have been issued for this unit	
Is this application associated with or part of a Development of Regional Impact (DRI) pursu and Chapter 22F-2, Florida Administrative Code? Yes Y. No  Normal equipment operating time: hrs/day; days/wk; wks/yr; if seasonal, describe:	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_87</u> (
and Chapter 22F-2, Florida Administrative Code? Yes Y No  Normal equipment operating time: hrs/day2/; days/wk7; wks/yr52	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Yes No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  if seasonal, describe:	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Yes No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  if seasonal, describe:	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code?YesYes	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y No  Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y No  Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y. No  Normal equipment operating time: hrs/day2/; days/wk7; wks/yr52  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr <u>_876</u>
and Chapter 22F-2, Florida Administrative Code? Yes Y. No  Normal equipment operating time: hrs/day2/; days/wk7; wks/yr52  if seasonal, describe:	ant to Chapter 380, Florida Sta ; if power plant, hrs/yr _876
and Chapter 22F-2, Florida Administrative Code? Yes You No Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements	No  Yes

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

See Attachment A

#### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materiais and Chemicals Used in your Process, if applicable: Not Applicable

Description	1	Contami	nants	Utilization	Salara as Slave Diagram
Description		Type	% Wt	Rate - lbs/hr	Relate to Flow Diagram
•	-	:	1		-
	!				·
	:				

8.	Process F	Rate, if	applicable:	(See S	Section	٧,	tem	1)
----	-----------	----------	-------------	--------	---------	----	-----	----

1.	Total Process input Rate (lbs/hr): _	Not Applicable	
2.	Product Weight (lbs/hr):	Not Applicable	

#### C. Airborne Contaminants Emitted:

,	Emiss	ion <sup>1</sup>	Allowed Emission <sup>2</sup>	Allowable <sup>3</sup> Emission lbs/hr	Potential Emission <sup>4</sup>		Relate
Name of Contaminant	Maximum lbs/hr		Rate per Ch. 17-2, F.A.C.		ibs/hr	T/yr	to Flow Diagram
Nitrogen Oxides	55.9	245	NA	NA	55.9	245	В
Particulate	0.28	1	NA	NA	0.28	1	В
Sulfur Dioxide	0.47	2	NA	NA NA	0.47	2	В
Carbon Monoxide	9.8	43	NA	NA NA	9.8	43	B
Hydrocarbons	3.5	15	NA	NA	3.5	15	В

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
	·	·		
		1		

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

DER FORM 17-1.122(16) Page 3 of 10

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

 $<sup>^4</sup>$ Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

Type (Be Specific)	Cons	sumption*	Maximum Heat Input
ype (be specific)	avg/hr	max./hr	(MMBTU/hr)
Natural Gas (ft <sup>3</sup> )	19.300	19,300	19.85
No. 2 Fuel Oil (gallons)	9.1	<u>a</u> ]	1 27

*Units Natural Gas, Fuel Analysis: No		el Oils, barrels/hr; 'Pilot Fuell (					
Percent Sulfur: Th	·			Percent Ash	Neg/Neg		,
Density: NA Heat Capacity: 10	026 Btu/ft <sup>3</sup>	<sup>3</sup> /19430	BTU/ib	NA /140	1.0.90	,	BTU/gal
Other Fuel Contam							
G. Indicate liquid	d or solid waste liquid and	s generated and m	nethod of dispo es will be	sal.	erage <u>NA</u>		
Stack Height:			ft	Stack Diameter	ek): :: <u>22</u> erature: <u>700</u>		
Water Vapor (	Content:	5	%	Velocity:	145_		FPS
		SECTION	IV: INCINE	RATOR INFORM	IATION		
			Not Appl	icable			
Type of Waste	Type O (Plastics)	Type 1 (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated		<u> </u>				_	
Description of Waste	3.			<del>.</del>			
Total Weight Incine	rated (lbs/hr) _			Design Capacity	/ (lbs/hr)		
Approximate Numb	er of Hours of (	Operation per day	· <del></del>		days/w	eek	
Manufacturer							
Date Constructed				Model No.			

	Volume	Heat: Release		Fuel	Temperature <sup>.</sup>
	(ft)3	(B.TU/hr)	Туре	BTU/hr	(OF)
Primary Chamber					
Secondary Chamber				į į	
tack Height:		ft. Stack Diameter		Stack Tem	p
as Flow Rate:		ACFM		DSCFM* Velocity	FP
If 50 or more tons per o	day design capac	sity, submit the emissions r	rate-in grains	per standard; cubic, foot	dry gas.corrected to 50% ex
	device: [ ] CV	volone: [ ] Wet Scrubber	[ ] Afterb	numer [] Other (spec	ify)
riet description of operat	ting characteristic	cs. of control devices:			
			——————————————————————————————————————		
		,			
Na:	661			\.	
itimate disposal of any e	mident other tha	in that emitted from the sta	ick (scrubbei	rwater, ash, etc.):	
				• •	
		,			
	_				
	S	ECTION V: SUPPLEMEN	TAL REQUI	IREMENTS	
ease provide the following	ng supplements y	where required for this appl	ication.		
1. Total process input r	rate and product	weight - show derivation.	Not	Applicable	
turer's test data, etc	.,) and attach pr . To an operatio	th basis of emission estimater roposed methods (e.g., FR in application, attach test re	te (e.g., design Part 60 Met esults or met	gn calculations, design ( thods 1, 2, 3, 4, 5) to sh hods used to show proo	ow proof of compliance with for compliance. Information

A grant property of the second second

- provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

See Attachment B

With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio: for scrubber include cross-section sketch, etc.).

Not Applicable

5. With construction permit application, attach derivation of control device(s) efficiency, include test or design data, items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).

Not Applicable

6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

See Attachment C

7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic

See Attachment D

8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

See Attachment E

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department
of Environmental Regulation.

The second secon

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

#### SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant			Rate or Concentration			
				······································		
Has EPA declared the		nnology for this	class of sources (If	yes, attach copy) [ ] Yes	[ <sub>X</sub> ] No	
	Contaminant			Rate or Concentration		
		<del></del>				
What emission levels	do you propose as best ava	ilable control t	echnology?	See Section IIIC		
	Contaminant	•		Rate or Concentration		
	-			·		
Describe the existing	control and treatment tech	nnology (if any	Can David F	•		
1. Control Device/S			See Part F	•		
2. Operating Princip	oles:					
3. Efficiency: •		4.	Capital Costs:			
5. Useful Life:		6.	Operating Costs:			
7. Energy:		. 8.	Maintenance Cost:			
9. Emissions:						
	Contaminant			Rate or Concentration		

<sup>\*</sup>Explain method of determining D 3 above.

·	10.	Stac	k Parameters			
		a.	Height:	ft	ь.	Diameter:
		<b>C</b> .	Flow-Rate:	ACFM	d.	Temperature:
		e.	Velocity:	FPS		
E.	Des	cribe	the control and treatment technology availa	able (As r	many	types as applicable, use additional pages if necessary)
	1.		See Par	t F		
			Control Device:			
		b.	Operating Principles:			
		C:	Efficiency *:		<b>d.</b> .	Capital Cost:
		e.	Useful Life:		f.	Operating Cost:
		g.	Energy *:		h.	Maintenance Cost:
		i.	Availability of construction materials and pro-	rocess ch	emic	als:
		j.	Applicability to manufacturing processes:			·.
		k.	Ability to construct with control device, ins	tall intav	ailab	le space, and operate within proposed levels:
	2.					
		a.	Control Device:			
		ь.	Operating Principles:			
		c.	Efficiency*:		d.	Capital Cost:
		e.	Useful Life:		f.	Operating Cost:
		g.	Energy **:		h.	Maintenance Costs:
		i.	Availability of construction materials and pr	rocess ch	emic	ais:
		j.	Applicability to manufacturing processes:			
		k.	Ability to construct with control device, ins	tall in av	ailab	e space, and operate within proposed levels:
*Ex	nisiq	meti	hod of determining efficiency.			
**En	ergy	to be	reported in units of electrical power — KW	H design	rate:	•
	3.					
		a.	Control Device:			•
		b.	Operating Principles:			
		c.	Efficiency*:		d.	Capital Cost:
		e.	Life:		f.	Operating Cost:
		g.	Energy:		h.	Maintenance Cost:

ft ٥Ę

<sup>\*</sup>Explain method of determining efficiency above.

ly	. •	i. ,	Ava	ilability of construction material	s and process c	hemio	ais:
		j.	App	olicability to manufacturing proce	esses:		
		k.	Abi	lity to construct with control dev	rice, install in a	vailab	le space and operate within proposed levels:
•	4.						
		a.	Con	trol Device			
		b.	Ope	rating Principles:			
		c.	Effi	ciency*:		d.	Capital Cost:
		e.	Life	:		f.	Operating Cost:
		g.	Ene	rgy:		h.	Maintenance Cost:
		i.	svA	ilability of construction materials	s and process: c	hemic	als:
		j.	Арр	licability to manufacturing proce	esses:		
		k.	Abil	lity to construct with control dev	rice, install in a	vailab	ie-space, and operate within proposed levels:
F.	Des	scribe	the	control technology selected:	See Item	10	
	1.	Con	troi	Device:			•
	2.	Effi	cienc	<b>"Y</b> *:		3.	Capital Cost:
	4.	Life	:			5.	Operating Cost:
-	6.	Ene	ďλ:			7.	Maintenance Cost:
	8.	Man	ufac	turer:	•		
	9.	Oth	er loc	cations where employed on simil	ar processes:		
		a.					
			(1)	Company:			
			(2)	Mailing Address:			
			(3)	City:		(4)	State:
			(5)	Environmental Manager:			
			(6)	Telephone No.:			
*E	xplair	n met	hod	of determining efficiency above.			
			(7)	Emissions*:			
				Contaminant			Rate or Concentration
						_	·
	_						
			(8)	Process Rate*:			
		ь.					
			(1)	Company:			
			(2)	Mailing Address:			
			(3)	City:		(4)	State:
*Apr	olicar				ailable. Should		nformation not be available, applicant must state the reason(s

Comments of the second second

<sup>&</sup>quot;Applicant must provide this information when available. Should this information not be available, applicant must state the reasonis) why.

(6)	l elephone No.:		
(7)	Emissions*:	•	
	Contaminant	Rate or Concentration	
		<del>4</del>	

andre state of the state of the

(8) Process. Rate \*:

#### 10. Reason for selection and description of systems:

(5) Environmental Manager:

The BACT proposed for NOx is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower NOx emissions could be achieved by retarding the pilot fuel injection, but at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why

### SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

and the second of the second o

A.	Company Monitored Data Not Applicable
	1 no sites TSP ( ) SO <sup>2+-</sup> Wind spd/dir
	Period of monitoring / / to to / / month day year
	Other data recorded
	Attach all data or statistical summaries to this application.
	2. Instrumentation, Field and Laboratory
	a) Was instrumentation EPA referenced or its equivalent? Yes No
	b) Was instrumentation calibrated in accordance with Department procedures? Yes No Unknow
8.	Meteorological Data: Used for Air Quality Modeling
	1. Year(s) of data from 1 / 1 / 64 to 12 / 31 / 64 month day year
	2. Surface data obtained from (location)NA
	3. Upper air (mixing height) data obtained from (location)NA
	4. Stability wind rose (STAR) data obtained from (location)
C:	Computer Models Used
	1 Modified? If yes, attach description
	2 Modified? If yes, attach description
	3 Modified? If yes, attach description
	4 Modified? If yes, attach description
	Attach copies of all final model runs showing input data, receptor locations, and principle output tables.
D.	Applicants Maximum Allowable Emission Data
	XXXXXXXX NOX Emission Rate
	7.0 grams/sec
	SO <sup>2</sup> grams/sec
E.	Emission Data Used in Modeling See permit application and Attachment F
	Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number UTM coordinates, stack data, allowable emissions, and normal operating time.
F	Attach all other information supportive to the PSD review.  See Attachment F
*506	cify bubbler (B) or continuous (C).
G.	Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.
	The installation of this unit will improve the meliability of the community

The installation of this unit will improve the reliability of the community electrical system without significant social, economic, or environmental impacts.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

#### ATTACHMENT A

(Reference to Permit Section II)

- Volusia County is not a non-attainment area for any pollutant.
- 2&3. The existing plant is not a major source for any pollutant so PSD review does not apply to any pollutant that does not increase 250 TPY with this modification. PSD Section (Attachment F) Table F-1, shows that the proposed expansion is a major source for nitrogen dioxide, thus both BACT and PSD review apply for this pollutant.
- 4. On July 23, 1979, NSPS were proposed for internal combustion engines; these standards were to become effective for engines which commenced construction after January 23, 1982, and would be applicable to dual fuel engines with displacements greater than 560 cubic inches per cylinder. The two proposed units each have a displacement of 1037 cubic inches per cylinder and would be required to meet the standard. However, these standards have not yet been adopted by law.
- 5. NESHAPS regulations do not apply to this type of source.

#### **Colt Industries**



Fairbanks Morse Engine Division 701 Lawton Avenue Beloit, Wisconsin 53511 608/364-4411

(206608)1

June 11, 1982

Environmental Science & Engr, Inc. P. O. Box #ESE Gainesville, Florida 32602

Attention:

Mr. Michael H. Dybevick

Subject:

Two (2) 12 Cy1 - 38TDD 8-1/8 OP Engines

Relocated Gensets

Exhaust Emissions Data

Dear Mr. Dybevick:

At the request of our customer, Mr. Ed Berrier - Plant Supt. at the New Smyrna Beach Generating Facility, we have been instructed to advise you directly as to the exhaust emissions relative to the two (2) units planned for this installation. The data is as follows:

Unit No. 1 - 12 Cyl 38TDD 8-1/8 OP - Turbo Blower Series
Rated 2880 BHP @ 720 RPM - S/N 970348

	Mode	<u>Diesel</u>	<u>Dual Fuel</u>	
	NO <sub>X</sub> - GM/BHP-HR	10.0	9.0	
	CO - GM/BHP-HR	1.2	1.4	
	HC - GM/BHP-HR	.3	.4	$\supset$
*	Particulate - GM/BHP-HR	.16	bared04	non-methane
*		1.0	0.3% 51	
	Smoke - Bosch Units	.8	.2	

Unit No. 2 - 12 Cyl - 38TDD 8-1/8 OP - Turbo Blower Series Rated 3168 BHP @ 720 RPM - S/N 873068

Swoope #4

7	_			
	Mode	Diesel	<u>Dual Fuel</u>	
*	NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	9.0 1.2 .3 .18 1.0	0.3% S1 .2	this is totalHC by mistake Non-methane is ~0.5  (conversation with EL.Betker

6/18/827

Environmental Science & Engr, Inc. Gainesville, Florida 32602 June 11, 1982 Page 2

All Emission Values are for typical injection timings at each rating. These valves (\*) are calculated from smoke emissions and for .3% sulfur fuel.

Should any additional information be required with respect to the foregoing, please feel free to contact the writer at your convenience.

Very truly yours,

COLT INDUSTRIES OPERATING CORP FAIRBANKS MORSE ENGINE DIVISION

E. L. Betker

Contract Administrator

ELB:flb

cc: Al Belvedere - Beloit

Ed Berrier - New Smyrna Beach, Fla.

H. Dahlman - Beloit

H. Keinschrodt - Daytona Beach, Fla.

W. Marx - Houston Sales



### SGS Control Services Inc.

Redwood Petroleum and Petrochemical division

June 7, 1982

TO WHOM IT MAY CONCERN

Corrected Certificate

### ENGINEERING

JUN 24 1982

UTILITIES COMMISSION NEW SMYRNA BEACH, FL

825 Wynkoop Road PO Box 5351 Tampa, Florida 33675 Tel (813) 247-3984 TWX (810) 876-2927

to accompany Certificate No

### Analysis Certificate

essel Shore Tank No. 18

Receiver \* Belcher Oil Company, Port Canaveral, Florida

Cargo No.2 Fuel Oil File No. 37434

Sample Marked Shore Tank No. 18 (Top, Middle and Bottom) (6-4-82)

Lab Reference No LP-2070-82
Sample Description No. 6 Fuel Oil

Submitted By SGS Control Services Inc.

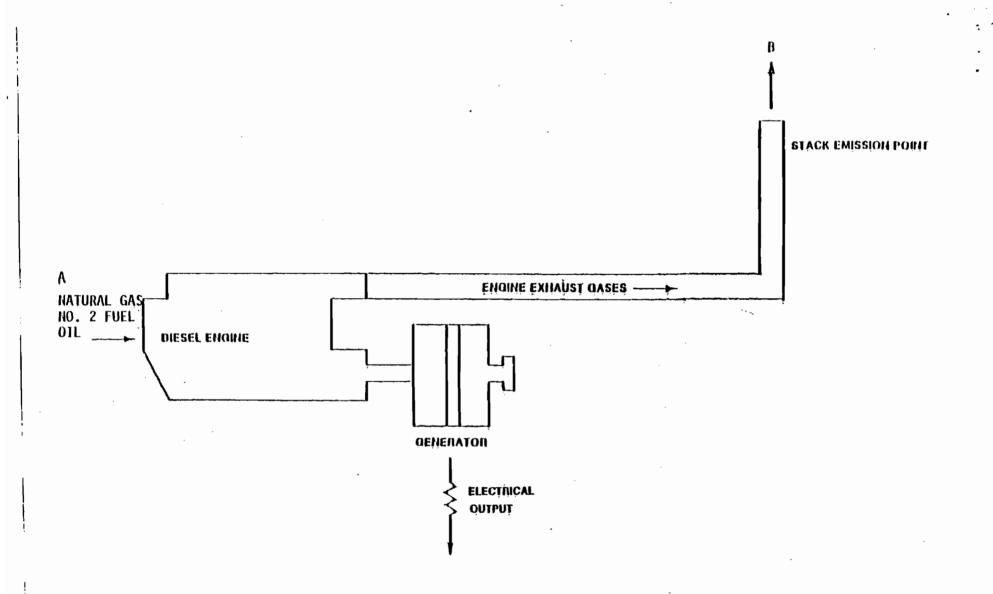
In accordance with your instructions per Mr. Dick Reed, we proceeded to \*Belcher Oil Company, Port Canaveral, Florida on June 4, 1982 for the purpose of drawing a top, middle and bottom sample from Shore Tank No. 18. A portion of this sample was submitted to our Tampa laboratory for analytical findings. We now report to you as follows:

TEST	METHOD	RESULT
GRAVITY, A.P.I. @ 60°F	ASTM D-287	36.8
FLASH, °F (PMCC)	ASTM D-93	150
SEDIMENT & WATER, VOL.%	ASTM D-96	Trace
S.U.S. VISCOSITY, @ 100°F	ASTM D-445	33.5
POUR POINT, °F	ASTM D-97	Below 0°F
SULFUR, WT. %	ASTM D-1552	0.12
RAMSBOTTOM CARBON RES., WT. % (10% BOTTO	DM) ASTM D-524	0.14
CETANE INDEX	ASTM D-976	454
DISTILLATION, °F	ASTM D-86 I.B.P.	356
•	5%	388
	10%	404
	20%	422
	, 90%	570
e e e	END POINT	· 634
	% RECOVERY	98.5
:	% LOSS	1.5
TRACE METALS	A.A. CALICUM, ppm	None Detected
	LEAD, ppm	0.3
·	POTASSIUM, ppm	0.1
	SODIUM, ppm	0.1
	. VANADIUM, PPm	0.2
		,
•		

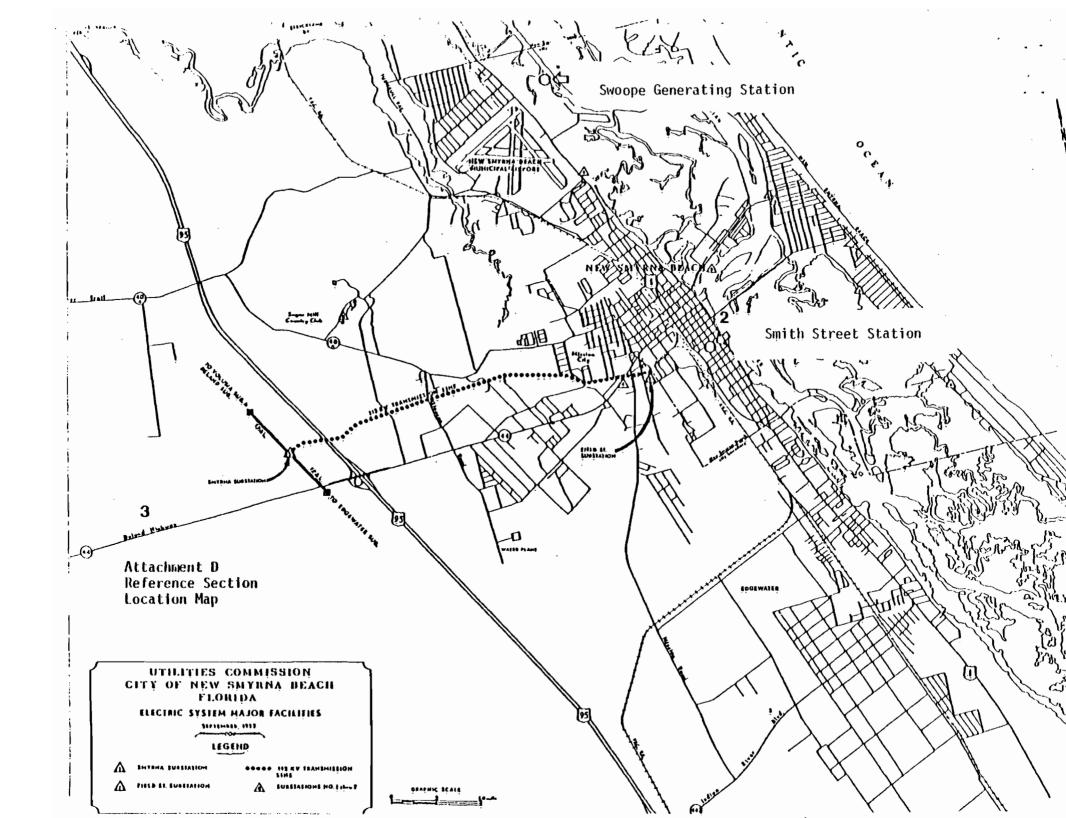
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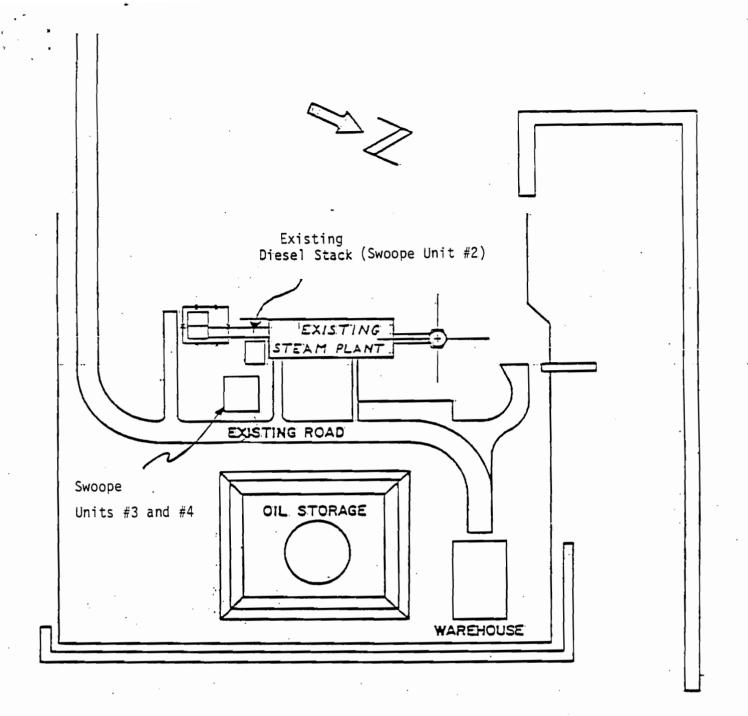
Operations Department

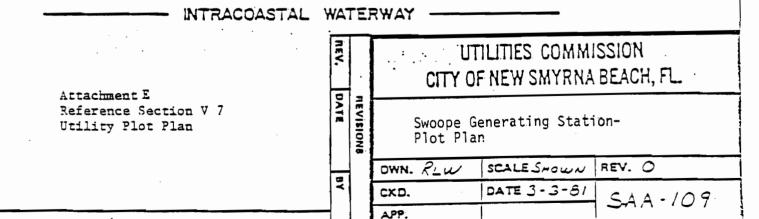
SERVICES INC.



Attachment C: Reference Section V 6 FLOW DIAGRAM







#### ATTACHMENT F PSD ANALYSIS

The Swoope Generating Station currently consists of a 116 X 10<sup>6</sup> Btu/hr steam generator (Swoope #1) and a 910 KW gas diesel generator (Swoope #2), which is limited by permit condition to a 70 percent capacity factor. Neither of these sources are in a category listed in 40 CFR 52.21 or FAC 17-2, and Table F-1 shows that current emission levels of all pollutants are below 250 TPY. The current configuration is therefore not a major source.

The proposed modification is an addition of two more gas diesel units, and an increase to 100 percent capacity factor for Swoope #2. Table F-1 shows that the change would be a major source for NOx only, and requires PSD review for this pollutant. The source description and control technology review components of the PSD review are contained in the accompanying construction permit application. This attachment describes the air quality impact analysis and its results.

Both state and federal regulations contain only annual average standards for NOx, so modeling was performed with the EPA approved ISC long term model. One year (1964) of surface observations from Daytona International Airport were summarized in STAR format and input to the model. The stack parameters are shown in Table F-2. A rectangular grid with 100 meter spacing was used, and all sources were assumed to emit at maximum allowable rates 24 hours a day, every day of the year. The attached computer output contains the results of two model runs. The first run modeled the impacts of the entire plant, the second run modeled the impacts of the two new units (Swoope #3 and #4) and the increased emissions due to the increased capacity factor for Swoope #2.

Both state and federal regulations require pre-construction monitoring unless the impacts of the modification are below certain de minimis levels. For NOx, the de minimis level is 14 ug/m $^3$ , annual average. The maximum impact of the proposed modification is 11 ug/m $^3$ , and therefore the project may be exempted from the PSD pre-construction monitoring requirement.

The state and federal air quality standard for NOx is 100 ug/m<sup>3</sup>. The highest predicted annual average impact due to the Swoope Generating Station is 16 ug/m<sup>3</sup>. The only other major point source of NOx within 40 km is the New Smyrna Beach Smith Street station (see Attachment D). Since the Smith Street station also consists of gas diesels, and the maximum impacts of the Swoope Generating Station were small relative to the standard and occurred within 800 meters of the plant, no other sources were modeled for interaction. The nearest NOx monitoring data available are from a gas bubbler station located 1.5 miles north of the FPL Sanford power plant, about 25 miles southwest of the Swoope Station, (site code 10-4600-001-J-02). In 1980, the annual average NOx concentration at this site was 22.5 ug/m<sup>3</sup>. Even if this value was used directly as a background concentration, the projected impacts of the Swoope Generating Station are low enough to provide reasonable assurance that air quality standards will not be exceeded.

Table F-1. Annual Emissions From Swoope Generating Station

	Particulate Matter	Sulfur Dioxide	Carbon Monoxide	Nitrogen Oxides	Hydrocarbons
Current					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel)* Total	<u>0.1</u> 27	$\frac{0.3}{1}$	12 17	$\frac{94}{234}$	37 45
<u>Projected</u>					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel)* (at 100% capacity f		0.4	17	134	53
Swoope #3 (diesel)+	1	2	39	250	. 11
Swoope #4 (diesel)+ Total	1 29		4 <u>3</u> 104	<u>245</u> 769	1 <u>5</u> 87
Net Increase	2	4	87	535	42

<sup>\*</sup>based on Swoope #2 permit application (AC64-43484) and revisions in June 26, 1981, letter to C. M. Collins FDER ST. Johns River District from K. F. Kosky, ESE, Inc.

Note: Swoope #2 hydrocarbons reported as total HC, Swoope #3 and #4 reported as non-methane.

<sup>+</sup>based on manufacturers letter, Attachment B.

Table F-2. Modeling Parameters - Swoope Generating Station

Source	NOx Emission Rate (g/s)	Stack Height (m)	Gạs Temperature (k)	Exist Velocity (m/s)	Diameter (m)	
Swoope #1	4.04	38.1	644	9,5	1.38	
Swoope ∦2	3.84	6.1	589	43.9	0.36	
Swoope #3	7.2	6.1	644	41.2	0.56	
Swoope #4	7.0	6.1	644	44.2	0.56	

\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT ~- ANNUAL NOX ALL SOURCES (0411 \*\*\*\* PAGE And hew only - ISCLT INPUT DATA -NUMBER OF SOURCES = NUMBER OF X AXIS GRID SYSTEM POINTS = 21 NUMBER OF Y AXIS GRID SYSTEM FOINTS = 21 NUMBER OF SPECIAL POINTS = NUMBER OF SEASONS = 1 NUMBER OF WIND SPEED CLASSES = NUMBER OF STABILLTY CLASSES = 5 NUMBER OF WIND DIRECTION CLASSES = 16 FILE NUMBER OF DATA FILE USED FOR REPORTS = 1 THE PROGRAM IS RUN IN RURAL MODE CONCENTRATION (DEPOSITION) UNITS CONVERSION FACTOR =0.10000000F+07 ACCELERATION OF GRAVITY (METERS/SEC\*\*2) = 9.800 HEIGHT OF NEASUREMENT OF WIND SPEED (METERS) = 7.000 ENTRAINMENT CARAMETER FOR UNSTABLE CONDITIONS = 0.600' ENTRAINMENT PARAMETER FOR STABLE CONDITIONS = 0.600 CURRECTION ANGLE FOR GRID SYSTEM VERSUS DIRECTION DATA NORTH (DEGREES) = 0.000 DECAY COEFFICIENT =0.00000000E+00 FROGRAM OPTION SWITCHES = 1, 1, 1, 0, 0, 3, 2, 2, 3, 0, 0, 0, 0, 0,-1,-1, 0, 0, 1, 1, 0, ALL SOURCES ARE USED TO FORM SOURCE COMBINATION 1 GISTANCE X AXIS GRID SYSTEM POINTS (METERS )= -1000.00. -800.00. -700.00. -600.00. -900.0B. -400.00. -300.00. -200.004 -100.00. 0.00. 100.00. 200.00. 300.00. 400.00. 500.00. 600.00. 700.00. .00.338 900.00, 1000.00. -800.00. -700.00. -900:00. LISTANCE Y AXIS GRID SYSTEM POINTS (METERS )= -1000.00. -600.00. -501 - DT --400.00. -300.00. -200.00. -100.00. 0.00. 100.00+ 200.00. 300.00. 400.00. 500.00.

1000.00.

#### - AMBIENT AIR TEMPERATURE (DEGREES KELVIN) -

900.00.

STABILITY STABILITY STADILITY STABILITY STABILITY STABILITY CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 CATEGORY 6 SEASON 1 300.0000 300.0000 300.0000 295.0000 289.0000

800.00

#### - HIXING LAYER HEJGHT (METERS) -

#### SEASON 1

WIND SPEED WIND SPEED



600.00.

700.00.

\*\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX

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and new only

- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCUPPENCE OF WIND SPEED, DIRECTION AND STABILITY -

#### SEASON 1

#### STABILITY CATEGORY 1

	VIND SPEED	FIND SPEED	MIND SEEED	VIND SCEED	VIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.750UMPS)	( 2.5COOMPS)	( 4.3000MPS)	( G.80,00MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)				•		•
0.000	0.00204700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
22.500	0.00300000	0.000000000	0.00000000	0.00000000	0.000000000	0.00000000
45.166	0.00204700	0.00011400	0.00000000	0.00000000	0.000000000	0.000000000
67.500	0.00000000	0.00000000	0.00000000	0.000000000	0.00000000	0.00000000
90.000	0.06016100	6.000000000	0.00000000	0.00000000	0.00000000	0.00000000
112.500	0.0000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
135.006	0.00000000	0.000000000	0.00000000	0.00000000	0.000000000	0.00000000
157.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
180.000	0.00020800	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
202.500	0.00014100	0.00034200	0.00000000	0.00000000	0.00000000	0.00000000
225.000	0.0000000	0.00000000	0.000000000	0.00000000	0.00000000	0.00000000
247.500	0.00023400	0.00056900	0.000000000	0.00000000	0.00000000	0.00000000
270.000	0.00J14100	0.00034200	0.00000000	0.00000000	0.00000000	0.00000000
292.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
315.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
337.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000

#### SEASON 1

#### STABILITY CATEGORY 2

	LING SPEED	WIND SPEED	AIND SLEED	and the second second	WIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
UIRECTION	( 0.7500MPS)	( 2,5000MPS)	( 4.3000HPS)	(6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
CDEGREESI						
0.090	0.00110700	0.00113880	0.00102500	0.00000000	0.000000000	0,00000000
22.500	0.00025700	0.00034290	0.00045500	0.00000000	0.000000000	0.000000000
45.650	0.00014300	0.00045510	0.00102500	0.000000000	(.nn)01110	0.000000000
67.500	0.00032900	0.00156900	0.00250500	0.00 00000	0.00000000	0.000000000
90.000	0.00087360	0.60182100	0.00318800	0.00000000	0.00000000	0.00000000
112.500	0.60066400	0.00068300	0.00091100	6.00000000	0.00000000	0.00000000
135.000	0.00007200	0.00022800	0.00045500	0.000000000	0.00000000	0.00000000
157.500	5.00(51500	9.027663.0	0.00022860	0.500.000.00	0.00000000	0.000000000
160.600	0.00192200	0.09192590	5.09045590	0.0000000	0.000000000	0.0000000
212.500	0.06003616	0.00011400	0.00068360	0.00000000	0.000000000	0.00000000
225.000	U.00066400	0.000683:0	0.40102500	0.000000000	0.00000000	0.00000000
247.500	J. Av 103600	J.60091170	0.00136660	0.00000000	9.000000000	0.00000000
276.000	0.00062200	0.00102540	0.00113850	000000000	0.000000000	0.000000000
				•		0.000000000000000000000000000000000000
292.500	0.00.43700	6.600911.3	1.90034200	0.00000000	0.000000000	
315.00u	0.bn12210b	0.0/1025 0	7.0 (2455) ji	. • blebitie	0.00000100	6.000000000
117 666	477. (	2 CCB21130	1 0 4747 6	66.2.3.5.3	0.5000000066	r (0,000,000)



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- ISCLT INPUT DATA (CONT.) -

- FREWVENCY OF OCCURRENCE OF WIND SPEED. DIRECTION AND STABILITY -

#### SEASON 1

#### STABILITY CATEGORY 3

	WING SPEED	MIND SELED	MIND SEEED	VIND SPEED	AIND SLEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MDS)
(DEGREES)						
0.600	0.00067800	0.00170800	0.00330100	0.00148000	0.00045500	0.00000000
22.500	0.00613200	0.00056900	0.00421199	0.00227700	0.00011400	0.00000000
45.000	0.00027360	0.00956900	0.00455400	0.00227700	0.00011400	0.00000000
67.500	d.00a0 <b>7</b> 900	0.00034200	0.00762799	0.00466799	0.90034200	0.00000000
90.000	0.00029100	0.00125200	0.01229499	0.00853799	0.00000000	0.00000000
112.500	0.00015900	0.00068300	0.00557799	0.00318800	0.00034200	0.00000000
135.000	0.00032600	0.00079700	0.00182100	0.00034200	0.00000000	0.00000000
157.500	0.00010600	0.00045500	0.00193500	0.00034200	0.0000000	0.00000000
180.000	ย์ • 00 ธ 53 7 9 0	0.09170800	0.00318800	0.00045500	0.00000000	0.00000000
232.500	0.00015900	0.00068300	0.00296000	0.00056900	0.00022800	0.00000000
225.000	0.00059000	0.00193500	0.00421199	0.00102500	0.00000000	0.00000000
247.500	0.00055600	0.00239100	0.00432600	C.00011400	0.00000000	0.00000000
270.660	0.00123100	0.00227700	0.00261800	0.00136600	0.00000000	0.00000000
292.500	0.00690500	0.00148000	0.00204900	0.00011400	0.00011400	0.00000000
315.000	0.00037000	0.00159400	0.00125200	0.00022800	0.00000000	0.00000000
337.500	0.00021200	0.00091100	0.00227700	0.00022800	0.00000000	0.00000000

#### SEASON 1

#### STABILITY CATEGORY 4

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	VIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	( 2.500GMPS)	t 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
(OLGREES)						
បានប្រាំប្	0.00122200	0.00387100	0.01411698	0.03403896	0.01206699	0.00113890
22.500	0.00040300	0,00125200	(.00751399	6.01445798	0.00170800	0.00022890
45.360	6.00023500	0.06091169	0.01648899	0.01092899	0.00113800	0.00022800
67.560	0.03647000	0.00182100	0.01001799	0.01718998	0.00125200	9.00011400
90.006	0.00055100	0.00259500	0.02014998	0.02834697	0.00159400	0.00022800
112.566	0.00035600	0.00193500	0.01343349	0.02128898	0.00216300	0.00011400
135.000	0.00053736	0.00239100	0.01126999	0.01092899	0.00227700	0.00000000
157.500	6.60634300	C+66182100	. ### 355 van	C.00637490	0.00125200	0.00022890
180.600	6.6Jc76E3C	6.694326 0	6.61434398	0.01354699	0.00256060	C • 00 0 7 0 7 0 0
202.500	0.00055730	0.00148 00	0.00853799	6.01104299	0.00296500	0.000797:0
225.066	6.00084600	6.00284600	0.00546399	C.00751399	0.00250500	0.00056900
247.500	0.00181306	0.00364300	0.00455400	0.00899399	0.00102500	0.000455/0
270.000	• 00 a 551 60	C.00250500	0.60523699	0.01115655	0.00626 99	0.002391(0
(92.50)	0.60.37400	6.04204500	1.00489499	7.00375730.		ถ•กฎกละล้าม
315.000	0.00112700	0.01207400	F-00694340.	1.00671/09	0.00068796	0.03634270
337.566	132108	C. (1:618 5)	1.00022159	100434040	0.00113880	0.00068315



#### SEASON 1

#### STABILITY CATEGORY 5

### Best Available Copy

	WIND SLEED	WIND SPEED	MIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	( 2.5000MFS)	( 4.3600MPS)	( 6.8000MPS)		(12.5000MPS)
(DEGREES)	•			. •		
0.000	0.00694999	0.00842399	0.00591999	0.00000000	0.00000000	0.00000000
22.500	U.UÚ428799	0.00523699	0.00432600	0.00000000	0.00000000	0.00000000
45.000	0.00372700	0.00546399	0.00182100	0.00000000	0.00000000	0.00000000
67.536	0.00357400	0.00478099	0.00432600	0.000000000	0.00000000	0.00000000
90.666	0.00888199	0.01183999	0.01001799	0.000000000	0.00000000	0.00000000
112.500	0.00430499	0.00705799	0.00705799	0.00000000	0.00000000	0.00000000
135.000	0.01647179	0.01559698	0.00375700	0.00000000	0.00000000	0.00000000
157.500	0.00815999	0.01172599	0.00364300	0.00000000	0.00000000	0.00000000
189.000	0.01391298	0.02402097	0.00660299	0.00000000	0.00000000	0.00000000
292.500	6.00745999	0.01058699	0.00296000	0.00000000	0.00000000	0.00000000
225.000	0.00954299	0.01218999	0.00296000	0.00000000	0.00000000	0.00000000
247.500	6.01129099	0.01377498	0.00318800	0.000000000	0.00000000	0.00000000
270.000	U.01047599	0.01024599	0.00352900	0.000000000	0.00000000	0.00000000
292.500	0.00750399	0.00853799	0.00148000	0.00000000	0.00000000	0.00000000
315.000	0.01033499	0.01422998	0.00557799	0.00000000	0.00000000	0.00000000
337.506	U.CU776299	0.00944899	0.00535099	0.00000000	0.00000000	0.00000000

#### - VERTICAL POTENTIAL TEMPERATURE GRADIENT (DEGREES KELVIN/METER) -

| WIND SPEED | WIN

#### - WIND PROFILE POWER LAW EXPONENTS -

WIND SPEED WIND SPEED



\*\*\*\* ISCLT \*\*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX \*\*\*\*\*\* 1'AGE ALL SOURCES (041) - SOURCE INPUT DATA -C I SOURCE SOURCE EMISSION BASE / A A MUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV- / - SOURCE DETAILS DEPENDING ON TYPE -( P. ) (n) (M) ATION / D E (M) / 1 STACK 0.00 0.00 38.10 0.00 GAS EXIT TEMP (DEG K) = 644.00. GAS EXIT VEL. (M/SEC) = 9.50. STACK DIAMETER (M)= 1.380, HEIGHT OF ASSO. BLDG. (M)= (.00, k11111 of Swoope#1 Steam unit ASSO. BLDG. (M) = 0.00. MAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS ( GRAMS PER SEC SEASON 1 SEASON 2 SEASON 3 SEASON 4 4.04000F+00 WARNING - DISTANCE BETWEEN SOURCE 1 AND FOINT X.Y= 0.00, 0.00 IS LESS THAN PERMITTED 2 STACK 5.60 6.10 0.00 GAS EXIT TEMP (DEG K)= 589.00. GAS EXIT VEL. (M/SEC)= 43.90. STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO, BLDG. (M)= 1.60, WIDTH CE Swoope#2 Existing Diesel ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS ( GRAMS PER SEC 1 -SEASON 1 SEASON 2 SEASON 3 SEASON 4 3.84000F+00 WARNING - DISTANCE BETWEEN SOURCE 2 AND POINT X.Y= 0.00 IS LESS THAN PERMITTED 0.00. S STACE 0.00 6.10 0.00 GAS EXIT TEMP (DEG K) = 644.00, GAS EXIT VEL. (M/SEC) = 42.70, STACK DIAMETER (M)= 0.560. HEIGHT OF ASSO. BLDG. (M)= 0.00. VIIIII OF Swoone # 3 (#4 Proposed Combined ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS L GRAMS PER SEC ) -SEASON 1 SEASON 2 SEASON 3 SEASON 4 1.42400E+01

0.00.

0.00 IS LESS THAN PERMITTED

3 AND POINT X.Y=



WARNING - DISTANCE BETWEEN SOURCE

ALL SOURCES

\*\*\*\* ISCLI \*\*\*\*\*\*\*\*\* ISCLI -- ANNUAL NOX

and ISCEL HARA	1300	I MANUAL NO	^	ALL SUURCES	(041)			****** PAGE	1 4444
	from D. ( Fue)								
* * ANNUAL	CROUND LEVEL	CONCENTRATION		S PER CUBIC M RID SYSTEM RE		) FROM AL	L SOURCES CO	MDINCD	* *
				XIS (DISTANCE		,			
	-1000.006	-960.000	-800.000	-700.000	-600.000	-500.000	-400.000	-360.000	-206.005
Y AXIS (LISTANCE					ITRATION -	-500.011	4560100	- 36 • 046	" / ; ' ( • U ( )
1000.000	6.125322	6.127700	6.094093	6.019985	5.903982	5.759503	5.766286	7.627227	P • 411560
5.00.000	6.356190	6.568686	6.538740	6.464639	6.336689	6.156047	5,930664	1.638400	4.3882*4
おしうませいの	6.668039	6.840491	7.033495	6.959665	6.801756	6.533855	6.225493	6.464143	F. 052186
700.000	6.885277	7.149355	7.366058	7.504187	7.254660	6.901388	6.489676	6.016179	7.490542
600.000	7.194715	7.498895	7.734884	7.816087	7.742961	7.266974	6.676906	6.082864	6.595673
569.600	7.546048	7.900994	0.133423	8.204315	8.057222	7.643398	6.811241	5.924693	5-378316
466.000	8.055733	8.369009	8.642580	8.730305	8.529869	7.936595	6.917276	5.617219	4.515312
300.000	9.276226	9.495520	9.558521	9.481441	9.293653	8.578476	7.194072	5.255514	7.5475 0
250.006	10.560844	10.957678	11.205563	11.196426	10.786316	9.825712	8.184658	5-543178	1.633395
160.006	11.878965	12.509329	13.024607.	13.297129	13.123604	12.206591	10.177889	6.863959	1.344543
0.006	13.175607	14.069468	14.932831	15.609529	15.906578	15.455215	13.770771	10.179537	6.265150
-106.000	11.479237	12.059605	12.524664	12.754679	12.562798	11.683037	9.802814	6.831932	4.042810
-200.000	9.757004	10.048000	10.185202	10.073137	9.595356	8.657013	7.427290	5.412742	3.138996
-306.000	8.083979	8.146931	8.041805	7.836459	7.696771	7.169133	6.144471	9.719012	0.265816
-4:3.000	6.523219	6.666589	6.814183	6.816475	6.600318	6.095775	5.297487	5,407205	5.670534
-500.006	5.783070	5.952070	6.020259	5.953754	5.715382	5.282607	5.591874	5.971370	6.611378
-600.000	5.209709	5.307322	5,329631	5.225793	4.994627	5,364688	5.777692	6.268412	7.558514
-766.066	4.695052	4.736332	4.715121	4.609434	4.974573	5.372901	5.816212	6.325062	8.071970
-860.606	4.234854	4.235273	4.180302	4.530062	4.907113	5.299863	5.730793	6.542064	E.24561.3
-900.600	3.426123	3.797574	4.095892	4,421490	4.775195	5.156284	5.559735	6.678347	8.187111
-1000.000	3.464716	3.718670	3.994530	4.292553	4.612313	4.952946	5.426483	6.658602	7.9859 1
1.000000	3.1017.0	3671,4476	3 2 7 3 7 3 3 5	10272333	4.012.013	4.202.740			
			- G	RID SYSTEM RE	CEPTORS -	:			
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Y AXIS (DISTANCE	PETE .	(RS )		- CONCE	ITRATION -				
1 00.000	9.869898	11.351654	9,954981	8.567457	7.239342	6.018775	5.742392	5.614089	5.484535
900.600	9.972669	11.668583	10.092953	8.553875	7.136763	6.168166	6.034616	5.897486	5.755775
A ∪ ∪ • ∪ ∴ Û	9.466144	11.81 623	10.036242	B.363705	6.086261	6.375821	6.270579	6.173037	1.035849
100.666	9.4398.4	11,630123	9.681034	7.935769	6.610131	6.508605	6.455690	6.466486	1.311474
6.U.J.	8.565241	10.960043	E.907347	7.2279"2	6.529463	6.538840	6.592488	6.018515	6.517568
500.00	7.140826	9.615231	7.623903	6.270267	6.236110	6 • 45.8098	6.697357	6.717663	0.7085/-3
4 6 6 6 6 6 6	5.176396	7.472694	5.840555	5.353290	5.737908	6.315817	6.5PA545	6.895285	6.911712
3 4 5 • 6 6 6	2.920495	4.577614	3.767562	4.160435	5,157791	5.825749	6.402625	6.943979	7.170019
201.0060	1.452246	1.858342	8.132963	3.936510	4 • 1 2 4 1 4 0	5.506983	6.523929	7. 350pc	7.000359
160. (0	5.494475	6.358786	6.986500	2.076285	3.765391	5.489461	1.6.00.70	7.105507	7 - 3 34 81 6
(.000	2.162560	1.00000	6.761915	2.792976	4.605332	6.317080	7.246098	7.024152	7.(44983
-10000	1.278458	0.946945	6.429746	1.256586	2.570521	4.214346	5.282066	6.760357	6.360042
-200.000	2.493481	4.143008	1.425534	2.429105	3.112772	3,619251	4.031170	4.17(282	5.239251
-300.606	4.745513	7.68529	0.847863	3.685576	4.915764	4.951458	4.882779	4.720389	4.483761
-460.060	7.364364	19.736786	1.724641	4.526872	5.552440	6.444570	6.676.62.9	E * ( 1 ( u ) a	1.195459
-530-0.0	4. 376e2	12.267585	1.752936	5.048792	6.041701	6.552717	7.010106	6.45°358	1.085405
-6:6.16.	9.4713.2	12.724-17	1.76 342	7.532151	6.290423	6.561132	6.9756 3	7 4 1 4 5 1 1 6	6.068727

**** ISCLT ********* ISCLT ANNUAL NOX				TALL SOURCES	(041)		•	***** PAGE	7 **!*
									٠. ١
** ANNUAL	GROUND LEVEL	. CONCENTRATIO				) FROM AL	L SOURCES COM	BINED (CONT.)	* *
				RID SYSTEM RE					
	-100.000	9.000	100.000	IXIS (DISTANCE	· ·	A 0.0 0.00	500 500	.00.000	700 (00)
Y AXIS (DISTANCE	• FETE		100.000	200.000 - COMCEN	300.000 Tration -	400.000	500.000	600.900	760.00
T ANTS TOTSTANCE	• ·····	.no ,		- CONCCN	TRAITON -				
-700.000	10.237406	12.561590	10.150810	7.966827	6.318871	6,453076	6 • 639539	6.894550	6.512558
- a c a . c a a	10.124470	12.066786	10.116732	8.277456	6 • 653737	6.250275	6.361072	6.465375	6.500518
-910.660	9.796532	11.413338	9.836887	8.301712	6 • 892849	5.985910	6.04653B	6 • 689931	€ 100262
-1660.000	9.359263	10.721052	9.428007	8.147799	6.925193	5.804323	5.689330	5.724257	5.742361
				•	•				
			- 6	GRID SYSTEM RE	CEPIORS -				
				XIS (DISTANCE	• •				
	800.000	909.000	1900.000		,				
Y AXIS CUISTANCE	, METE			- CONCEN	TRATION -				
					• *				
1.00.000	5.351343	5.219439	5.075349						
9 C Sabido	5.6085.2	5.455925	5.299848						•
& ( <b>€ • 0 ù û</b>	5.877198	5.704020	5.534438		•				
766.630	6.143172	5.961765	5.778400	•		•			
660.600	6.404169	6.229158	6.031364			·			
500.000	6.640710	6.506221	6.294152		4				
400.038	6.897082	6.788972	6.539887						
3 ( 6 - 6 0 6	7.162132	6.893804	6.608261						
2:0.600	7.142980	6.943727	6.671797						
150.000	7.251471	7.024717	6.727612				•		
t: • 6 0 G	7.453820	7.152027	6.803570						
-100.000	6.403279	6.289964	6.090511			**			
-200.006	5.441939	5.474588	5 4 4 0 0 1 3 6						
-365.060	4.611043	4.736916	4.743624						
- 4 ti C • i. (: (	4.785154	4.395904	4.144448						
-506.000	5,360918	4.879:07	4 • 4 1 9 4 6 2						
-6:0:050	5.864269	5.293977	4.790988						
-700.00	6.231319	5.628532	5.102954						
-800-000	6.485319	5.881890	5.350441						
-960.660	6.098072	6.059033	5.535496						
-1 100 - 000	5.7384 5	5.711648	5,664222						



\*\*\* ISCLT \*\*\*\*\*\*\* ISCLT -- ANNUAL NOX NEW SOURCES & 30% OF SWOOPE #2 HS= 20 FT (031) - SOURCE INPUT DATA -C I SOURCE SOURCE Υ FMISSION BASE / A A NUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV- / - SOURCE DETAILS PEPENDING ON TYPE -R P (M) (M) (M) ATION / ĐE (M) / 1 STACK 0.00 0.00 6.10 0.00 GAS EXIT TEMP (DEG K) = 589.00. GAS EXIT VEL. (M/SEC) = 43.90. STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO. PLDG. (M)= (.00. VIPIH OF Swrope #2 Existing Diesel ASSO. BLDG. (M)= 0.00. WAKE EFFECTS FLAG = 0 Emission rate corresponds to " - SOURCE STRENGTHS ( GRAMS PER SEC Increase above 70% capacity fector limitation. SEASON 1 SEASON 2 SEASON 3 SEASON 4 1.15000E+00 WARNING - DISTANCE BETWEEN SOURCE I AND POINT X.Y= 0.00. 0.00 IS LESS THAN PERMITTED . STACK (· • O O 0.00 6.10 0.00 GAS EXIT TEMP (DEG K)= 644.00, GAS EXIT VEL. (M/SEC)= 42.70, STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. DLDG. (M)= 0.00, WIDTH OF Swoope #3 E#4 Combined ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS I GRAMS PER SEC SEASON 2 SEASON 1 SEASON 1 SEASON 3 1.42400E+01 2 AND FOINT X.Y= WARNING - DISTANCE BETWEEN SOURCE 0.00. 0.00 IS LESS THAN PERMITTED

**** ISCL1 *****	ISCL	T ANNUAL N	OX <u>NEW SOUR</u>	CES & 30% OF	SWOOPE #2	HS= 20 FT (D	31) *	***** PAGE	6 4 4 4
A ANNUAL	GROUND LEVEL	CONCENTRATIO				) FROM AL	L SOURCES COM	BINFO	*•
				RID SYSTEM RE					•
	1662 060	0.00 0.00		XIS (DISTANCE -700.000		500 000	<b>A C C</b> C C C	100 000	-006 006
Y AXIS (DISTANCE	-1000.000	-900.000	-800.000		-600.000 TRATION -	-500,000	-430.000	-300.000	-200.000
T AXIS TOISTANCE	, NETE	: k2 \		- CONCEN	TRAILON -				
	6 500355	6 F704 D7	A 511010	A AE0011	A 77140B	A 05 A 05 C	. 0/7450	5.188781	
1000.000	4.520756	4.530(03	4.511012	4.458233	4.371409	4 • 25 4 9 5 6	4+263452 4+369836	5.001120	6.206468 6.102467
930.000 000.000	4.719518	4.858240 5.079499	4.843405 5.210071	4.787018	4.686647 5.016402	4.544641 4.796514	4.548201	4.09167	5.217814
800.000 700.000	4.914883 5.136922	5.321885	5.464080	5.147761 5.538367		5.018771	4.668899	4.348303	5.300343
660.000	5.382038	5.593119	5.741446	5.755008	5.635359	5.215117	4.713485	4.232643	4.523201
500.000	5.658475	5.903630	6.037080	6.023872	5.819725	5.394122	4.680183	3.961777	3.533211
4 t () • () () ()	6.051797	6.265864	6.419033	6.399251	6.124184	5.521543	4.598712	3.564828	1.762926
360.060	6.950764	7.094189	7.094568	6.957702	6.661875	5.923663	4.682643	3.135205	1.962312
	· ·		8.276503	8.153919	7.686349	6.776796	5.296220	3.207801	1.209849
200.000 100.000	7.507338	8 • 16 4 4 3 3 9 • 30 8 1 5 7	9.599226	9.646774	9.284388	8 • 294069	6.462439	3.851166	1.8378.9
0.000	ۥ1486%95 9•8536≀1	10.469259	11.008928	11.332335	11.268307	10.526871	8.779190	5.721337	7.732776
-1 u C • Q O O	8 • 5 8 4 1 u 8	8.971802	9.231838	9.260172	8.906273	7,978684	6.299791	3.949928	2.376006
-260.600	7.298388	7.480745	7.520294	7.341415	6.861167	6.030926	4.925282	3.890251	1.7144(0
	6.05/619	6.076718	5.962884	5.757898	5.557244	5.038174	4 • 145288	3.009334	2.599359
-366.000	4.887339	4.983474	5.065331	5.019750	4.790734	4.332579	3.663387	3.624520	3.700043
-4(0,000		4.449526	4.481150			3.807566	3.968241	1.176242	4.569763
-566.096	4.329359				3.678033	3.921675	4.191241	4.519220	5.195178
-660.000	3.899849	3.967222	3.972616	3.875276			4.287094	4.652943	5.690600
-760-000	3.511554	3.539032	3.516667	3.428170	3.690674	3.973131		4.863849	6.102548
-860.000	3.163233	3.161773	3-117146	3.380041	3.661081	3.950712 3.861777	4•268748 4•166894	4.094776	(+1105)
-906.006	2.852649	2.830565	3.058518	3.306043	3.573822		4.076013	4.095479	5.986271
-1 : Ju• b (e)	2.576872	2.772741	2.984722	3.212920	3.457094	3, (16772	4.016912	4	
			- 6	RID SYSTEM RE	CEPTORS -				
			- x #	XIS EDISTANCE	# METERS) ~				
	-100.000	0.00	100.000	200.000	300.000	400.000	500.000	600.060	7 n + • 0 € t
Y AXIS (CISTANCE	· · · · · · · · · · · · · · · ·	ERS )		- CONCEN	TRATION -				
1.00.000	7.280466	8.376677	7.351406	6.337106	5.367568	4.477124	4.267008	4 - 163865	4.058664
500.000	7.297355	8.543688	7.396438	6.285521	5.269374	4.575168	4.472225	4.366213	4.255118
860.396	7.116298	8.526773	7.254468	6.074090	5.046179	4.691741	4.620716	4.154272	4.453004
700.660	6.659750	6.203991	6.842833	5.658136	4.784166	4.728436	4.713701	4.694532	4.642612
6.0.0.00	5.816922	7.452812	6.081230	5.018644	4.611780	4.664504	4.754748	4.618905	4.76883.5
500.000	4.586627	6.179986	4.942447	4.205564	4.257614	4.502133	4.762873	4.031600	4.172447
4 .0 . 0 0 0	3.964259	4.409218	3.522106	3.386473	3.754132	4 • 292001	4.572902	4.806157	4.970495
3 0 9 • 0 0 0	1.528748	2.354199	2.049510	2.423868	3.224925	3.798440	4.397372	9-8576F8	5.129473
200.000	0.6372.8	0.984886	1.189432	1.626314	2.418874	3 . 453' 72	4.357290	4.085594	5.142127
1 ' 5 - 6 a d	6.2889 9	F • 184 · 37	0.61e35B	1.128199	2.062204	3.402621	4.393205	4.067965	5 52 67 2
7.000	1.303775	0.000000	(.449373	1.675433	2.608347	4.020135	4.013198	5.2762 2	6.575856
-150.000	0.813881	C.575565	0.254399	0.684745	1.014409	2.620183	3.591733	4.127263	4.561974
-231.666	1.385221	2.350632	738085	1.250501	1.774711	2.247648	2.668141	3.318553	3.737191
-306.000	2.628058	4.129972	2.088264	2.113579	3.013745	3.1960.94	7.288650	3.285767	3.195413
-46( • ( t č	4 - 1.33 - 48	6.712242	4.171715	3.196665		4.341(27	4.176723	3.171232	1.733963
-500.000	6.165556	5.376246	5 . p4 21 C.C.	4.011763	4.169.00	4.547007	e * . Laset	4.141565	472510
-606 • (b)	7.162424	9.217756	867886	5.074903	4.432734	4.667537	4.000 5 6 7	5 - 1 19541	4.736632

**** ISCLT *****	****** ISCL	T ANNUAL Ņ	OX <u>NEW SOU</u>	RCES & 30% OF	SMOODE #5 H	S= 20 FT (D	31) .	AAAAAA PAGE	Prada
ANNUAL	GROUND LEVEL	CONCENTRATIO	-	( MICROGRAMS PER CUBIC METER - GRID SYSTEM RECEPTORS - - X AXIS (DISTANCE, METERS) -			L SOURCES COM	BINED (CONT.)	· · · · · · · · · · · · · · · · · · ·
	-100.000	0.000	100.000	200.000	300.000	400.000	500.000	600.000	701.000
Y AXIS (DISTANCE	, METE				TRATION -				
7:0.000	7 445510	0 141446	3 340533	F 740510	. 540700				E 500120
-760.000	7 • 4 4 5 5 3 9	9+141445	7.348537	5.749539	4.562780	4.676843	4.841251	4.990833	5.092170
-800.600	7.481155	8.919882	7.450238	6.079086	4.880642	4.587487	4.679839	4.768476	4-0007:7
-900.000 -1000.000	7.305363 7.012303	8•512440 8•032454	7•316545 7•049086	6 • 1 6 0 2 3 6 6 • 0 7 9 2 6 9	7 5 • 1 0 4 8 1 9 5 • 1 5 4 7 1 1	4 • 427017 4 • 307981	4.472134 4.217338	4.5050#6 4.239°96	4.5178/8 4.249018
-1600-300	7.012303	p • 0 3 2 4 3 4	7.04.7006	6.017267	2.124/11	4.30/201	4.217336	4.503.20	44745.016
				GRID SYSTEM RE					
				AXIS (DISTANCE	. METERS) -				
	900.000	900.000	1 4 9 9 • 6 9 9						
Y AXIS CUISTANCE	• METE	RS )		- CONCEN	TRATION -				
1.00.000	3.949165	3.835467	3.719000						
900.600	4.137527	4.013654	3.890831						
£ 0 0 ⋅ 6 0 0	4.331511	4.199357	4.067876						
700.606	4.522067	4.388280	4.249101						
600.000	4.702225	4,580199	4.434093						
500.006	4 - 856625	4.775698	4.623975						
466.006	5.022134	4.973322	4.802281				•		
300.000	5.156453	5.050423	4.862032						
200.000	5.187934	5.095057	4.919748						
1 4 5 . 6 5 0	5-264164	5.170949	4.973930						
9.000	5.467811	5.288786	5.047168	1:					
-100.000	4.672099	4.633645	4.505657						
-200.006	3.953654	4.018964	3.903482		•		•		
-300.000	3.340763	3.466486	3.487743						
-469.000	3.476663	3.212633	3.035532						
- 5 - 0 - 0 0 0	3.918939	3.578633	3.242237						
-600.000	4.309852	3.894997	3.522620						
-700.560	4.594871	4.149644	3.757112						
- 8 0 0 . 0 0 0	4.790714	4.340483	3.940945						
-906.660	4.506586	4.471251	4.075399						
-1 00.000	4 • 239617	4.211085	9.165322						



#### Final Determination

Utilities Commission
City of New Smyrna Beach
Volusia County, Florida
Swoope Units 3 and 4, Gas Diesel

#### Permit Numbers

State: AC 64-57578

AC 64-57580

Federal: PSD-FL-089

Florida Department of Environmental Regulation Bureau of Air Quality Management Central Air Permitting

September 27, 1982

#### Response to Public Comment

Utilities Commission City of New Smyrna Beach

The Utilities Commission's Construction Permit applications for installation of two gas diesel units at the existing Swoope Generation Station in New Smyrna Beach have been reviewed by FDER. Public Notice of the Department's Intent to Issue was published in the New Smyrna Beach News and Observer on August 27, 1982. Copies of the preliminary determination were available for public inspection at Brannon Memorial Library in the city, the FDER's St. Johns River District office and the Bureau of Air Quality Management.

There were no comments from the public as a result of the public notice period.

The final action of the Department will be to issue the permits as noticed in the public review process.



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

## CONSTRUCTION PERMIT

NO. AC 64-57578

Utilities Commission City of New Smyrna Beach Unit 3. Gas Diesel

DATE OF ISSUANCE

September 30, 1982

DATE OF EXPIRATION

JUNE 30, 1983

VICTORIA J. TSCHINKEL SECRETARY

#### STATE OF FLORIDA

#### DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

APPLICANT:

Utilities Commission

City of New Smyrna Beach

P. O. Box 519

Mew Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57578

COUNTY: Volusia

PROJECT: Swoope Unit #3

Gas Diesel

This permit is issued under the provisions of Chapter		, Florida Statutes,	and Chapter 17-2
and 17-4 Florida Administrative Code. 7	he above named applicant; he	reinafter called Permittee.	is hereby authorized to
perform the work or operate the facility shown on the	approved drawing(s), plans. o	iocuments, and specification	ons attached hereto and
made a part hereof and specifically described as follows	ti.		

For the installation of a 2050 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

#### Attachments:

- 1. Application to Construct Air Pollution Source, DER Form 17-2.122(16), received on June 28, 1982.
- 2. Best Available Control Technology (BACT) Determination dated August 18, 1982.

PAGE 1 SF 4

PERMIT NO .: AC 64-57578

APPLICANT:

Utilities Commission

#### **GENERAL CONDITIONS:**

- 1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
- 2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance 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 revocation of this permit.
- 4. As provided in subsection 403.087(6), 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed. by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquaticlife or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes,
- This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
- The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project,
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:
  - [X] Determination of Best Available Control Technology (BACT)
  - (x) Determination of Prevention of Significant Deterioration (PSD)
  - [ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PAGE \_\_\_\_\_ OF \_\_\_

PERMIT NO .: AC 64-57578

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

- 1. The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the Unit No. 3 shall be limited to 620 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.
- 4. The 70% capacity factor restriction of Swoope Unit No. 2 shall be eliminated. The new  $\mathrm{NO}_{\mathrm{X}}$  emission limit, which is regulated by the attached BACT determination, shall be 690 ppmv corrected to 15% oxygen on a dry basis.

PERMIT NO .:

AC 64-57578

APPLICANT:

Utilities Commission

Expiration Date:	June	30,	1983	
				<u> </u>
Pa	ges Attac	ched.		

Issued this 30 day of suptember, 1982

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Julou Sall

PAGE 4 OF 4



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

## CONSTRUCTION PERMIT

NO. AC 64-57580

Utilities Commission City of New Smyrna Beach Unit 4, Gas Diesel

DATE OF ISSUANCE

September 30, 1982

DATE OF EXPIRATION

VICTORIA J. TSCHINKEL

**SECRETARY** 

JUNE 30, 1983

#### STATE OF FLORIDA

#### DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

APPLICANT: Util

Utilities Commission

City of New Smyrna Beach

P. O. Box 519

New Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57580

COUNTY: Volusia

PROJECT: Swoope Unit #4

Gas Diesel

This permit is issued under the provisions of Chapter _	403	, Florida Statutes, ai	nd Chapter 17-2
and 17-4. Florida Administrative Code. Tr			
perform the work or operate the facility shown on the	approved grawing(s), plans, docume	nts, and specification	ns attached hereto and
made a part hereof and specifically described as follows:			

For the installation of a 2275 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

#### Attachments:

- 1. Application to Construct Air Pollution Source, DER Form 17-1.122(16), received on June 28, 1982.
- 2. Best Available Control Technology (BACT) Determination dated August 18, 1982.

PAGE 1 0F 4

GER FORM 17-1,122(63) 1/4 (1 90)

PERMIT NO .: AC 64-57580

APPLICANT: Utilities Commission

#### GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives:
- 2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. 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 revocation of this permit.
- 4. As provided in subsection 403.087(6), 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
- 9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
- 10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:
  - [X] Determination of Best Available Control Technology (BACT)
  - [X] Determination of Prevention of Significant Deterioration (PSD)
  - [ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PAGE \_\_\_\_2 OF \_\_\_4

PERMIT NO .: AC 64-57580

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

- 1. The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the unit shall be limited to 625 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.

PERMIT NO.: APPLICANT:

AC 64-57580

Utilities Commission

Expiration Date: June 30, 1983	Issued this 30 day of Sistenber, 1982
Pages Attached.	STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Autoria Signature

PAGE 4 0F 4.

### Final Determination (PSD-FL-089)

#### Utilities Commission City of New Smyrna Beach

The preceeding State Final Determinations are adopted by reference for the federal permit, PSD-FL-089.

Specific Conditions listed in the State permits, AC 64-57578 and AC 64-57580, are adopted as specific conditions for the federal permit, PSD-FL-089, for this source.

The attached General Conditions are also made a part of the federal permit PSD-FL-089 for this source.

Attachment: General Conditions (federal)

#### GENERAL CONDITIONS

- 1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
- The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
- 3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
- 4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
- 5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:
  - (a) description for noncomplying emission(s),
  - (b) cause of noncompliance,
  - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

- 6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
- 7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
- 8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
  - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
  - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
  - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and

- (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
- 9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn Chief, Air Management Branch Air & Waste Management Division U.S. EPA, Region IV 345 Courtland Street, NE Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

DER

JUN 28 1982

BAQM

PERMIT APPLICATIONS
AND
PSD ANALYSIS FOR NEW SMYRNA BEACH UTILITIES

SWOOPE UNIT #3 AND #4

#### CONTENTS

I	CONSTRUCTION	PERMIT	APPLICATION	SWOOPE	#3

- II CONSTRUCTION PERMIT APPLICATION SWOOPE #4
- III ATTACHMENTS
  - A--Reference to Permit Section II
  - B--Manuafacturers letter-basis of emissions estimate
  - C-Flow diagram
  - D-Location map E-Plot plan

  - F-PSD analysis
  - G-ISCLT computer model output



## STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION APPLICATION TO COURT ATT (CONCERNING)

DER

APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

AIR POLL	JUN 28 1982
SOURCE TYPE: City Utility/Gas Diesel	[X] New <sup>1</sup> [ ] Existing <sup>1</sup>
APPLICATION TYPE: [x] Construction [ ] Operation [	Modification BAOM
COMPANY NAME: Utilities Commission, City of	of New Smyrna Beach COUNTY: Volusia
Identify the specific emission point source(s) addressed in this No. 2, Gas Fired) Swoope Unit 3 Gas Diesel	application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit
SOURCE LOCATION: Street 2495 N. Dixie High	New Smyrna Beach City New Smyrna Beach
UTM: East	North 3214.8
Latitude 29 o 03 , 43	7."N Longitude 80 ° 56 ' 25 "W
APPLICANT NAME AND TITLE: Utilities Commiss	sion, City of New Smyrna Beach
APPLICANT ADDRESS: PO Box 519, New Smyrna	
	S BY APPLICANT AND ENGINEER
A. APPLICANT	
	of Utilities Commission, City of New Smyrna Beach
permit are true, correct and complete to the best of me pollution control source and pollution control facilities Florida Statutes, and all the rules and regulations of the	Construction Permit Application  by knowledge and belief. Further, I agree to maintain and operate the in such a manner as to comply with the provision of Chapter 403, a department and revisions thereof. I also understand that a permit, if I will promptly notify the degarment upon sale or legal transfer of the Signed:
	P. A. Korelich, Chief Engineer
	Name and Title (Please Type)
	Date: 6/24/82 Telephone No. 904-427-1361
B. PROFESSIONAL ENGINEER REGISTERED IN FLORE	DA (where required by Chapter 471, F.S.)
be in conformity with modern engineering principles appermit application. There is reasonable assurance, in my erly maintained and operated, will discharge an effluent trules and regulations of the department. It is also agreed cant a set of instructions for the proper maintenance and	ution control project have been designed/examined by me and found to plicable to the treatment and disposal of pollutants characterized in the professional judgment, that the pollution control facilities, when prophat complies with all applicable statutes of the State of Florida and the that the undersigned will furnish, if authorized by the owner, the applicable operation of the pollution control facilities and, if applicable, pollution
sources.	Signed: David a Buff
	David A. Buff, P.E.
(Affix Seal)	Name (Please Type)
	Environmental Science and Engineering, Inc. Company Name (Please Type)
	PO Box ESE, Gainesville, Florida 32602
10011	Mailing Address (Please Type)
Florida Registration No. 19011	Date: 6/22/82 Telephone No. (904) 372-3318

<sup>&</sup>lt;sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

#### SECTION II: GENERAL PROJECT INFORMATION

The state of the s

natural gas fired with 6 percent heat input from No.	2 011 22 2110#
fuel. Unit is rated at 2880 BHP with generating capa	
	CITY OF 2030 RW.
Schedule of project covered in this application (Construction Permit Application Only)	_
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for project serving pollution control purposes. Information on actual costs shall be furnished permit.)	
Not Applicable	
<u> </u>	
Indicate any previous DER permits, orders and notices associated with the emission point, in tion dates.	ncluding permit issuance and
No previous DER permits have been issued for this uni	<del>*</del> .
· · · · · · · · · · · · · · · · · · ·	
<u> </u>	
Is this application associated with or part of a Development of Regional Impact (DRI) pursual	nt to Chapter 380, Florida S
and Chapter 22F-2, Florida Administrative Code? YesX No	
and Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{}$ No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{52}{}$	
and Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{}$ No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{52}{}$	
and Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{}$ No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{52}{}$	
and Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day; days/wk	_ ; if power plant, hrs/yr8
and Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day	
And Chapter 22F-2, Florida Administrative Code? Yes X No Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	_ ; if power plant, hrs/yr8
And Chapter 22F-2, Florida Administrative Code? Yes X No Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?	_ ; if power plant, hrs/yr8
And Chapter 22F-2, Florida Administrative Code? Yes X No Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	_ ; if power plant, hrs/yr8
And Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  If seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.	_ ; if power plant, hrs/yr8
And Chapter 22F-2, Florida Administrative Code? Yes No Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No) 1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.	_; if power plant, hrs/yr _8
<ul> <li>b. If yes, has "Lowest Achievable Emission Rate" been applied?</li> <li>c. If yes, list non-attainment pollutants.</li> <li>2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.</li> <li>3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements</li> </ul>	_; if power plant, hrs/yr _8

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

#### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

AND THE PROPERTY OF THE PROPER

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contaminants		Utilization	Poloto to Elevy Discome		
	Туре	% Wt	Rate - lbs/hr	Relate to Flow Diagram		
			0			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): Not Applicable

#### C. Airborne Contaminants Emitted:

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission <sup>2</sup>	Allowable <sup>3</sup>	Potential Emission <sup>4</sup>		Relate
	Maximum Ibs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram
Nitrogen Oxides	57.1	250	NA	NΔ	57 1	250	2
Particulate	0.25	1	NA NA	NA	0.25		В
Sulfur Dioxide	0.42	2	NA	NA.	0.42		В
Carbon Monoxide	8.9	39	NA	NA	8.9	39	В
Hydrocarbons	2.5	11	NA	NA NA	2.5	11	В

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
	<u> </u>	1		•
			_	
		İ		

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

DER FORM 17-1.122(16) Page 3 of 10

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

Type (Be Specific)	Consu	mption*	Maximum Heat Input
i ype (se specinc)	avg/hr	max./hr	(MMBTU/hr)
Natural Gas (ft <sup>3</sup> )	17,600	17.600	18.05
No. 2 Fuel Oil (gallons)	8.2	8.2	1,15

A CONTROL OF THE PROPERTY OF T

Units Natural G	as, MMCF/hr; Fue	el Oils, barrels/hr;	Coal, lbs/hr				
Fuel Analysis: Percent Sulfur: _		s/Pilot Fuel		Percent Ash: _	Ng/Ng		
Density:					t Nitrogen:		
							_
Other Fuel Conta	minants (which m	iay cause air poilt	ition):				
F. If applicabl	e, indicate the per	rcent of fuel used	for space heat	ing. Annual Av	erage <u>NA</u>	Maximum	NA
	uid or solid waste						
					n either a sa	anitarv sew	age
H. Emission St	ack Geometry and	d Flow Character	istics (Provide i	data for each star	-k):		=
	nt:			Stack Diameter		22 inches	f
					erature:	700	oF
Water Vapo	· Oomtent.			V 6.00.11	_		
	·						
			ot Applica	RATOR INFORM ble	TATION		
		1	i Appilea		:	Type V	Type V!
Type of Waste	Type O (Plastics)	Type (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	(Lig & Gas	(Solid
			!		;	By-prod.)	By-prod.)
Lbs/hr		į			į		
Incinerated							i
			!				<u>i</u>
Description of Wa	iste			_			
Total Weight Incir	nerated (lbs/hr) _			Design Capacity	y (lbs/hr)		
Approximate Nun	nber of Hours of (	Operation per day	<i></i>		days/w	/eek	
Manufacturer							
Date Constructed				Model No			

	Volume	Heat Release		uel	Temperature	
	( <del>ft</del> )3	(BTU/hr)	Type	BTU/hr	(°F)	
Primary Chamber						
Secondary Chamber						
Stack Height:		ft. Stack Diameter _		Stack Temp	o	
Gas Flow Rate:		ACFM		_ DSCFM* Velocity _	FP	
If 50 or more tons per cess air.	day design capad	city, submit the emissio	ns rate in grains p	per standard cubic foot	dry gas corrected to 50% e	
Type of pollution contro	I device: [ ] C	ycione [ ] Wet Scrubi	ber [] Afterbu	rner [ ] Other (speci	ify)	
Type of pollution contro Brief description of opera						
	ating characterist	ics of control devices: _				
Brief description of opera	ating characterist	ics of control devices: _				
Brief description of opera	ating characterist	ics of control devices: _				
Brief description of opera	ating characterist	ics of control devices: _				

#### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight show derivation. Not Applicable
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
  See Attachment B
- 2. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See ATTACHMENT B
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).

  Not Applicable
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).

  Not Applicable
- 6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

  See ATTACHMENT C
- 7. An 8%" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

  See ATTACHMENT D
- An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   See ATTACHMENT E

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as snown in the construction permit.

#### SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant	Rate or Concentration
	· · · · · · · · · · · · · · · · · · ·
<u> </u>	
-	<del> </del>
i	chnology for this class of sources (If yes, attach copy) [ ] Yes [x] No
Contaminant	Rate or Concentration
	<del></del>
What emission levels do you propose as best as	valiable control technology?
Contaminant	valiable control technology? See Section IIIC  Rate or Concentration
Contaminant	Nate of Concentration
Describe the existing control and treatment te	chnology (if any). See Part F
1. Control Device/System:	
2. Operating Principles:	
3. Efficiency:*	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
	8. Maintenance Cost:
7. Energy:	
7. Energy:	Rate or Concentration
7. Energy: 9. Emissions:	Rate or Concentration

	10.	Sta	ck Parameters			
		a.	Height:	ft	<b>b.</b>	Diameter:
		c.	Flow Rate:	ACFM	d.	Temperature:
		e.	Velocity:	FPS	;	
Ε.	Des	cribe				y types as applicable, use additional pages if necessary).
	1.			See Pa	irt i	:
		2.	Control Device:			
		<b>b.</b>	Operating Principles:			
		c.	Efficiency *:		d.	Capital Cost:
		e.	Useful Life:		f.	Operating Cost:
		g.	Energy *:		h.	Maintenance Cost:
		i.	Availability of construction materials and p	process o	hemii '	cals:
		j.	Applicability to manufacturing processes:			·
		k.	Ability to construct with control device, in	nstall in :	evailai	ple space, and operate within proposed levels:
	2.					
		a.	Control Device:	•		
		ь.	Operating Principles:			
		c.	Efficiency*:		d.	Capital Cost:
		e.	Useful Life:		f,	Operating Cost:
		g.	Energy **:		h.	Maintenance Costs:
		i.	Availability of construction materials and p	process (	:hemid	cais:
		j.	Applicability to manufacturing processes:			
		k.	Ability to construct with control device, in	nstall in a	vailat	ple space, and operate within proposed levels:
•E×	plair	n met	hod of determining efficiency.			
**En	ergy	to b	e reported in units of electrical power — KV	VH desig	n rate	
	3.		•			
		а.	Control Device:			
		<b>b</b> .	Operating Principles:			
		c.	Efficiency*:		d.	Capital Cost:
		e.	Life:		f.	Operating Cost:
		g.	Energy:		'n.	Maintenance Cost:

ft. OF

<sup>\*</sup>Explain method of determining efficiency above.

		-					,
		j.	App	licability to manufacturing processe	es:		
		k.	Abii	lity to construct with control device	e, install in availa	ы	le space and operate within proposed levels:
	4.						
		a.	Con	trol Devi <del>ce</del>			
		b.	Ope	rating Principles:			
		•	240	ciency *:			Constrail Courts
		c. e.	Life		d. f.		Capital Cost:
		g.	Ener		h.		Operating Cost: Maintenance Cost:
		i.		ilability of construction materials ar			
		••		mapricy of construction materials at	id process crieffi	~	913.
		j.	App	licability to manufacturing processe	es:		•
		k.	Abil	ity to construct with control device	, install in availa	bi	e space, and operate within proposed levels:
F.	Des	scribe	the	control technology selected:	See Ite	2π	n 10
	1.	Con	itrol i	Device:	500 110		
	2.	Effi	icienc	y*:	3.		Capital Cost:
	4.	Life	<b>:</b> :		5.		Operating Cost:
	6.	Ene	rgy:		7.		Maintenance Cost:
	8.	Man	nufac	turer:			
	9.	Oth	er loc	cations where employed on similar p	processes:		
		a.		•			
			(1)	Company:			
			(2)	Mailing Address:			•
			(3)	City:	(4	)	State:
			(5)	Environmental Manager:			
			(6)	Telephone No.:			
•E	xplair	met	thod (	of determining efficiency above.			
			(7)	Emissions*:			
				Contaminant			Rate or Concentration
	_					_	· · · · · · · · · · · · · · · · · · ·
	_					_	
	_			<del></del>			<del></del>
			(8)	Process Rate*:			
		b.					
			{1}	Company:			
			(2)	Mailing Address:			
			(3)	City:	(4)	)	State:
*Ap	olicar	it mu	ist or	ovide this information when availa	ble. Should this	ir	nformation not be available, applicant must state the reason(s

i. Availability of construction materials and process chemicals:

(6)	Telephone No.:	
(7)	Emissions*:	
	Contaminant	Rate or Concentration
(0)	Banana Rama*.	

10. Reason for selection and description of systems:

Environmental Manager:

The BACT proposed for  $NO_{\mathbf{y}}$  is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower  $\mathtt{NO}_{\mathbf{x}}$  emissions could be achieved by retarding the pilot fuel injection but this would be at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard, optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s)

#### SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A.	A. Company Monitored Data Not Applicable	
	1 no sites TSP( ) so <sup>2</sup> *	Wind spd/dir
•	Period of monitoring / / to /	
	, ,	day year
	Other data recorded	· · · · · · · · · · · · · · · · · · ·
	Attach all data or statistical summaries to this application.	
	2. Instrumentation, Field and Laboratory	•
	a) Was instrumentation EPA referenced or its equivalent?Y	es No
	b) Was instrumentation calibrated in accordance with Department pr	rocedures? Yes No Unknown
₿.	B. Meteorological Date Used for Air Quality Modeling	
	1. Year(s) of data from 1 / 1 / 64 to 12 / 3 month day year month of	31 / 64 day year
	2. Surface data obtained from (location)NA	
	3. Upper air (mixing height) data obtained from (location) NA	
	4. Stability wind rose (STAR) data obtained from (location)	(WBAN 12834)
C.		
	1Industrial Source Complex Long Term	Modified? If yes, attach description.
	2	Modified? If yes, attach description.
	3	Modified? If yes, attach description.
	4	
	Attach copies of all final model runs showing input data, receptor location	s, and principle output tables.
D.		
	Pollutant	Emission Rate
		7.2 grams/sec
	*	grams/sec
_		
Ε.	•	
	Attach list of emission sources. Emission data required is source name, d UTM coordinates, stack data, allowable emissions, and normal operating tir	
F.	F. Attach all other information supportive to the PSD review.  See AI	TTACHMENT F
*Spe	*Specify bubbler (B) or continuous (C).	
G.	<ol> <li>Discuss the social and economic impact of the selected technology versus duction, taxes, energy, etc.). Include assessment of the environmental impa</li> </ol>	
	The installation of this unit will improve the r	eliability of the community
	electrical system without significant social, ed	conomic, or environmental
	impacts.	

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

AC 64-54553



## STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

### DER

### APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

JUN 28 1982

			95.4 20 15	02
	y Utility/Gas Diesel		sting <sup>1</sup> BAON	7
	[X] Construction [ ] Operation [ ] !		2,16:4	1
COMPANY NAME: Ut.	<u>ilities Commission, City of N</u>	New Smyrna Beac	COUNTY: V	olusia
Identify the specific emi	ssion point source(s) addressed in this app woope Unit 4 Gas Diesel	plication (i.e. Lime K	In No. 4 with Venturi Sci	rubber; Peeking Unit
SOURCE LOCATION:	Street 2495 N. Dixie Highway	7	CityNew Smy:	ma Beach
	ÚTM: East505.8	Norti	3214.8	
	Latitude 29 0 03 / 47 "N	Long	tude <u>80</u> ° <u>56</u> ,	<u>25</u> "w
APPLICANT NAME AND	TITLE: Utilities @mmission	ı, City of New	Smyrna Beach	
APPLICANT ADDRESS:	PO Box 519, New Smyr	ma Beach, FL 3	2069	
	SECTION I: STATEMENTS BY	APPLICANT AND	NGINEER	
A. APPLICANT				
I am the undersione	ed owner or authorized representative* of .	Utilities Comm <sup>.</sup>	ssion, City of N	ew Smyrna Beach,
t and the differending	d owner or additionized representative or .	Construction	Downit Annliant	<u> </u>
I certify that the sta	atements made in this application for a priect and complete to the best of my k	CONSTRUCTION	Permit Applicat	100
pollution control s	cource and pollution control facilities in	such a manner as to	comply with the provis	ion of Chapter 403,
Florida Statutes, a	nd all the rules and regulations of the de	partment and revision	s thereof. I also understa	and that a permit, if
granted by the deb	artment, will be non-transferable and I wil ment.	II promptly netury the	department upon sale of	legal transfer of the
Attach letter of authoriz		Signed:	Muluh	
Tracil letter of actions			brelich, Chief E	ngineeer
		N:	me and Title (Please Typ	e)
		Date: 6/24/82	Telephone No. 904	4-427-1361
B. PROFESSIONAL E	INGINEER REGISTERED IN FLORIDA			
be in conformity w permit application. erly maintained and rules and regulation cant a set of instruc	at the engineering features of this pollution with modern engineering principles applica There is reasonable assurance, in my pro dioperated, will discharge an effluent that has of the department. It is also agreed that trions for the proper maintenance and oper	ble to the treatment a fessional judgment, the complies with all apple the undersigned will	ind disposal of pollutants at the pollution control f icable statutes of the Stat jurnish, if authorized by t	characterized in the acilities, when prop- e of Florida and the the owner, the appli-
sources.		$\mathcal{O}_{\alpha}$	100 BM	
		Signed:	reg a Dia	
		Dav	Id A. Buff, P'.E.  Name (Please Type)	<del></del>
(Affix Seal)		Environmental	Science and Engir	neering, Inc.
		Co	mpany Name (Please Typ Linesville, Florid	ne)
•			iling Address (Please Typ	e)
Clasida Basistesia	19011	6/22/82		04)372-3318
Florida Registration	I NO.	Date:	releprione No	

<sup>&</sup>lt;sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

## SECTION II: GENERAL PROJECT INFORMATION

Installation and operation of diesel generating unit. Unit w	ill be natural gas
fired with 6 percent heat input from No. 2 oil as pilot fuel.	
at 3168 BHP with generating capacity of 2275 kw.	
Schedule of project covered in this application (Construction Permit Application Only)	
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for project serving pollution control purposes. Information on actual costs shall be furnished permit.)  Not Applicable	with the application for op .
ndicate any previous DER permits, orders and notices associated with the emission point, i	•
ion dates.	
	•
No previous DER permits have been issued for this unit	
·	
	int to Chanter 380. Florida Si
s this application associated with or part of a Development of Regional Impact (DRI) pursua	int to Chapter 380, Florida S
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code?	
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code?YesYNo  Normal equipment operating time: hrs/day24; days/wk7; wks/yr52	_ ; if power plant, hrs/yr <u>_8</u>
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code?YesYNo  Normal equipment operating time: hrs/day24; days/wk7; wks/yr52	_ ; if power plant, hrs/yr <u>_8</u>
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr52	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesY No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr52  f seasonal, describe:	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesY No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesY No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  Is this source in a non-attainment area for a particular pollutant?	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  . Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes No  Normal equipment operating time: hrs/day ; days/wk 7 ; wks/yr 52 f seasonal, describe: f this is a new source or major modification, answer the following questions. (Yes or No) Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  . Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No Normal equipment operating time: hrs/day24; days/wk7; wks/yr52 f seasonal, describe:	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No Normal equipment operating time: hrs/day24; days/wk7; wks/yr52 f seasonal, describe:	_ ; if power plant, hrs/yr _8_
s this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes	; if power plant, hrs/yr _8_
is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes	; if power plant, hrs/yr _8_

See Attachment A

DER FORM 17-1.122(16) Page 2 of 10

considered questionable.

#### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materiais and Chemicais Used in your Process, if applicable: Not Applicable

Description	Description 5		Contaminants			Utilization	Balana na Slaw Dianna
Description	JII	Type	;	% Wt		Rate - lbs/hr	Relate to Flow Diagram
	-		1		!		
			1				
	:		1		!	<del>-</del>	
	-		İ				

B. Process Rate, if applicable: (See Section V, Item 1	8.	Process F	Rate, i	f applicable:	(See Section	٧.	item	1
--	----	-----------	---------	---------------	--------------	----	------	---

4	Total Process	ion 0	276	/1be/be\*	Not	Appl	icable

2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted:

A1 .	Emiss	ion <sup>1</sup>	Allowed Emission <sup>2</sup>	Allowable <sup>3</sup>	Potential	Relate		
Name of Contaminant	Maximum lbs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram	
Nitrogen Oxides	55.9	245	NA	NA	55.9	245	В	
Particulate	0.28	1	NA	NA	0.28	1	В	
Sulfur Dioxide	0.47	2	NA	NA	0.47	2	В	
Carbon Monoxide	9.8	43	NA	NA NA	9.8	43	В	
Hydrocarbons	3.5	15	NA	NA	3.5	15	В	

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
		_		
	.			
	j			!

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

E. Fuels.

Type (Be Specific)	Cons	sumption*	Maximum Heat Input (MMBTU/hr)	
	avg/hr	max./hr		
Natural Gas (ft <sup>3</sup> )	19,300	19,300	19.85	
No. 2 Fuel Oil (gallons)	9.7	0.7	1 27	

American Control of the Control of t

*Units Natural Gas	, MMCF/hr; Fue	el Oils, barrels/hr;	Coal, lbs/hr				
Fuel Analysis:	atural Gas/	Pilot Fuel (	Dil				
Percent Sulfur:	race/0.2			Percent Ash: _	Neg/Neg		
Density: N	A/7.21		lbs/gai	Typical Percen			
Heat Capacity: 1	026 Btu/ft <sup>3</sup>	/19430	ВТU/IЬ	NA/140	0.090		BTU/gal
Other Fuel Contam	ninants (which m	ay cause air pollu	ution):	None			
F. If applicable	, indicate the per	rcent of fuel used	for space heati	ng. Annual Av	erage <u>NA</u>	Maximum _	NA
A11	liquid and		es will be	disposed of	in either s	3	
		flow Character					
	:				r:22_		
					erature:7 <u>00</u>		
Water Vapor	Content:	5	%	Velocity:	145		FPS
		SECTION	IV: INCINER	ATOR INFORM	MATION		
Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type V1 (Solid By-prod.)
Lbs/hr Incinerated		!		: : :			
Description of Wast	te				_		
Total Weight Incine	erated (lbs/hr) _			Design Capacity	y (lbs/hr)		
Approximate Numb	per of Hours of (	Operation per day					
Manufacturer							
Date Constructed _				Model No.		<u> </u>	

	Volume			=uel	Temperature
	(ft)3	(BTU/hr)	Туре	STU/hr	(OF)
Primary Chamber					
Secondary Chamber					
tack Height:		ft. Stack Diameter _		Stack Temp.	
ias Flow Rate:		ACFM		_ DSCFM* Velocity _	FP
If 50 or more tons per cess air.	day design capac	city, submit the emissio	ns rate in grains p	per standard cubic foot o	dry gas corrected to 50% ex
ype of pollution contro	device: [] C	ycione [ ] Wet Scrubi	per [] Afterbu	mer [] Other (speci	fy)
rief description of oper	ating characteristi	ics of control devices: _			
				_,	
		_			
Iltimate disposal of any		_			
		_			
		_			
		_			·
		_			
		_			
		_		water, ash, etc.):	
	effluent other tha	_	e stack (scrubber	water, ash, etc.):	

The state of the s

- 1. Total process input rate and product weight show derivation. Not Applicable
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
  See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

See Attachment B

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).

Not Applicable

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).

Not Applicable

6. An 8%" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

See Attachment C

7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

See Attachment D

8. An 8%" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

See Attachment E

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

The second of th

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

#### SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant	Rate or Concentration
	<del></del>
Has EPA declared the best available control tec	hnology for this class of sources (If yes, attach copy) $[\ ]$ Yes $[\ _{Y}]$ No
Contaminant	Rate or Concentration
•	
What emission levels do you propose as best ava Contaminant	See Section IIIC Rate or Concentration
	-
Describe the existing control and treatment tech	hnology (if any). See Part F
1. Control Device/System:	
2. Operating Principles:	
3. Efficiency: *	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
7. Energy:	.8. Maintenance Cost:
9. Emissions:	
Contaminant	Rate or Concentration

<sup>\*</sup>Explain method of determining D 3 apove.

		den : didiliciti								
	a.	Height:	ft.	b.	Diameter:					
	c.	Flow Rate:	ACFM	d.	Temperature:					
	e.	Velocity:	FPS							
Ε.	Describ	scribe the control and treatment technology available (As many types as applicable, use additional pages if necessary).								
	1.	See Part F								
	a.	Control Device:								
	b.	Operating Principles:								
	C.	Efficiency *:		d.	Capital Cost:					
	e.	Useful Life:		f.	Operating Cost:					
	g.	Energy*: -		h.	Maintenance Cost:					
	i. Availability of construction materials and process chemicals:									
	j.	. Applicability to manufacturing processes:								
	k.	Ability to construct with control device, install in available space, and operate within proposed levels:								
	2.	·								
	а.	Control Device:								
	b.	Operating Principles:	•							
	c.	Efficiency*:		ď.	Capital Cost:					
	e.	Useful Life:		f.	Operating Cost:					
	g.	Energy **:		h.	Maintenance Costs:					
	i.	Availability of construct	tion materials and process ch	emic	als:					
	j.	Applicability to manufa	cturing processes:							
	k.	Ability to construct with	n control device, install in av	ailab	le space, and operate within proposed levels:					
•Ex	plain m	ethod of determining effic	tiency.							
••En	ergy to	be reported in units of ele	ctrical power - KWH design	rate.						
	3.									
	a.	Control Device:								
	b.	Operating Principles:	•							
	•	Efficiency*:		d.	Capital Cost:					
	c.			a. f.						
	ę.	Life:			Operating Cost:					
	g.	Energy:		h.	Maintenance Cost:					

ft. op

<sup>\*</sup>Explain method of determining efficiency above.

	•	i	Avai	lability of construction materials	and process ch	emic	als:			
		j.	Арр	licability to manufacturing proce	sses:					
-		k.								
	4.						•			
		a.	Cont	trol Device						
		b.	Oper	rating Principles:						
		c.	Effic	ciency*:		d.	Capital Cost:			
		e.	Life:			f.	Operating Cost:			
		g.	Ener	gy:		h.	Maintenance Cost:			
		i.	isvA	lability of construction materials	and process ch	emic	ais:			
		j.	App	licability to manufacturing proces	sses:					
		k.	Abili	ty to construct with control devi	ce, install in av	ailab	e space, and operate within proposed levels:			
F.	Des	escribe the control technology selected:			See Item	See Item 10				
	1.	Cont	roi [	Device:						
	2.	Effic	ienc	y <b>*</b> :		3.	Capital Cost:			
		Life:				5.	Operating Cost:			
	6.	Ener	<b>3</b> Y:		7.	7.	Maintenance Cost:			
	8.	Man	ufact	urer:						
	9.	Othe	r loc	ations where employed on simila	r processes:					
		a.								
			(1)	Company:						
			(2)	Mailing Address:						
			(3)	City:		(4)	State:			
			(5)	Environmental Manager:						
			(6)	Telephone No.:						
•=	xplair	n meti		of determining efficiency above.						
			(7)	Emissions*:						
				Contaminant			Rate or Concentration			
			(8)	Process Rate*:						
		<b>b</b> .								
		(	(1)	Company:						
		(	(2)	Mailing Address:						
		(	(3)	City:		(4)	State:			
• > -	-1:				Hable Chauler	<b></b>	oformation not be available applicant must state the seasonis			

COLUMN THE PROPERTY OF THE PRO

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5)	Telephone No.:	
(7)	Emissions*:	
	Contaminant	Rate or Concentration
·		

(8) Process Rate\*:

10. Reason for selection and description of systems:

(5) Environmental Manager:

The BACT proposed for NOx is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower NOx emissions could be achieved by retarding the pilot fuel injection, but at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

# SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A.	A. Company Monitored Data Not Applicable	
	1 no sites TSP ( ) SO <sup>2</sup> *	Wind spd/dir
	Period of monitoring / / to	day year
	Other data recorded	
	Attach all data or statistical summaries to this application.	
	2. Instrumentation, Field and Laboratory	
	a) Was instrumentation EPA referenced or its equivalent?	Yes No
	b) Was instrumentation calibrated in accordance with Department	procedures? Yes No Unknow
8.	. Meteorological Data Used for Air Quality Modeling	
	1. Year(s) of data from 1 / 1 / 64 to 12 month day year month	/ 31 / 64 day year
	2. Surface data obtained from (location) NA	
	3. Opper air (mixing height) data obtained from (location)	NA
	4. Stability wind rose (STAR) data obtained from (location)	a (WBAN 12834)
C.		
	1	Modified? If yes, attach description
	2	Modified? If yes, attach description
	3	Modified? If yes, attach description
	4	Modified? If yes, attach description
	Attach copies of all final model runs showing input data, receptor location	ons, and principle output tables.
D.		
	λλάλλά νο×	Emission Rate
	<u></u>	7.0 grams/sec
		grams/sec
€.		
	Attach list of emission sources. Emission data required is source name, UTM coordinates, stack data, allowable emissions, and normal operating	description on point source (on NEDS point number) time.
F.	. Attach all other information supportive to the PSD review.	tachment F
*Spe	Specify bubbler (B) or continuous (C).	
G.	<ul> <li>Discuss the social and economic impact of the selected technology version, taxes, energy, etc.). Include assessment of the environmental impact of the environmental impact of the environmental impact of the environmental impact of the selected technology.</li> </ul>	
	The installation of this unit will improve t electrical system without significant social	

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

# ATTACHMENT A

(Reference to Permit Section II)

- 1. Volusia County is not a non-attainment area for any pollutant.
- 2&3. The existing plant is not a major source for any pollutant so PSD review does not apply to any pollutant that does not increase 250 TPY with this modification. PSD Section (Attachment F) Table F-1, shows that the proposed expansion is a major source for nitrogen dioxide, thus both BACT and PSD review apply for this pollutant.
- 4. On July 23, 1979, NSPS were proposed for internal combustion engines; these standards were to become effective for engines which commenced construction after January 23, 1982, and would be applicable to dual fuel engines with displacements greater than 560 cubic inches per cylinder. The two proposed units each have a displacement of 1037 cubic inches per cylinder and would be required to meet the standard. However, these standards have not yet been adopted by law.
- 5. NESHAPS regulations do not apply to this type of source.

# **Colt Industries**



Fairbanks Morse Engine Division 701 Lawton Avenue Beloit, Wisconsin 53511 608/364-4411

(206608)1

June 11, 1982

Environmental Science & Engr, Inc. P. O. Box #ESE Gainesville, Florida 32502

Attention:

Mr. Michael H. Dybevick

Subject:

Two (2) 12 Cyl - 38TDD 8-1/8 OP Engines

Relocated Gensets Exhaust Emissions Data

Dear Mr. Dybevick:

At the request of our customer, Mr. Ed Berrier - Plant Supt. at the New Smyrna Beach Generating Facility, we have been instructed to advise you directly as to the exhaust emissions relative to the two (2) units planned for this installation. The data is as follows:

Unit No. 1 - 12 Cyl 38TDD 8-1/8 OP - Turbo Blower Series Rated 2880 BHP @ 720 RPM - S/N 970348 5~20pe #3

<u>Mode</u>	<u>Diesel</u>	Dual Fuel
NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	10.0 1.2 .3 .16 1.0	9.0 1.4 .4 .4 0.3% S1 .2

Unit No. 2 - 12 Cyl - 38TDD 8-1/8 OP - Turbo Blower Series Rated 3168 BHP @ 720 RPM - S/N 873068

5-00pe #4

77	<u>.</u>			
	Mode	<u>Diesel</u>	<u>Dual Fuel</u>	
*	NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	9.0 1.2 .3 .18 1.0	8.0 1.4 1.2 based on .04 0.3% S1 .2	this is total HC by mistake Non-me thank is ~0.5  (conversation with EL. Betker

6/18/82>

Environmental Science & Engr, Inc. Gainesville, Florida 32602 June 11, 1982 Page 2

All Emission Values are for typical injection timings at each rating. These valves (\*) are calculated from smoke emissions and for .3% sulfur fuel.

Should any additional information be required with respect to the foregoing, please feel free to contact the writer at your convenience.

Very truly yours,

COLT INDUSTRIES OPERATING CORP FAIRBANKS MORSE ENGINE DIVISION

E. L. Betker

Contract Administrator

# ELB:flb

cc: Al Belvedere - Beloit

Ed Berrier - New Smyrna Beach, Fla.

H. Dahlman - Beloit

H. Keinschrodt - Daytona Beach, Fla.

W. Marx - Houston Sales



# SGS Control Services Inc.

Redwood Petroleum and Petrochemical division

TO WHOM IT MAY CONCERN

Corrected Certificate

June 7, 1982

# ENGINEERING

JUN 24 1982

UTILITIES COMMISSION NEW SMYRNA BEACH, FL

825 Wynkoop Road PO Box 5351 Tampa, Florida 33675 Tel (813) 247-3984 TWX (810) 876-2927

to accompany Certificate No

# Analysis Certificate

essel Shore Tank No. 18

Receiver \* Belcher Oil Company, Port Canaveral, Florida

Cargo No.2 Fuel Oil File No. 37434

Sample Marked Shore Tank No. 18 (Top, Middle and Bottom)
Lab Reference No. LP-2070-82

Lab Reference No LP-20/0-82

Sample Description No. 6 Fuel Oil

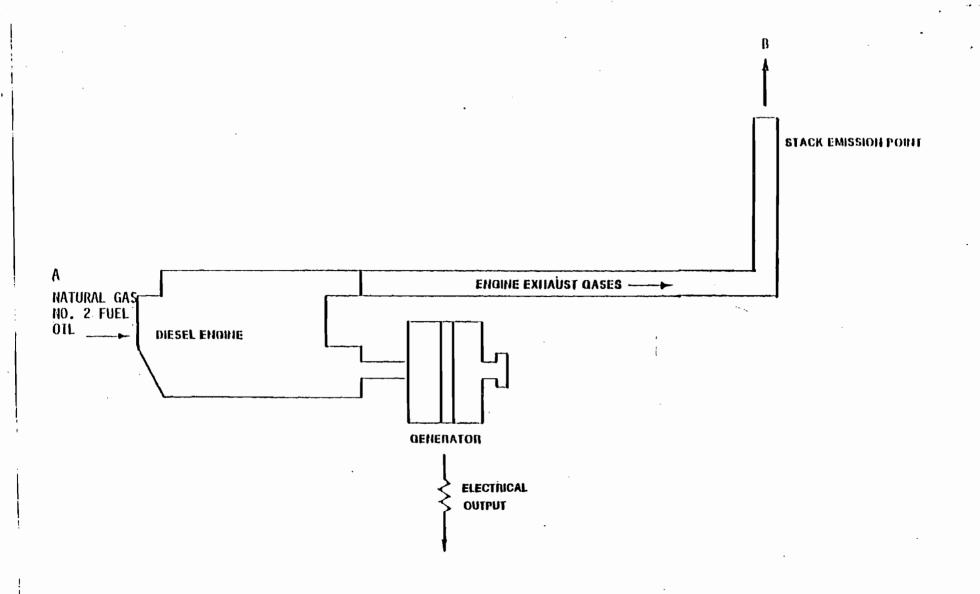
Sample Description NO. 6 Fuel Oil
Submitted By SGS Control Services Inc.

In accordance with your instructions per Mr. Dick Reed, we proceeded to \*Belcher Oil Company, Port Canaveral, Florida on June 4, 1982 for the purpose of drawing a top, middle and bottom sample from Shore Tank No. 18. A portion of this sample was submitted to our Tampa laboratory for analytical findings. We now report to you as follows:

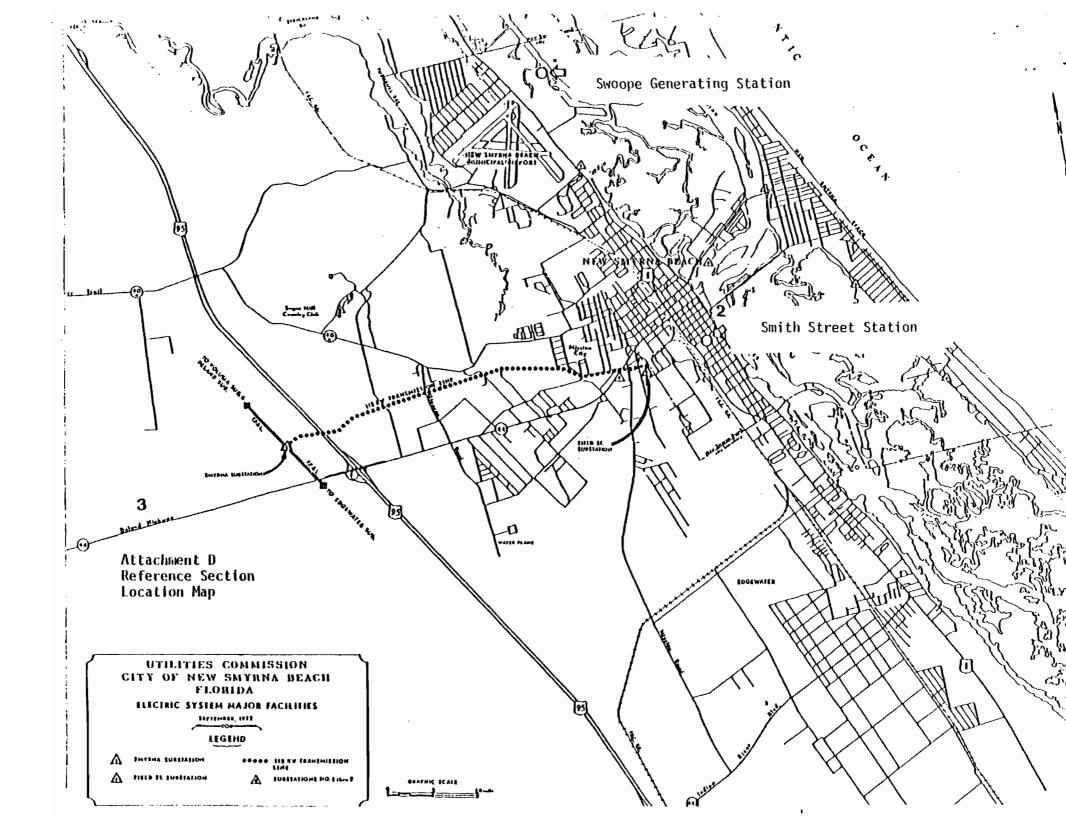
TEST	METHOD	RESULT
GRAVITY, A.P.I. @ 60°F	ASTM D-287	36.8
FLASH, °F (PMCC)	ASTM D-93	150
SEDIMENT & WATER, VOL.%	ASTM D-96	Trace
S.U.S. VISCOSITY, @ 100°F	ASTM D-445	33.5
POUR POINT, °F	ASTM D-97	Below O°F
SULFUR, WT. %	ASTM D-1552	0.12
RAMSBOTTOM CARBON RES., WT.% (10% BOTTOM)	ASTM D-524	0.14
CETANE INDEX	ASTM D-976	45.4
DISTILLATION, °F	ASTM D-86 I.B.P.	356
	5%	388
	10%	404
	20%	422
	90%	570
	END POINT	634
	% RECOVERY	98.5
4	% LOSS	1.5
TRACE METALS	A.A. CALICUM, ppm	None Detected
	LEAD, ppm	0.3
	POTASSIUM, ppm	0.1
	SODIUM, ppm	0.1
,	. VANADIUM, ppm	0.2
	$\mathcal{N}$	/
	ses comports	ERVICES INC.

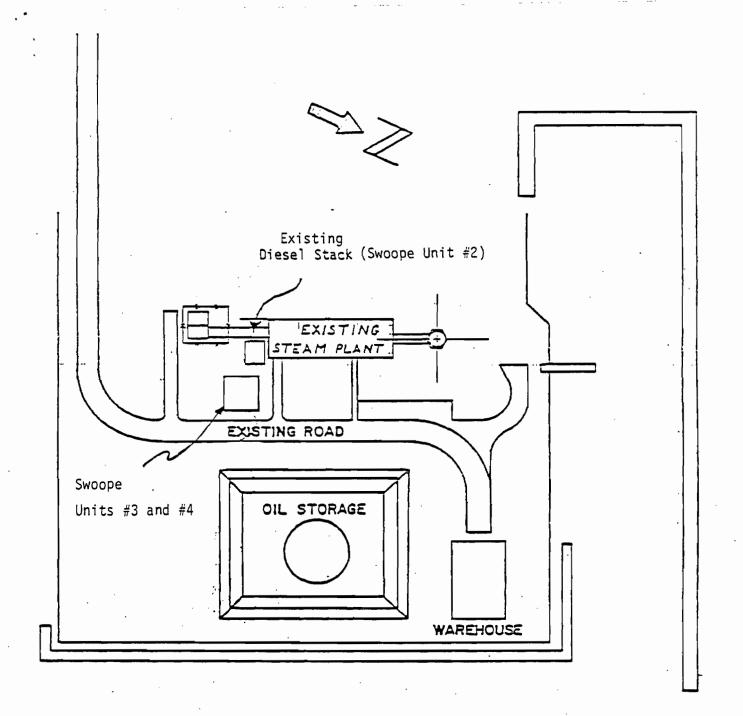
RSS/s1

Operations Department



Attachment C: Reference Section V 6 FLOW DIAGRAM





# Attachment E Reference Section V 7 Utility Plot Plan New State Section Plan New State Section Plot Plan New State Section Plot Plan New State Section Rev. O CKD. DATE 3-3-61 SAA-109 APP.

# ATTACHMENT F PSD ANALYSIS

The Swoope Generating Station currently consists of a 116 X 10<sup>6</sup> Btu/hr steam generator (Swoope #1) and a 910 KW gas diesel generator (Swoope #2), which is limited by permit condition to a 70 percent capacity factor. Neither of these sources are in a category listed in 40 CFR 52.21 or FAC 17-2, and Table F-1 shows that current emission levels of all pollutants are below 250 TPY. The current configuration is therefore not a major source.

The proposed modification is an addition of two more gas diesel units, and an increase to 100 percent capacity factor for Swoope #2. Table F-1 shows that the change would be a major source for NOx only, and requires PSD review for this pollutant. The source description and control technology review components of the PSD review are contained in the accompanying construction permit application. This attachment describes the air quality impact analysis and its results.

Both state and federal regulations contain only annual average standards for NOx, so modeling was performed with the EPA approved ISC long term model. One year (1964) of surface observations from Daytona International Airport were summarized in STAR format and input to the model. The stack parameters are shown in Table F-2. A rectangular grid with 100 meter spacing was used, and all sources were assumed to emit at maximum allowable rates 24 hours a day, every day of the year. The attached computer output contains the results of two model runs. The first run modeled the impacts of the entire plant, the second run modeled the impacts of the two new units (Swoope #3 and #4) and the increased emissions due to the increased capacity factor for Swoope #2.

Both state and federal regulations require pre-construction monitoring unless the impacts of the modification are below certain <u>de minimis</u> levels. For NOx, the <u>de minimis</u> level is 14 ug/ $\rm m^3$ , annual average. The maximum impact of the proposed modification is 11 ug/ $\rm m^3$ , and therefore the project may be exempted from the PSD pre-construction monitoring requirement.

The state and federal air quality standard for NOx is 100 ug/m<sup>3</sup>. The highest predicted annual average impact due to the Swoope Generating Station is 16 ug/m<sup>3</sup>. The only other major point source of NOx within 40 km is the New Smyrna Beach Smith Street station (see Attachment D). Since the Smith Street station also consists of gas diesels, and the maximum impacts of the Swoope Generating Station were small relative to the standard and occurred within 800 meters of the plant, no other sources were modeled for interaction. The nearest NOx monitoring data available are from a gas bubbler station located 1.5 miles north of the FPL Sanford power plant, about 25 miles southwest of the Swoope Station, (site code 10-4600-001-J-02). In 1980, the annual average NOx concentration at this site was 22.5 ug/m<sup>3</sup>. Even if this value was used directly as a background concentration, the projected impacts of the Swoope Generating Station are low enough to provide reasonable assurance that air quality standards will not be exceeded.

Table F-1. Annual Emissions From Swoope Generating Station

	Particulate Matter	Sulfur Dioxide	Carbon Monoxide	Nitrogen Oxides	llydrocarbons
Current					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel) <sup>†</sup> Total	* <u>0.1</u> 27	$\frac{0.3}{1}$	12 17	$\frac{94}{234}$	<u>37</u> 45
<u>Projected</u>					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel)? (at 100% capacity #		0.4	17	134	53
Swoope #3 (diesel)	+ 1	2	39	250	11
Swoope #4 (diesel) Total	+ 1/29	5	43 104	245 769	1 <u>5</u> 87
Net Increase	2	4	87	535	42

<sup>\*</sup>based on Swoope #2 permit application (AC64-43484) and revisions in June 26, 1981, letter to C. M. Collins FDER ST. Johns River District from K. F. Kosky, ESE, Inc.

Note: Swoope #2 hydrocarbons reported as total HC, Swoope #3 and #4 reported as non-methane.

<sup>+</sup>based on manufacturers letter, Attachment B.

Table F-2. Modeling Parameters - Swoope Generating Station

Source	NOx Emission Rate (g/s)	Stack Height (m)	Gas Temperature (k)	Exist Velocity (m/s)	Diameter (m)
Swoope #1	4.04	38.1	644	9.5	1.38
Swoope ∦2	3.84	6.1	589	43.9	0.36
Swoope #3	7.2	6.1	644	41.2	0.56
Swoope #4	7.0	6.1	644	44.2	0.56

```
*** ISCLI ******** ISCLT -- ANNUAL NOX
                                                       ALL SOURCES (D41)
                                                                                                       ***** PAGE
                                                            And New only
                                     - ISCLT INPUT DATA
                             3/2
        NUMBER OF SOURCES =
        MUMBER OF A AXIS GRID SYSTEM POINTS =
        NUMBER OF Y AXIS GRID SYSTEM FOINTS =
        NUMBER OF SPECIAL POINTS =
        NUMBER OF SEASONS = 1
        NUMBER OF WIND SPEED CLASSES = 6
        NUMBER OF STABILITY CLASSES = 5
        NUMBER OF WIND DIRECTION CLASSES = 16
        FILE NUMBER OF DATA FILE USED FOR REPORTS = 1
        THE PROGRAM IS RUN IN RURAL MODE
        CONCENTRATION (DEPOSITION) UNITS CONVERSION FACTOR =0.100D0000E+07
        ACCELERATION OF GRAVITY (METERS/SEC ** 2) = 9.800
        HEIGHT OF MEASUREMENT OF WIND SPEED (METERS) = 7.000
        ENTRAINMENT PARAMETER FOR UNSTABLE CONDITIONS = 0.600
        ENTRAINMENT PARAMETER FOR STABLE CONDITIONS = 0.600
        CURRECTION ANGLE FOR GRID SYSTEM VERSUS DIRECTION DATA NORTH (DEGREES) = .0.000
        DECAY COEFFICIENT =0.00000000E+00
        FROGRAN OPTION SWITCHES = 1, 1, 1, 0, 0, 3, 2, 2, 3, 0, 0, 0, 0, -1,-1, 0, 0, 1, 1, 0,
        ALL SOURCES ARE USED TO FORM SOURCE COMBINATION 1
       DISTANCE X AXIS GRID SYSTEM POINTS (METERS )= -1000.00.
                                                                  -900.00.
                                                                             -800.00.
                                                                                         -700.00.
                                                                                                    -600.00.
                                                             0.00,
            -460.00.
                       -300.00.
                                   -200.00.
                                               -100.00.
                                                                       100.00.
                                                                                  200.00.
                                                                                              300.00.
                                                                                                         400.00.
                                                                                                                    500.00.
                                                          1000.00.
             600.00.
                        700.00.
                                    80C.00.
                                                900.00.
       DISTANCE Y AXIS GRID SYSTEM POINTS (METERS )= -1000.00.
                                                                -900400, -800400,
                                                                                       -700.00.
                                                                                                    -600.00.
                                                                                                                -501.00.
            -400.00.
                       -300.00,
                                   -200.00.
                                               -100.00.
                                                             0.00•
                                                                       100.00.
                                                                                  200.00
                                                                                              300.00.
                                                                                                         400.00.
                                                                                                                    500.00.
             600.00.
                        700.00.
                                    800.00.
                                                           1000.00.
                                                900.00
                            - AMBIENT AIR TEMPERATURE (DEGREES KELVIN) -
                  STABILITY STABILITY STABILITY STABILITY STABILITY
                  CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 CATEGORY 6
        SEASON 1 300.0000 300.0000 300.0000 295.0000 289.0000
```

### - MIXING LAYER HEIGHT (METERS) -

### SEASON 1

WIND SPEED WIND SPEED WIND SPEED WIND SPEED WIND SPEED CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 CATEGORY 6 STABILLIY CATEGORY 10.2184CGE+040.2184CBE+040.2184CBE+040.2184CBE+040.2184CBE+040.2184CBE+040.2184CBE+04 STABILITY CATEGORY 20-145600E+040-145600E+040-145600E+040-145600E+040-145600E+040-145600E+040-145600E+04 STABILITY CATEGURY 30.145600E+040.145600E+040.145600E+040.145600E+040.145600E+040.145600E+040.145600E+040. STABILITY CATEGORY 46.14560CE+040.14560CE+040.14560CE+040.14560CE+040.14560CE+040.14560CE+040.14560CE+04 STABILITY CATEGURY 50.100000E+050.100000E+050.100000E+050.100000E+050.100000F+050.100000E+050



\*\*\* ISCUT \*\*\*\*\*\*\* ISCUT -- ANNUAL NOX

ALL SOURCES (D41)

- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCUPRENCE OF WIND SPEED. DIRECTION AND STABILITY -

# SEASON 1

# STABILITY CATEGORY 1

	MIND SPEED	WIND SPEED	WIND SPEED	FIND SPEED	VIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000Mrs)	(12.5000MPS)
COLGREES)						
0.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
22.500	0.00300000	0.000000000	0.000000000	0.00000000	0.000000000	0.00000000
45.160	0.00004700	0.00011460	0000000000	0.00000000	0.000000000	0.000000000
47.500	0.000000000	0.00000000	0.00000000	0.000000000	0.00000000	0.00000000
90.600	v•0601610 <b>0</b>	0.000000000	0.000000000	0.00000000	0.00000000	0.00000000
112.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
135.000	3.00000000	0.000000000	0.00000000	0.00000000	0.00000000	0.00000000
157.500	0.0000000	0.606000000	0.00000000	0.00000000	0.00000000	0.00000000
រែស្រ.ប្រជ័	6.00626800	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
202.500	0.00014100	0.00034290	0.00000000	0.00000000	0.00000000	0.00000000
225.000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
247.500	0.00023400	0.00056900	0.000000000	0.00000000	0.00000000	0.00000000
270.000	0.00014100	0.00034200	0.00000000	0.00000000	0.00000000	0.00000000
292.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
315.000	0.00004700	0.00011400	0.00000000	0.00000000	0.000000000	0.000000000
337.590	0.60000066	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000

# SEASON 1

# STABILITY CATEGORY 2

		LINU SPEED CATEGORY 1	WIND SPEED CATEGORY 2	WIND SPEED CATEGORY 3	WIND SPEED CATEGORY 4	WIND SPEED CATEGORY 5	WIND SPEED CATEGORY 6
1	OTRECTION	( 0.7500MPS)					(12.5009MPS)
C)	DEGREESI						
	0.690	0.00110700	0.00113800	0.00102500	0.00000000	0.000000000	0.00000000
	22.500	0.60025700	0.00034290	0.00045500	0.00000000	0.00000000	0.000000000
	45.053	0.00014309	0.00845510	0.00102500	0.000000000	6.00000000	0.00000000
	67.500	0.00032900	0.00156900	6.00256580	0.00500000	0.00000000	0.000000000
	90.000	0.00087360	0.60182100	0.00318800	0.00000000	0.000000000	0.00000000
	112.500	0.60066400	0.00068300	0.00091100	0.00000000	0.00000000	0.000000000
	135.000	0.00007200	0.00022800	0.00045500	0.00000000	0.00000000	0.00000000
	157.560	4.3v(51560	0.03068350	0.00022800	0.00000000	0.100000000	0.00000000
	160.600	0.00192290	6.00102500	1.09045500	0.00000000	0.00000000	4.00000000
	262.500	0.06003616	0.00111400	0.00068300	0.000000000	0.000000000	0.00000000
	225.000	0.00066400	0.00068310	0.00102500	0.00000000	0.000000000	0.00000000
	247.500	5.0v10360C	0.66691120	0.00136600	0.000000000	0.00000000	0.00000000
	276.600	0.00062200	0.60102500	0.00113000	(.000000000	0.000000000	0.000000000
	292.500	b.05.43700	6.600911-0	6.00034200	0.00000000	0.00000000	0.000000000
	315.000	0.60122166	0.0(1025.0	1.0 (3455 ii	1.00000000	0.000000000	9.00000000
	337.500	.00043706	0.00091100	0.03034270		9000000000	C.090000000



\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX

ALL SOURCES

- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCURRENCE OF WIND SPEED. DIRECTION AND STABILITY -

# SEASON 1

# STABILITY CATEGORY 3

	<b>₹INU SPEED</b>	WIND SPEED	VIND SPEED	VIND SPEED	VIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	( 2.500CMPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)					,	
0.600	0.00067800	0.00170800	0.00330100	0.00148000	0.00045500	0.00000000
22.500	0.00013200	0.00056900	0.00421199	0.00227700	0.00011400	0.0000000
45.000	0.00027300	0.00956990	0.00455400	0.00227700	0.00011400	0.90000000
67.500	0.00±0 <b>7</b> 900	0.00034200	0.00762799	0.00466799	0.00034200	0.00000000
90.100	0.00029100	0.00125200	0.01229499	0.00853799	0.00000000	0.00000000
112.500	0.00015900	0.00068300	0.00557799	0.00318800	0.00034200	0.00000000
135.000	0.00032600	0.00079780	0.00182100	0.00034200	0.00000000	0.00000000
157.500	0.00010600	0.00045500	0.00193500	0.00034200	0.00000000	0.00000000
180.000	0.00053700	0.00170800	0.00318800	0.00045500	0.00000000	0.00000000
202.500	0.00015900	0.00068300	0.00296000	0.00056900	0.00022800	0.00000000
225.000	0.00059000	0.80193500	0.00421199	0.00102500	0.00000000	0.00000000
247.530	0.00055600	0.00239100	0.00432600	0.00011400	0.00000000	0.00000000
279.660	0.00123100	0.00227700	0.00261800	0.00136600	0.00000000	0.00000000
292.500	0.00690500	0.00148000	0.00204900	0.00011400	0.00011400	0.00000000
315.000	0.00037000	0.00159400	0.00125200	0.00022800	0.00000000	0.00000000
337.500	0.00621200	0.00091100	0.00227700	0.00022808	0.00000000	0.000000000

# SEASON 1

# STABILITY CATEGORY 4

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	VIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	( 2.5006MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)						
U•∪Ü0	0.00122200	0.00387100	0.01411698	0.03493896	0.01206699	0.00113890
22.500	0.00040300	0.00125200	0.00751399	6.01445798	0.00170800	0.00022899
45.360	0.00023500	0.00091109	0.09648899	0.01092899	0.00113800	0.00022800
67.566	0.63647006	0.03182100	0.01001799	9.01718998	0.00125200	0.00011400
90.006	0.00055100	0.00259500	0.02019998	0.02834697	0.00159400	0.00022800
112.566	0.00035600	0.00193500	0.01343349	0.02128898	0.00216300	0.00011400
135.000	0.00053730	0.00239100	0.01126999	0.01092899	0.00227700	0.000000000
157.500	6.60634300	1.66182153	*##355 ena	f.nr637490	0.00125200	F.80022860
189.000	0.63676636	6.504326-0	0.01434398	6.01384609	0.00256000	C.00070700
2.2.500	0.00055770	0.00148 60	0.00853792	6.01164299	0.00296500	0.00079730
225.666	6.66.84600	0.00284600	0.00546399	(.00751399	0.00250500	0.00056900
247.500	0.00181305	0.00364300	0.00455400	0.00099399	0.00102500	0.00045500
270.000	• 00 . 551 0 0	<pre>(.000050500</pre>	0.00523699	6.01115699	0.00626199	0.00239100
192.500	0.60.37000	0.00204500	3.00484409	.00375730.		0.00068310
315.800	0.06112700	0.01227405	0.00694390	0.01671199	9.00068700	0.00634260
333466	1. 136 000	1 - 1 1 1 1 1 2 2	1.00000000	THE ACTION	2.00117000	0.00068316



\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT -- ANNHAL NOX

"ALL SOURCES (D41)

- ISCLT INPUT DATA (CONT.) -

- FREGUENCY OF OCCURRENCE OF WIND SPEED. DIRECTION AND STABILITY -

### SEASON 1

### STABILITY CATEGORY 5

	WIND SPEED	WIND SPÉED				
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	C 2.5000MFS)	( 4.3GOOMPS)	( 6.8900MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)	•					
0.000	0.00694999	0.00842399	0.00591999	0.00000000	0.00000000	0.00000000
55.00	8.00428799	0.00523699	0.00432600	0.00000000	0.00000000	0.00000000
45.00ú	0.00372700	0.00546399	0.00182100	0.00000000	0.00000000	0.00000000
67.536	0.60357460	0.00478099	0.00432600	0.0000000000	0.00000000	0.00000000
90.000	0.00888199	0.01183999	0.01001799	0.000000000	0.00000000	0.00000000
112.500	0.00430499	0.00705799	0.00705799	0.00000000	0.00000000	0.00000000
. 135.000	0.01647199	0.01559698	0.00375700	0.00000000	0.00000000	0.00000000
157.506	0.00815999	0.01172599	0.00364300	0.00000000	0.00000000	0.00000000
189.000	0.01391298	0.02402097	0.00660299	0.00000000	0.00000000	0.00000000
202.500	6.00745999	0.01058699	0.00296000	0.00000000	0.00000000	0.00000000
225.000	0.00954299	0.01218099	0.00296000	0.00000000	0.00000000	0.00000000
247.506	6.01129099	0.01377498	0.00318800	0.000000000	0.00000000	0.00000000
270.000	U.01047599	0.01024599	0.00352900	0.000000000	0.00000000	0.00000000
292.500	0.00750399	0.00853799	0.00148000	0.00000000	0.00000000	0.000000000
315.000	0.01033499	0.01422998	0.00557799	0.00000000	0.00000000	0.00000000
337.506	U.CU776299	0.00944899	0.00535099	0.00000000	0.00000000	0.00000000

### - VERTICAL POTENTIAL TEMPERATURE GRADIENT (DEGREES KELVIN/METER) -

| WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIND SPEED | WIN

### - WIND PROFILE POWER LAW EXPONENTS -

WIND SPEED WIND SPEED



\*\*\*\* ISCLT \*\*\*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX ALL SOURCES - SOURCE INPUT DATA -C I SOURCE SOURCE X Y EMISSION BASE / A A NUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV- / - SOURCE DETAILS DEPENDING ON TYPE -( M. ) (11) (H) ATION / D E (11) / 1 STACK 0.00 38.10 0.00 GAS EXIT TEMP (DEG K) = 644.00, GAS EXIT VEL. (M/SEC) = 5.50, STACK DIAMETER (M)= 1.380, HEIGHT OF ASSO. BLDG. (M)= 1.00, WILTH OF Swoope#1 Steam unit ASSO. BLDG. (M) = B.OD. WAKE EFFECTS FLAG = C - SOURCE STRENGTHS ( GRAMS PER SEC SEASON 2 SEASON 1 SEASON 3 SEASON 4 4.04000E+00 WARNING - DISTANCE BETWEEN SOURCE 1 AND FOINT X.Y= 0.00, 0.00 IS LESS THAN PERMITTED 2 STACK 0.00 GAS EXIT TEMP (DEG K)= 589.00, GAS EXIT VEL. (M/SEC)= 43.96, (. • Ū ti 6.60 6.10 STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO. BLDG. (M)= 7.60, WIGHE OF Swoope#2 Existing Diesel ASSO. BLDG. (M) = 0.00, WAKE EFFECTS FLAG = 6 - SOURCE STRENGTHS I GRAMS PER SEC SEASON 1 SEASON 2 SEASON 3 SEASON 4 3.84000E+00 WARNING - DISTANCE BETWEEN SOURCE 2 AND POINT X.Y= 0.00. 0.00 IS LESS THAN PERMITTED 0.00 GAS EXIT TEMP (DEG K) = 644.00, GAS EXIT VEL. (M/SEC) = 42.70, 5 STACE 0.00 0.00 - 6.10 STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WILTH OF Swoope #3 (H4 Proposed Combined ASSO. BLDG. (H) = 0.00. WAKE EFFECTS FLAG = 0

0.00,

3 AND POINT X.Y=

- SOURCE STRENGTHS & GRAMS PER SEC

SEASON 2

0.00 IS LESS THAN PERMITTED

SEASON 3

SEASON 1

1.42400E+01

) -

SEASON 4



WARNING - DISTANCE BETWEEN SOURCE

ALL SOURCES

- ANNUAL			ON C MICROGRAM - G A X -	S FER CUBIC H RID SYSTEM RE XIS (DISTANCE	CEPTORS -	) FROM AL	L SOURCES COL	AB 1NL D	**
Y AXIS (LISTANCE	-1000.006 • METE	-960.600 .RS )	-800.000	-700.000	-600.000 - TRATION	-500.000	-400 <b>.</b> 000	-360.000	-200.000
					:				
1 500 • 000	6.125322	6.127700	6.094093	6.019985	5.903982	5.750503	5.766286	7.627221	P • 41156
5 c U + 0 G G .		6.562686	6.538740	6.464639	6.336689	6.156047	5.930664	1.638410	F. (328°)
800.000	6.608039	6.840491	7.033495	6.959665	6.801756	6.533855	6.225493	6.464143	E. 059186
700.060	6.885277	7.149355	7.366050	7.504187	7.251660	6.901388	6.489676	6.016775	7.490543
600.000	7.194715	7.498895	7.734884	7.816087	7.712961	7.266974	6.676906	6.082864	6.59567
500-000	7.546048	7.900994	P • 133423	8.204315	R.057222	7.643398	6.811241	5.024693	5.37831
166.000	8.455733	8.369009	8.642580	8.730305	8.529869	7.936595	6.917276	5.617210	4.51530
300.000	9.270226	9.495520	9.558521	9.481441	9.293653	8.578476	7.194072	5.255514	3.5473
250.006	10.560844	10.957678	11.205563	11.196426	10.786316	9.825712	8.184858	5.543178	1.63329
100.000	11.078965	12.509329	13.024607.	13.297129	13.123604	12.206591	10.177889	6.863959	7.34454
0.006	13.175607	14.069468	14.932831	15.609529	15.906578	15.455215	13.770771	10.179537	6.26515
-100.000	11.479237	12.059605	12.524664	12.754679	12.562798	11.683037	9.802814	6.031932	4.04881
-206.000	9.757004	10.048000	10.185202	10.073137	9.595356	8 - 657013	7.427299	5.412742	3.13849
-300.000	8.083979	8.146931	8.041805	7.836459	7.696771	7.169133	6.144471	4.714812	4.26580
-4:7.000	6.523219	6 • 666589	6.814183	6.816475	6.600318	6.095775	5.297487	5.407205	5 . 67 053
-500.000	5.780070	5.952070	6.020259	5.953754	5.715382	5.282607	5.591874	5.971330	6.61137
-600.000	5.209709	5.307322	5.329631	5.225793	4.994627	5.364688	5.777692	6.268412	7.55851
-766.000	4.695052	4.736332	4.715121	44609434	4.974573	5.372901	5.816212	6.325062	8.07197
-860.066	4.234854	4.235273	4.180302	4.530062	4.907113	5.299863	5.730793	6.542064	E . 24561.
-960.600	3.426123	3.797574	4.095892	4.421498	4.775195	5.156284	5.559735	6.678347	e.18711
-1000.000	3.464716	3.718670	3.994530	4.292553	4.612313	4.952946	5.426483	6.6586n7	7.9859
			•						
				RID SYSTEM RE XIS (DISTANCE		:			
	-100.000	U.900	100.000	200.000	300.000	400.000	500.000	600.005	700.000
AXIS (LISTANCE			100.000		TRATION -	700000	7110 • 747	try we but.	70.00
	• r.c.ic								
1800.000	9.869898	11.351654	9.954981	8.567457	7.239342	6.018775	5.748392	5.614089	5.46455
900.660	9.972669	11.668583	10.092953	8.553875	7.136763	6 • 168166	6.034616	5.897486	9.75517
800.000	9.866144	11.810623	10.036242	8.363705	6.086261	6.375821	6.270579	6.173037	6.4.3584
796.666	9.4398.4	11.630123	9.601034	7.935769	6.610131	6.508605	6.455699	6.41.6486	1.3114
<b>6:0.0</b> €€	8.565241	10.960043	E.907347	7.227982	6.529463	6.538840	6.592488	6.618515	(.51796
500.500	7.140826	9.615231	7.623003	6.270267	6.236110	6.458998	6.697357	6.717663	1.7085
400.500	5.176396	7.472694	5.840555	5.353290	5.737908	6.315817	6.5P0545	6.895285	6.91171
						5.825749	6.482625	4.543979	7.17095
3.9.000	2.920495	4.577614	3.767562	4.160435	5.1577-1			7.035000	7.004.55
2 a l. • t le o	1.:52686	1 • 85 83 42	2.132963	3.436510	4 • 179140	5.506993	6.573929	7.105397	7 - 33481
100.00	9.494475	0.328586	0.980206	2.076285	3.765391	5.489461	f •603579		
1.100	2.162560	0.0000000	6.761915	2.792976	4.605332	6.317 80	7.246098	7.624152	1.64435
-10500	1.276458	0.955445	0.429746	1.256586	2.570521	4.214346	5.387666	6.060357	6.56004
-200.000	2.493481	4.143000	1.435534	2.429105	3.112772	3.619251	4.031170	4.72(262	5.23925
-300.500	4.745513	7.68539	5.847863	3.685576	4 • 915764	4.951458	4.AR2779	4.720389	4.48378
-46(0.061)	7.364304	16.736786	( .784641	4.526872	5.552440	6 . 4445.76	6.076629	£ • (-1 t u 5 à	1.19545
-530-716	9. 197612	12.2075P5	1.752476 .		6.041991	6.552313	7.086126	6.480350	1.08540
-616.165	9713-2	12.724 17	5.70 342	7.532051	6.50475	6.561132	6.8776 3	7 - 1431 - 6	6.006872

**** ISCLT ****	**** 1SCL	T ANNUAL M	10 X	ALL SOURCES	(041)		*	AAAAAA PAGE	7 ****
•• ANNUAL	GROUND LEVEL	. CONCENTRATIO	- G	RID SYSTEM RE	CEPTORS ~	) FROM AL	L SOURCES COM	BINED (CONT.)	* *
	-100.600	6.000		XIS COISTANCE			500 500		7.0.0 ( 0.0
Y AXIS CUISTANCE		£.000 IRS )	100.000	- CONCEN	300.000 Tration -	400.000	500.000	609.000	760.049
-700.000	10.237406	12.561590	10.150810	7.966827	6.318871	6 • 453076	6.639539	6.894550	6.912958
- 8 0 6 . 6 6 0	10.124470	12.066780	10.116732	8.277456	6.653737	6.258275	6.361072	6.465375	6.500518
-910.000	9.796532	11.413338	9.836887	8.301712	6.892848	5.985910	6•N46538	6.089931	(.106262
÷16€0.000	9.359263	10.721052	9.428007	8.147799	6.925193	5.804323	5.689330	5.724257	5.742361
				•	•				
				RID SYSTEM RE					
	800.000	000 000		XIS COISTANCE	, METERS) -				
Y AXIS CDISTANCE		900.000	1900.000	- CONCEN	TOATION -				
T AXIS TOISTANCE	• nitit	. 11.5 /		- CUNCEN	TRATION -				
					.,				
1:00.000	5.351303	5.214439	5.075349	•	•				
900.000	5.6085.2	5.455925	5.279848						
8.0.000	5.877198	5.704020	5.534438						
<b>7</b> 0 <b>0 •</b> 9 0 <b>0</b>	6.143172	5.961765	5.778400						
666.630	6.404109	6.229158	6.031364	\$ 		*			
500.000	6.640710	6.506221	6.294152	•	:				
4 U O + U O U	6.897082	6.788972	6.539887	•					
3 ( 6 - 6 0 )	7.162132	6.893804	6.608261						
240.000	7.142980	6.943727	6.671797	•					
160.000	7.251471	7.024717	6.727612						
6.600	7.453820	7.152027	6.803570						
-100.000	6.403279	6.289964	6.090511	i					
-200.000	5.441939	5.474588	5.400136						
-365.060	4.611043	4.736916	4.743624	•					
-460 • i 60	4.785154	4.395904	9.199998						
-5050.000	5.369918	4.879607	4 • 4.19462						
-600.000	5.864269	5.293977	4.790988		•				
-700.600	6.231319	5.628532	5.102954						
-800.000	6.485319	5.881890	5.350441					*	
-966 • 6 <b>6</b> 0	6.098072	6.059633	5.535496						
-100 • 0 0 0	5.7384 5	5.711648	5.664222						



```
NEW SOURCES & 30% OF SWOOPE #2 HS= 20 FT
*** ISCLT ******** ISCLT -- ANNUAL NOX
                                                                                         (D31)
                                                - SOURCE INPUT DATA -
C T SOURCE SOURCE
                     Х
                                 Υ
                                        FMISSION BASE /
A A NUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV- /
                                                                         - SOURCE DETAILS DEPENDING ON TYPE -
R P
                    (11)
                                         (M)
                                (M)
                                                 ATION /
DΕ
        1 STACK
                                                  0.00 GAS EXIT TEMP (DFG K)= 589.00, GAS EXIT VEL. (M/SEC)= 43.90,
                        0.000
                                    0.00 6.10
                                                       STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO. PLDG. (M)= (.00. VIDIH OF
      Swoope #2 existing Diesel
                                                       ASSO. BLDG. (M)= 0.00, WAKE EFFECTS FLAG = 0
           Emission rate corresponds to
                                                        " - SOURCE STRENGTHS ( GRAMS PER SEC
           Increase above 70% capacity factor limitation.
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                            SEASON 3
                                                                                                        SEASON 4
                                                                  1.15000E+00
WARNING - DISTANCE RETWEEN SOURCE
                                    1 AND POINT X.Y=
                                                            0.00.
                                                                        0.00 IS LESS THAN PERMITTED
        . STACK
                                    0.00 6.10
                                                  0.00 GAS EXIT TEMP (DEG K)= 644.00, GAS EXIT VEL. (M/SEC)= 42.70,
                                                       STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WIDTH OF
      Swoope #3 E#4 Combined
                                                       ASSO. BLDG. (M) = 0.00, WAKE EFFECTS FLAG = 0
                                                             - SOURCE STRENGTHS ( GRAMS PER SEC
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                            SEASON 3
                                                                                                        SEASON 4
                                                                  1.42400E+01
                                      2 AND POINT X.Y=
WARNING - DISTANCE BETWEEN SOURCE
                                                            0.00.
                                                                        0.00 IS LESS THAN PERMITTED
```

**** ISCL1 *****	ISCL	T ANNUAL N	OX NEW SOUR	CES 8 30% OF	SWOOPE #2	HS= 20 FT (D	31)	PAGE	6. ***
** ANNUAL	GROUND LEVEL	CONCENTRATIO	- G	RIO SYSTEM RE	CEPTORS -	) FROM AL	L SOURCES CON	18 IN ED	••
				XIS (DISTANCE	, METERS) -				
	-1000.000	-900.000	-800.000	-700.000	~600.000	-500.000	-400.000	-300.000	-200.000
Y AXIS (UISTANCE	· NETE	RS )		- CONCEN	TRATION -				
			~						
1000.000	4.520756	4.530603	4.511012	4.458233	4.371409	4.254956	4.263452	5.188281	6.266468
900 • uuu	4.716518	4.858240	4.843405	4.787018	4.686647	4.544641	4.369836	5.021120	(.102467
830.000	4.014623	5.079499	5.210071	5.147761	5.016402	4.796514	4.548201	4 • ( 29167	5 . P 17 B ( 4
796.656	5.136922	5.321885	5 • 4 6 4 0 8 0	5.538367	5.320856	5.018771	4.668899	4.348503	5.300343
660.000	5.382028	5.593119	5.741446.	5.755008	5.635359	5.215117	4.713485	4.232643	4.523201
500.00 <b>0</b>	5.658475	5.903630	6.037080	6.023872	5.819725	5.394122	4.680183	3.961777	3.533211
400.000	6.051797	6.265864	6.419033	6.399251	6.124184	5.521543	4.598712	3.564828	1.762926
360.066	6.950764	7.094189	7.094568	6.957702	6.661875	5.923663	4.682643	3.135205	1.962312
200.600	7.407338	8.164433	8.276503	8.153919	7.686349	6.776796	5.296220	3.207801	1.309849
100.000	€.₽86€95	9.308157	9.599226	9.646774	9.284389	8.274069	6.462439	3.851166	1.8378.9
ΰ.υύθ	9.8536 21	10.469259	11.008928	11.332335	11.268307	10.526871	8.779190	5.721337	3.732776
-100.000	8.584108	8.971802	9.231838	9.260172	8.906273	. 7.978684	6.290791	3.949928	2.376006
-200.000	7.298388	7.480745	7.520294	7.341415	6.861167	6.030926	4.925282	3.290251	1.7144(0
-300.000	6.052619	6.076718	5.962884	5.757898	5.557244	5.038174	4.145288	3.009334	2.599359
-460.030	4.887339	4.983474	5.965331	5.019750	4.790734	4.332579	3.663381	3.624520	3.750643
-566.396	4.329359	4.449526	4.481150	4.399299		3.807566	3.968241	4.176242	4.569763
-600.000	3.899849	3.967222	3.972616	3.875276		3.921675	4.191241	4.519220	5.395178
-700.004	3.511554	3.539032	3.516667	3.428170	3.690674	3.973131	4.287094	4.652943	5.890600
-800.000	3.163233	3.161773	3.117146	3.380041	3.661081	3.950712	4.268748	4.863049	6.102518
-9at.60ù	2.852649	2.830565	3.058518	3.306043	3.573822	3.861777	4.166894	4.494776	6.110519
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# BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION CITY OF NEW SMYRNA BEACH VOLUSIA COUNTY

The City of New Smyrna Beach plans to increase electric power generation capacity an additional 4.33 megawatts. Two generators, each driven by a dual fuel twelve cylinder diesel engine, are to be installed at the Swoope generating station. The engines will use natural gas and No. 2 distillate oil as fuel.

The new installations identified as Swoope No. 3 and Swoope No. 4 will have a maximum engine heat input of 19.2 and 21.2 million Btu per hour, respectively. Both units are scheduled to operate 8760 hours per year.

Swoope No. 2, a similar existing 910 kilowatt unit is limited by permit conditions to operate at 70 percent of full load (AC 64-43484). The applicant has requested this permit condition be changed to allow unrestricted operation.

# Air Contaminants Summary: (tons per year)

Source	PM_	<u>502</u>	CO	$\overline{NO_\mathbf{X}}$	HC
No. 3 Unit	<1	2	39	250	11
No. 4 Unit	<1	2	43	245	15
Total	2	4	82	495	26
No. 2 Unit (1)	<1	<1	5	40	16
Rate (2)	25	40	100	40	-

 $<sup>^{(1)}</sup>$ Emissions due to increase from 70 to 100 percent operation.

The amount of  $NO_X$  emitted from the proposed sources exceed the significant emission rate and requires a BACT determination per 17-2.500(5)(c), FAC. A BACT determination is also required for Swoope No. 2 due to the relaxation of a permit limitation.

<sup>(2)</sup> Significant Emission Rate, 17-2.500, FAC, Table 500-2.

# BACT Determination Requested by the Applicant:

Pollutant

Emission Limit

 $NO_{\mathbf{x}}$ 

Natural gas firing with the ignition timing set as recommended by the manufacturer

# Date of Receipt of a BACT Application:

June 28, 1982

# Date of Publication in the Florida Administrative Weekly:

July 9, 1982

# Review Group Members:

Comments were obtained from the New Source Review Section, the Air Modeling Section in the Bureau of Air Quality Management, and DER St. Johns River District.

# BACT Determined by DER:

# \* $NO_X$ Pollutant Emission Limits

Unit 2 - 690 ppmv corrected to 15% oxygen on a dry basis

Unit 3 - 620 ppmv corrected to 15% oxygen on a dry basis

Unit 4 - 625 ppmv corrected to 15% oxygen on a dry basis

\*Based on manufacturer's rated brake-specific fuel consumption at peak load. Applicant has option of using brake-specific fuel consumption as determined in the field. Test methods and operations monitoring as per the proposed NSPS 40 CFR 60.320, Subpart FF, Subsections 60.324 and 60.323.

# DER Determination Rationale:

There is a proposed NSPS for stationary internal combustion engines, 40 CFR 60.320, Subpart FF. The NSPS is in administrative review and promulgation is expected in the last quarter of 1982. The consensus was that a more stringent  $NO_X$  emission limitation than the NSPS was not justified. The department has determined BACT for  $NO_X$  emissions to be based on the NSPS formula in Subpart FF, Subsection 60.322(a)(3)(ii).

# $STD = 600 \ \frac{10.2}{Y}$

E Page 1

- STD = Allowable NO<sub>x</sub> emissions, ppmv corrected to 15% oxygen on a dry basis.
  - Y = Manufacturer's rated brake-specific fuel consumption at peak load (Kj/w-hr) or applicants brake-specific fuel consumption at peak load as determined in the field.

The  ${\rm NO_X}$  emission limits determined as BACT are based on the manufacturer's brake-specific fuel consumption at peak load. The applicant has the option of using a brake-specific fuel consumption as determined in the field.

The NSPS was proposed July 23, 1979 (44 FR 43152) to apply to sources that commence construction after January 1982. The manufacturers of engines subject to the regulations should have had adequate time to develop a  $\mathrm{NO}_{\mathrm{X}}$  emission reduction control technique for their engines in anticipation of the NSPS being promulgated.

The applicant, therefore, should have no great difficulty in meeting the  $\mathrm{NO}_{\mathbf{X}}$  emission limits determined as BACT for Units 3 and 4. However, Unit 2 was permitted in July 1981 and that engine may require major modifications to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. In this case, the applicant may submit to the department actual field data indicating the inability to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. The department will then review the BACT determination for Unit 2 on basis of the new data presented.

The dual-fired engines serve the same application as diesel engines. In the event that natural gas should become limited the dual-fuel engines would likely operate as diesel engines. The  ${\rm NO}_{\rm X}$  emission limit determined as BACT also applies to diesel engines, therefore, simplifying compliance by the applicant in the event the engines are converted totally to diesel.

Fuel injection retard is an effective  $\mathrm{NO}_{\mathbf{X}}$  control technique but results in approximately a 3% increase in fuel usage. This will increase total fuel usage by 1107 cubic feet per hour of natural gas and 0.519 gallon per hour of No. 2 oil. The increased monthly cost to a consumer using 1000 kw of electricity would be approximately one dollar. The additional fuel cost is not considered excessive.

# Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator Department of Environmental Regulation Bureau of Air Quality Management 2600 Blair Stone Road Tallahassee, Florida 32301

Recommended By:

| Steve Smallwood, Chief BAOM

Date: <u>Miguet 13</u>,
Approved:

Victoria V. Tschinkel, Secretary

Date: 8 18 82

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL

August 24, 1982

Ms. Carolyn Dekle
State A-95 Coordinator
Florida State Planning and
Development Clearinghouse
Office of Planning and Budget
The Capitol
Tallahassee, Florida 32301

Dear Ms. Dekle:

RE: Preliminary Determination - New Smyrna Beach Utilities Commission, Swoope Units 3 and 4 (PSD-FL-089)

I wish to bring to your attention that the City of New Smyrna Beach Utilities Commission proposes to construct two additional gas diesel units, Swoope #3 and #4, at the Swoope Generating Station located in the City of New Smyrna Beach, Volusia County, Florida, and that emissions of air pollutants will thereby be increased. The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21) and reached a preliminary determination of approval, with conditions, for this construction. This approval applies only to Federal regulatory requirements and has no bearing on other State or local functions.

Please also be aware that the attached Public Notice announcing the preliminary determination, the availablility of pertinent information for public scrutiny and the opportunity for public comment will be published in a local newspaper in the near future. This notice has been mailed to you for your information and in accordance with regulatory requirements. You need take no action unless you wish to comment on the proposed construction. If you have any questions, please feel free to call Mr. Bill Thomas or myself at (904) 488-1344.

Sincerely,

C. H. Fancy, P.E.

Deputy Chief

Bureau of Air Quality Management

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

October 5, 1982

Mr. P. A. Korelich, P.E. Utilities Commission City of New Smyrna Beach P. O. Box 519
New Smyrna Beach, Florida 32069

Dear Mr. Korelich:

RE: Final Determination - City of New Smyrna Beach Utilities Commission, Swoope Units 3 and 4, Application for State and Federal PSD Permits (AC 64-57578, AC 64-57580, PSD-FL-089)

Enclosed please find one copy of the referenced Final Determination. State Permit Numbers AC 64-57578 and AC 64-57580 are hereby issued as of September 30, 1982, pursuant to Section 403, Florida Statutes. Final approval of the Federal PSD permit, which is incorporated with the state permit, is contingent upon review and acceptance of the permit conditions by the Environmental Protection Agency Region IV office in Atlanta. Questions concerning final issuance of the Federal permit should be directed to Mr. James T. Wilburn of the EPA office.

Acceptance of the state permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

H. Fancy, P.E

Deputy Chief

Bureau of Air Quality Management

CHF/pa

Cc: James T. Wilburn, EPA Region IV
Charles Collins, DER St. Johns River District
David A. Buff, Environmental Science and Engineering

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL

SECRETARY

October 5, 1982

Mr. James T. Wilburn Chief, Air Management Branch Air & Waste Management Division U.S. EPA, Region IV 345 Courtland Street Atlanta, Georgia 30365

Dear Mr. Wilburn:

RE: PSD Permit Application - City of New Smyrna Beach Utilities Commission, Swoope Units 3 and 4 PSD-FL-089

Enclosed please find a copy of the proof of publication of the public notice and the Department's Final Determination for the subject project. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination.

Sincerely,

C. H. Fandy, P.E

Deputy Chief

Bureau of Air Quality

Management

CHF/pa

Enclosures

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

October 5, 1982

Mr. Clem Malecki, Librarian Brannon Memorial Library 105 Riverside Drive New Smyrna Beach, Florida 32069

Dear Mr. Malecki:

RE: Final Determination - City of New Smyrna Beach Utilities Commission, Swoope Units 3 and 4 PSD-FL-089

Please find enclosed one copy of the Final Determination for New Smyrna Beach Utilities Commission's application for a Federal Prevention of Significant Deterioration Construction Permit. As was done with the Preliminary Determination, this information must be available upon request for a period of at least 30 days from the date of this letter.

Again, we appreciate your help in providing this valuable public service. Should you have any questions, please call me at (904) 488-1344.

Sincerely,

C. H. Farcy, P Deputy Chief

Bureau of Air Quality

Management

CHF/pa

Enclosure

DEC 23 1992

# RETURN RECEIPT REQUESTED

Mr. P. A. Korelich, P.E. Chief.Engineer Utilities Commission City of New Smyrna Beach P.G. Box 519 New Smyrna Beach, Florida 32069

DER DEC 28 1982 BAQM

RE: PSD-FL-089 - City of New Smyrna Beach

Dear Mr. Korelich:

Review of your June 28, 1982, application to construct two natural gas/diesel generating units in New Smyrna Beach, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of Air Quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation performed the preliminary determination concerning the proposed construction and published a request for public comment on August 27, 1982. No comments were received. The final determination was performed by the Florida Department of Environmental Regulation on September 27, 1982.

The Environmental Protection Agency (EPA) has determined that the construction as described in the application meets all the applicable requirements of 40 CFR \$52.21. Accordingly, pursuant to 40 CFR \$124.15, the Regional Administrator has made a final decision to issue the enclosed Permit to Construct-Part I Specific Conditions and Part II General Conditions. This authority to construct, granted as of the effective date of the permit, is based solely on the requirements of 40 CFR \$52.21, the federal regulations governing significant deterioration of air quality. It does not apply to other permits issued by this agency or by other agencies. Please be advised that a violation of any permit condition, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

This final permit decision is subject to appeal under 40 CFR \$124.19 by petitioning the Administrator of the EPA within thirty (30) days after receipt hereof. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit shall become effective upon notice of such action to the parties to the appeal. If the petition is granted, any applicable effective

# DEPARTMENT OF ENVIRONMENTAL REGULATION ROUTING AND TRANSMITTAL SLIP ACTION DUE DATE KAHEL STARNES MARTY BLOMMEL HALL MARSHALL BARKER MOTT-SMITH J. ROGERS **\PALAGYI** TEMÁRKS HOLLAND átváw á štiváů -MITIÁL & FÓRWARD ČÍVITW A STÍPONÓ PRIPARE GESPÖHSE POULANCE TA POL roe fove lionalisée ters parcisi tet ur mittied MYESTIDĂI À AIFT WITIAL & ICTWATÓ prista ibili i CÓNCURTÍNCI of riocilina mitiál á ÉFTÜÉN HOM. STEVE SMALLWOOD

date shall be determined by the results of the appeal proceedings. If no appeal is filed with the Administrator, the permit shall become effective thirty (30) days after receipt of this letter. Upon the expiration of the thirty (30) day period, EPA will notify you of the status of the permit's effective date.

Receipt of this letter does not constitute authority to construct. Approval to construct this facility shall be granted as of the effective date of the permit. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Mr. Richard S. DuBose, Chief, Air Engineering Section, Air and Waste Management Division at (404) 881-7654.

Sincerely yours,

Thomas W. Devine, Director Air and Waste Management Division

Enclosure

cc: Mr. Steve Smallwood
Chief, Bureau of Air Quality Management
Florida Department of Environmental
Regulation

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IV

345 COURTLAND STREET ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

STEVE SMALLWOOD CHIEF

BUREAU OF AIR QUALITY MGT
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE RD.
TALLAHASSEE

FL 32301

20

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 U.S.C. §7470 et seq., and the regulations promulgated thereunder at 40 CFR. §52.21, as amended at 45 Fed. Reg. 52676, 52735-41 (August 7, 1980),

Utilities Commission City of New Smyrna Beach, Florida

is, as of the effective date of this permit authorized to construct/modify a stationary source at the following location:

2495 N. Dixie Highway New Smyrna Beach, Florida

UTM Coordinates: 505.8 E, 3214.8 N

Upon completion of authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

This permit is hereby issued on \_\_\_\_\_\_ and shall become effective thirty (30) days after receipt hereof unless a petition for administrative review is filed with the Administrator during that time. If a petition is filed any applicable effective date shall be determined in accordance with 40 CFR \$124.19(f)(1)(i)-(iii).

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and Local law.

DEC 2 3 1982

Date Signed

/s/ Charles R. Jeter
Regional Administrator
Regional Administrator

# PART I - SPECIFIC CONDITIONS

# Swoope Units 3 and 4

PSD Permit No: FL-089

- 1. The proposed units shall be constructed in accordance with the capacities and specifications stated in the application and any additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed natural gas/diesel oil fired units shall be limited to 0.3 percent.
- 3. Nitrogen oxides emissions from the units shall be limited to 625 ppmv each, corrected to 15% oxygen on a dry basis. Compliance with this emission limit shall be determined by performance tests while each unit is at or close to full operating capacity.



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET ATLANTA, GEORGIA 30365

MAR 2 1983

4AM-AE

Mr. P. A. Korelich, P.E. Chief Engineer Utilities Commission City of New Smyrna Beach P.O. Box 519 New Smyrna Beach, Floria 3206 DER

MAR 07.1983

BAQM

RE: PSD-FL-089 - City of New Smyrna Beach

Dear Mr. Korelich:

This is to notify you that no petitions have been filed with the Administrator regarding the above issued Prevention of Significant Deterioration (PSD) permit which you received on December 29, 1982, for the construction of two natural gas/diesel generating units. Therefore, in accordance with the provisions of the above permit, the effective date is January 28, 1983. If construction does not commence within 18 months after this effective date, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

Please direct any questions you may have to Mr. Richard S. DuBose, Chief, Air Engineering Section of my staff at 404/881-7654.

Sincerely, yours,

James T. Wilburn, Chief Air Management Branch

Air and Waste Management Division

cc: Mr. C. H. Fancy, P.E.

Deputy Chief

Bureau of Air Quality Management Florida Department of Environmental Regulation

# Technical Evaluation and Preliminary Determination

Utilities Commission
City of New Smyrna Beach
Volusia County, Florida
Swoope Units 3 and 4, Gas Diesel

## Permit Numbers

State: AC 64-57578

AC 64-57580

Federal: PSD-FL-089

Florida Department of Environmental Regulation Bureau of Air Quality Management Central Air Permitting

August 10, 1982

#### Public Notice

A modification to an existing air pollution source is being proposed by the City of New Smyrna Beach, Volusia County, Florida. The proposed modification is the construction of two gas diesel units, Swoope #3 and #4, with generating capacities of 2050 KW and 2275 KW, respectively. The modification will increase emissions of air pollutants, in tons per year, by the following amounts.

PM.	SO2	$\overline{NO_{\mathbf{X}}}$	<u>CO</u>	VOC
2.	4:	5.3.5	8:7	4-2.

The proposed modification has been reviewed by the Florida Department of Environmental Regulation under Chapter 403, Florida Statutes, and, Federal regulation 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The Department has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for the determination and the application for State and Federal permits submitted by the City of New Smyrna Beach are available for public review at the following offices:

Brannon Memorial Library 105 Riverside Drive New Smyrna Beach, Florida 32069 Bureau of Air Quality Management Dept. of Environmental Regulation 2600 Blair Stone Road Tallahassee, Florida 32301

St. Johns River District 3319 Maguire Drive Suite 232 Orlando, Florida 32803

No allowable PSD increments for PM or SO2 are consumed by the proposed modification.

Any person may submit written comments regarding the proposed modification. All comments, postmarked not later than 30 days from the date of this notice, will be considered in making a final determination regarding approval for construction of this source. Those comments will be made available for public review on request. Furthermore, a public hearing can be requested by any person. Such request should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. C. H. Fancy, P.E. Dept. of Environmental Regulation 2600 Blair Stone Road Tallahassee, Florida 32301

# Technical Evaluation and Preliminary Determination

# Contents

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II.	Project Description	1
III.	Emissions and Controls	2
IV.	Rule Applicability	4
v.	Control Technology Review	5
VI.	Air Quality Impact Analysis	5
VII.	Conclusions	9

# I. Applicant and Site Location

Utilities Commission
City of New Smyrna Beach
P.O. Box 519
New Smyrna Beach, Florida 32069

The proposed modification will occur at the Swoope Generating Station located in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

# II. Project Description

The Utilities Commission plans to construct diesel units, Swoope #3 and #4, with additional gas generating capacities of 2050 KW and 2275 KW, respectively. Both units will be natural gas fired with 4 to 6 percent heat input from No. 2 fuel oil (diesel) as pilot fuel.

Currently there are two power generating units at the existing site. Swoope Unit #1 is a 116 MMBtu/hr steam generator and Swoope Unit #2 is a 910 KW gas diesel generator which is limited by permit condition to a 70 percent capacity factor.

The proposed modification is the addition of the two gas diesel units and an increase to 100 percent capacity factor for Swoope Unit #2.

# III. Emissions and Controls

The major air pollutant emitted from the diesel generating units while firing 95% natural gas and 5% No. 2 fuel oil (based on Btu heat input) will be  $No_X$  emissions. The projected air pollutant emissions from Swoope Unit 3 and 4 are listed as follows:

	Uni	t 3	Uni	t 4	
	Maximum	tons per		tons per	
Pollutant	lbs/hr	year	lbs/hr	year	
Nitrogen Oxides, NO <sub>X</sub>	57.1	250	55.9	245	
Particulate, PM	0.25	1	0.28	1	
Sulfur Dioxide, SO <sub>2</sub>	0.42	2	0.47	2	
Carbon Monoxide, CO	8.9	39	9.8	43	
Hydrocarbon, HC	2.5	11	3.5	15	

The current maximum air pollutant emissions and the projected maximum emissions after modification are listed in the following table:

Annual Emissions from Swoope Station

	NOx	PM	SO <sub>2</sub>	CO	HC*
Current		Ton		Year	
Unit 1 (steam)	140	27	1	5	8
Unit 2 (diesel)	94	0.1	0.3	<u>12</u>	<u>37</u>
TOTAL	234	27	1	17	45
Projected					
Unit 1	140	2.7	1.	5	8
Unit 2	134	0.2	0.4	17	5 3
Unit 3	250	1	2	33	11
Unit 4	245	. 1	2	<u>43</u>	<u>15</u>
TOTAL	769	29	5	104	87
NET INCREASE	<u>535</u>	_2	4	87	42

<sup>\*</sup>Swoope Unit 2 hydrocarbons reported as total HC, Units 3 and 4 reported as non-methane HC.

There will not be any pollution control equipment installed at the site.

# IV. Rule Applicability

#### State Rule

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code (FAC).

The proposed project location is in an attainment area for all the pollutants. It will make the existing minor facility become a major facility for  $NO_X$  as defined in Section 17-2.100, because  $NO_X$  emissions will increase by more than 250 tons per year due to this modification. The project is subject to the provisions of Section 17-2.500, Prevention of Significant Deterioration (PSD) which requires an air quality impact analysis and the use of Best Available Control Technology (BACT)

## Federal Rule

The proposed source is subject to federal PSD review because it is a major modification (40 CFR 52.21(b)(2)). The actual  $NO_X$  emissions increase, 535 tons per year, is above the major emission rate 250 tons per year. Therefore, emissions of  $NO_X$  are subject to an air quality impact analysis and a BACT determination under 40 CFR 52.21(i).

# V. Control Technology Review

Fuel injection retardation is an effective  $NO_X$  control technique but results in approximately a 3% increase in fuel usage. The increased monthly cost to a consumer using 1000 kwh of electricity would be approximately one dollar. Based on a proposed NSPS for stationary internal combustion engines, FDER has determined that this technique represents the best available control technology for the proposed gas diesel units.  $NO_X$  emissions will be limited for this modification as follows:

Unit No. 2 - 690 ppmv corrected to 15% oxygen on a dry basis
Unit No. 3 - 620 ppmv corrected to 15% oxygen on a dry basis
Unit No. 4 - 625 ppmv corrected to 15% oxygen on a dry basis

## VI. Air Quality Impact Analysis

#### A. Summary

Since the proposed project is subject to both State and federal PSD review for the pollutant  $NO_{\mathbf{X}}$ , an air quality impact analysis is required. This analysis includes:

- o An analysis of existing air quality;
- o An ambient air quality standards analysis;
- o An analysis of impact on soils, vegetation and visibility and growth-related air quality impacts.

The analysis of existing air quality may require preconstruction monitoring. The air quality standards

analysis depends on air quality modeling carried out in accordance with FDER- and EPA-approved methods. Federal PSD review also requires a good engineering practice stack height evaluation.

Based on this air quality impact analysis, FDER has reasonable assurance that the proposed project, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any State or federal ambient air quality standard. A discussion of the required analysis follows.

### B. Discussion

#### 1. Modeling Methodology

Both State and federal regulations contain only annual average standards for  $NO_2$ . The State and federal annual average standards are the same,  $100~\text{ug/m}^3$ . The FDER- and EPA-approved Industrial Source Complex Long-Term (ISCLT) model was used in the air quality impacts analysis. The conservative assumption that all  $NO_X$  is emitted as  $NO_2$  was made in the modeling. One year of National Weather Service data collected at Daytona Beach, Florida in 1964 was used in the model. These data were summarized in the STAR format. A rectangular grid with a 0.1 kilometer spacing was used and all sources were assumed to emit at maximum allowable rates, 24 hours a day, every day of the year. Final stack parameters and emission rates used in modeling the proposed project are contained in Tables VI-I and VI-2.

 ${\bf Table\ VI-l}$  Stack Parameters for the Existing Swoope Generating Facility

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)	Emission Rate (g/s) NO <sub>x</sub>
Swoope #1	38.1	1.38	9.5	6 <b>44</b>	4.04
Swoope #2	6.1	0.36	43.9	589	2.69

Table VI-2
Stack Parameters for Proposed Swoope Generating Station

Emission Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)	Emission Rate (g/s) NO <sub>x</sub>
Swoope #1	38.1	1.38	9.5	644	4.04
Swoope #2	6.1	0.36	43.9	589	3.84
Swoope #3	6.1	0.56	41.2	644	7.20
Swoope #4	6.1	0.56	44.2	644	7.00

# 2. Analysis of Existing Air Quality

In order to evaluate existing air quality in the area of a proposed project, FDER may require a period of continuous preconstruction monitoring for any pollutant subject to PSD review. An exemption from this requirement may be obtained if the net emissions increase of the pollutant from the modification would cause an air quality impact less than a certain de minimis level as defined in 40 CFR 52.21(i)(8) and Table 500-3 in Chapter 17-2, FAC. The federal level is 14 ug/m³, annual average, however, in the State rules the level is currently defined as 14 ug/m³, 24-hour average. Modeling predicts the impact of the proposed project to be greater than the State level, but less than the federal level.

Under the existing State regulation which requires preconstruction monitoring for  $\mathrm{NO}_{\mathbf{X}}$ , FDER has determined that existing representative  $\mathrm{NO}_{\mathbf{X}}$  ambient air monitoring data may be used. Since the Swoope facility is located in a remote area with respect to non-specified  $\mathrm{NO}_{\mathbf{X}}$  sources, FDER has determined that  $\mathrm{NO}_{\mathbf{X}}$  data gathered at a regional site may be used as representative data. FDER has chosen the Stanton Plant monitoring site in east Orange County, which is operated by the Orlando Utilities Commission, as a regional  $\mathrm{NO}_{\mathbf{X}}$  monitoring site for this project. Based on data from

this site, FDER has assumed a background  $NO_{\mathbf{X}}$  value of 12 ug/m<sup>3</sup>, annual average.

# 3. Ambient Air Quality Standards Analysis

Both State and federal PSD regulations require the permit applicant to demonstrate that, given existing air quality in an area, a proposed emissions increase subject to PSD will not cause or contribute to any violation of ambient air quality standards. For this project, an ambient air quality standards analysis is required for  $NO_X$ . Modeling results predict that the highest expected annual average impact due to the Swoope Generating Station is  $28~\text{ug/m}^3$  (this value includes a background value of  $12~\text{ug/m}^3$ ). This value is well below both the State and federal ambient air quality standard of  $100~\text{ug/m}^3$ , annual average.

The impacts of interaction of emissions from other sources with those from the Swoope facility were evaluated. Maximum  $\mathrm{NO}_{\mathrm{X}}$  concentrations from surrounding sources are very small compared to maximum concentrations from Swoope. Therefore, no violations of ambient standards are predicted to occur due to interacting sources.

#### 4. Good Engineering Practice Stack Height Evaluation

The stack heights proposed for the Swoope project do not exceed the Good Engineering Practice (GEP) stack height of 65 meters for stacks uninfluenced by structures or terrain.

No downwash analysis was performed since only long-term average air quality standards exist for  ${\tt NO}_{\tt X}$  emissions.

# 5. Analysis of Impact on Soils, Vegetation and Visibility and Growth-Related Air Quality Impacts

The maximum impact of the proposed  ${\rm NO}_{\rm X}$  emissions increase will be insignificant. No adverse effects on soils, vegetation and visiblity are expected.

There will be no secondary residential, commercial or industrial growth which will adversely affect air quality in the area.

## VII. Conclusions

Based on evaluation of the application, FDER believes that compliance with all State and federal air regulations will be achieved provided certain specific conditions are met. The general and specific conditions are listed in the attached draft State permits (AC 64-57578 and AC 64-57580) and federal permit (PSD-FL-089).

#### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIOA 32301



BOB GRAHAM VICTORIA J. TSCHINKEL

SECRETARY

Utilities Commission APPLICANT:

City of New Smyrna Beach

P. O. Box 519

Mew Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57578 3

COUNTY: Volusia

Swoope Unit #3 PROJECT:

Gas Diesel

This permit is issued under the provisions of Chapter-	403	Florida Statutes, and Chapter 17-2
and 17-4 Florida Administrative Code: T	The above named applicant; hereinafti	er called Permittee; is hereby authorized to
perform the work or operate the facility shown on the	e approved drawing(s), plans, docume	nts, and specifications attached hereto and
made a cart hereof and specifically described as follows	<b>s:</b>	

For the installation of a 2050 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

#### Attachments:

- Application to Construct Air Pollution Source, DER Form 17-2.122(16), received on June 28, 1982.
- Best Available Control Technology (BACT) Determination dated August 18, 1982.

PAGE 1 SF 4

PERMIT NO .:

AC 64-57578

APPLICANT:

Utilities Commission

#### GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations, and restrictions:set forth herein are: "Permit Conditions:, and as: such are binding upon the permittee; and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes: Permittee is hereby placed on notice; that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee; its agents; employees, servants or representatives.
- 2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings; exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance; including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue; and steps being taken to reduce; eliminate; and prevent recurrence of the non-compliance. 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 revocation of this permit.
- 4. As provided in subsection 403.087(6), Florida-Statutes; the issuance of this permit does not convey any vested rights; or any exclusive privileges. Non 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee-from liability for harm or injury to human health or welfare, animal, plant; or aquatic life or property and penalities; therefore caused; by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state-statutes.
- 9. This permit is not transferable: Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new-owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
- 10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:

[	]	Determination of Best Available Control Technology (BACT)
(	1	Determination of Prevention of Significant Deterioration (PSD)
[	]	Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO .: AC 64-57578

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

1. The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.

- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the Unit No. 3 shall be limited to 620 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.
- 4. The 70% capacity factor restriction of Swoope Unit No. 2 shall be eliminated. The new  $\mathrm{NO}_{\mathbf{X}}$  emission limit, which is regulated by the attached BACT determination, shall be 690 ppmv corrected to 15% oxygen on a dry basis.

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PERMIT NO.: AC 64-57578
APPLICANT: Utilities Commission

	Signature
Pages Attached.	STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
Expiration Date: June 30, 1983	lssued this day of , 19

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#### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

APPLICANT:

Utilities Commission

City of New Smyrna Beach

P. O. Box 519

New Smyrna Beach, Florida 32069

PERMIT/CERTIFICATION NO. AC 64-57580

COUNTY: Volusia

PROJECT: Swoope Unit #4

Gas Diesel

This permit is issued under the provisions of Chapter.	403	Florida Statutes; and Chapter: 17-2
and 17-4. Florida Administrative Code: T	ne above named applicant, hereinafts	r called: Permittee, is hereby authorized to
perform the work or operate the facility shown on the	rapproved drawing(s), plans: docume	nts, and specifications attached hereto and
made a part hereof and specifically described as follows:	:	

For the installation of a 2275 kw diesel generating unit to be located at the existing Swoope plant site in the City of New Smyrna Beach, Volusia County, Florida. The UTM coordinates are 505.8 km East and 3214.8 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on page 3, Specific Conditions.

#### Attachments:

- l. Application to Construct Air Pollution Source, DER Form 17-1.122(16), received on June 28, 1982.
- 2. Best Available Control Technology (BACT) Determination dated August 18, 1982.

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SER FORM 17-1, (20(63), 1/4 (1.80)

PERMIT NO .:

AC 64-57580

APPLICANT:

Utilities Commission

#### GENERAL CONDITIONS:

- 1. The terms, conditions, requirements, limitations, and restrictions:set forth herein are: "Permit Conditions:, and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes, Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees; servants or representatives:
- 2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.
- 3. 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 notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance; including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue; and steps being taken to reduce; eliminate, and prevent recurrence of the non-compliance. 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 revocation of this permit.
- 4. As provided in subsection 403.087(6), 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.
- 5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.
- 6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.
- 7. In the case of an operation permit, 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.
- 8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalities therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.
- 9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.
- 10. The permittee; by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.
- 11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
- 12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title; and does not constitute authority for the reclamation 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.
- 13. This permit also constitutes:

[	I	Determination of Best Available Control Technology (BACT)
[	1	Determination of Prevention of Significant Deterioration (PSD)
ĺ	1	Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PAGE 2 OF 4

PERMIT NO.: AC 64-57580

APPLICANT: Utilities Commission

#### SPECIFIC CONDITIONS:

- 1. The proposed unit shall be constructed in accordance with the capacities and specifications stated in the application and additional information supplied by the applicant.
- 2. Sulfur content of the fuel oil fired in the proposed gas diesel unit shall be limited to 0.3%.
- 3. Nitrogen oxides emissions from the unit shall be limited to 625 ppmv corrected to 15% oxygen on a dry basis. Compliance with the emission limits required by the attached BACT determination shall be determined by performance tests while the unit is at or close to full operating capacity.

Expiration Date: June 30, 1983   Issued this day of
STATE OF FLORIDA  Pages Attached.  DEPARTMENT OF ENVIRONMENTAL REGULATION

Signature

AC 64-57580 Utilities Commission

PERMIT NO.: APPLICANT:

# Preliminary Determination

(PSD-FL-089)

Utilties Commission City of New Smyrna Beach

The preceding Technical Evaluation and Preliminary Determination are adopted by reference for the proposed federal permit, PSD-FL-089.

Special Conditions listed in the draft State permits, AC 64-57578 and AC 64-57580 are adopted as special conditions for the draft federal permit, PSD-FL-089, for this source.

The attached General Conditions are also made a part of the proposed federal permit PSD-FL-089 for this source.

Attachment: General Conditions (federal)

#### GENERAL CONDITIONS

- 1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
- 2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
- 3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
- 4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
- 5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:
  - (a) description for noncomplying emission(s),
  - (b) cause of noncompliance,
  - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and.

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

- Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
- 7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
- 8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
  - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
  - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
  - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and.

- (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
- 9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn Chief, Air Management Branch Air & Waste Management Division U.S. EPA, Region IV 345 Courtland Street, NE Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

# BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION CITY OF NEW SMYRNA BEACH VOLUSIA COUNTY

The City of New Smyrna Beach plans to increase electric power generation capacity an additional 4.33 megawatts. Two generators, each driven by a dual fuel twelve cylinder diesel engine, are to be installed at the Swoope generating station. The engines will use natural gas and No. 2 distillate oil as fuel.

The new installations identified as Swoope No. 3 and Swoope No. 4 will have a maximum engine heat input of 19.2 and 21.2 million Btu per hour, respectively. Both units are scheduled to operate 8760 hours per year.

Swoope No. 2, a similar existing 910 kilowatt unit is limited by permit conditions to operate at 70 percent of full load (AC 64-43484). The applicant has requested this permit condition be changed to allow unrestricted operation.

# Air Contaminants Summary: (tons per year)

Source	PM	<u>502</u>	<u>co</u>	$NO_{\mathbf{X}}$	HC
No. 3 Unit	<1	2	39	250	11
No. 4 Unit	<1	2	43	245	15
Total	2	4	82	495	26
No. 2 Unit (1)	<1	<1	5	40	16
Rate (2)	25	40	100	40	-

<sup>(1)</sup> Emissions due to increase from 70 to 100 percent operation.

The amount of  $NO_X$  emitted from the proposed sources exceed the significant emission rate and requires a BACT determination per 17-2.500(5)(c), FAC. A BACT determination is also required for Swoope No. 2 due to the relaxation of a permit limitation.

<sup>(2)</sup> Significant Emission Rate, 17-2.500, FAC, Table 500-2.

# BACT Determination Requested by the Applicant:

Pollutant

Emission Limit

 $NO_{\mathbf{X}}$ 

Natural gas firing with the ignition timing set as recommended by the manufacturer

# Date of Receipt of a BACT Application:

June 28, 1982

# Date of Publication in the Florida Administrative Weekly:

July 9, 1982

# Review Group Members:

Comments were obtained from the New Source Review Section, the Air Modeling Section in the Bureau of Air Quality Management, and DER St. Johns River District.

# BACT Determined by DER:

\*NO<sub>x</sub> Pollutant Emission Limits

Unit 2 - 690 ppmv corrected to 15% oxygen on a dry basis

Unit 3 - 620 ppmv corrected to 15% oxygen on a dry basis

Unit 4 - 625 ppmv corrected to 15% oxygen on a dry basis

\*Based on manufacturer's rated brake-specific fuel consumption at peak load. Applicant has option of using brake-specific fuel consumption as determined in the field. Test methods and operations monitoring as per the proposed NSPS 40 CFR 60.320, Subpart FF, Subsections 60.324 and 60.323.

#### DER Determination Rationale:

There is a proposed NSPS for stationary internal combustion engines, 40 CFR 60.320, Subpart FF. The NSPS is in administrative review and promulgation is expected in the last quarter of 1982. The consensus was that a more stringent  $NO_X$  emission limitation than the NSPS was not justified. The department has determined BACT for  $NO_X$  emissions to be based on the NSPS formula in Subpart FF, Subsection 60.322(a)(3)(ii).

# $STD = 600 \ \frac{10.2}{Y}$

- STD = Allowable NO<sub>x</sub> emissions, ppmv corrected to 15% oxygen on a dry basis.
  - Y = Manufacturer's rated brake-specific fuel consumption at peak load (Kj/w-hr) or applicants brake-specific fuel consumption at peak load as determined in the field.

The  $\mathrm{NO}_{\mathbf{X}}$  emission limits determined as BACT are based on the manufacturer's brake-specific fuel consumption at peak load. The applicant has the option of using a brake-specific fuel consumption as determined in the field.

The NSPS was proposed July 23, 1979 (44 FR 43152) to apply to sources that commence construction after January 1982. The manufacturers of engines subject to the regulations should have had adequate time to develop a  $\rm NO_X$  emission reduction control technique for their engines in anticipation of the NSPS being promulgated.

The applicant, therefore, should have no great difficulty in meeting the  $\mathrm{NO}_{\mathbf{X}}$  emission limits determined as BACT for Units 3 and 4. However, Unit 2 was permitted in July 1981 and that engine may require major modifications to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. In this case, the applicant may submit to the department actual field data indicating the inability to meet the  $\mathrm{NO}_{\mathbf{X}}$  emission limit. The department will then review the BACT determination for Unit 2 on basis of the new data presented.

The dual-fired engines serve the same application as diesel engines. In the event that natural gas should become limited the dual-fuel engines would likely operate as diesel engines. The  $\mathrm{NO}_{\mathbf{X}}$  emission limit determined as BACT also applies to diesel engines, therefore, simplifying compliance by the applicant in the event the engines are converted totally to diesel.

Fuel injection retard is an effective  $NO_{\mathbf{X}}$  control technique but results in approximately a 3% increase in fuel usage. This will increase total fuel usage by 1107 cubic feet per hour of natural gas and 0.519 gallon per hour of No. 2 oil. The increased monthly cost to a consumer using 1000 kw of electricity would be approximately one dollar. The additional fuel cost is not considered excessive.

# Details of the Analysis May Be Obtained by Contacting:

Edward Palagyi, BACT Coordinator Department of Environmental Regulation Bureau of Air Quality Management 2600 Blair Stone Road Tallahassee, Florida 32301

Recommended By:

Steve Smallwood, Chief BAOM

Date: <u>August 18, 1982</u>

Approved:

Victoria J. Tschinkel, Secretary

Date: 81882

DER

JUN 28 1982

BAQM

PERMIT APPLICATIONS
AND
PSD ANALYSIS FOR NEW SMYRNA BEACH UTILITIES
SWOOPE UNIT #3 AND #4

## CONTENTS

- I CONSTRUCTION PERMIT APPLICATION SWOOPE #3
- II CONSTRUCTION PERMIT APPLICATION SWOOPE #4-
- III ATTACHMENTS
  - A--Reference to Permit Section II
  - B-Manuafacturers letter-basis of emissions estimate
  - C-Flow diagram
  - D-Location map
  - E-Plot plan
  - F-PSD analysis
  - G-ISCLT computer model output



# Best Available Copy

# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

# APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

DER

JUN 28 1982

FL

	RCE TYPE: City				IACAA [ ]	Calaring		
	LICATION TYPE:	• • •					RAC	)M
CO	APANY NAME: Ut:	ilities Com	mission, C	ity of New	Smyrna Be	each co	YTY:	Volusia
lder No.	itify the specific emis 2, Gas Fired) Swoot	sion point source pe Unit 3 Ga	e(s) addressed as Diesel	in this applicati	on (i.e. Lim	e Kiln No. 4 v	rith: Venturi	Scrubber; Peeking Un
SOL	IRCE LOCATION:	Street	N. Dixie	Highway		Cit	New Sm	ovrna Beach
		UTM: East	50	05.8	N	orth	3214.	8
	,	Latitude 29	9 0 03	47."N	L	ongitude80	<u>o 56</u>	_ ' <u>25</u> 'w
APP	LICANT NAME AND	TITLE: Uti	ilities Com	mmission, C	ity of Ne	ew Smyrna	Beach	
APP	LICANT ADDRESS:	PO Box 51	19, New Smy	rna Beach,	FL 32069	9		
		SECTIO	ON I: STATEM	ENTS: BY APP	LICANT AN	D ENGINEER	}	
۹.	APPLICANT							
	I am the undersigned	d owner or autho	rized represent	ative* of Util	ities Co	mmission,	City of	New Smyrna Be
	I certify that the sta-	tements:made in	this applicatio	n for a	Construc	tion Perm	it Appli	cation aintain and operate the
	Florida Statutes, an	d all the rules a rtment, will be	nd regulations	of the departm	ent and revi	sions thereof.	I also unde	ovision of Chapter 40 erstand that a permit, e or legal transfer of th
At	ach letter of authoriza	ation		Sign	\	nka	u du	人
Att	each letter of authoriza	ation		• •	\			leer Type)
Att	each letter of authoriza	ation		<u>P.</u>	A. Kore	Name and T	tle (Please	Type)
*Att	each letter of authorization of authoriz		STERED IN F	P. Date	A. Kore	Name and T	tie (Please phone No.	
	PROFESSIONAL EI This is to certify that be in conformity with permit application, erly maintained and rules and regulations	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where is pollution continued in my profession uent that compared that the unit will be in the unit of the unit o	6/24/8 e required by the treatme inal judgmen lies with ail ndersigned	Name and T 32 Tell y Chapter 471 have been design ent and disposit, that the pol- applicable stat will furnish, if tion control fi	the (Please phone No. F.S.)  Ined/examiral of polluta ution contrutes of the lauthorized activities and	ned by me and found into characterized in the foliation of Fiorida and the foliation of the owner, the applicable, pollution, if applicable, pollution
	PROFESSIONAL EI This is to certify tha be in conformity wi permit application. erly maintained and rules and regulations cant a set of instruct	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where  is pollution conties applicable: to  in my profession  uent that comp  greed that the use and operation	6/24/8 e required by the treatme inal judgmen lies with ail ndersigned	Name and T 32 Tell y Chapter 471 have been design ent and disposit, that the pol applicable stat will furnish, if tion control fi	the (Please phone No. F.S.)  Ined/examiral of polluta ution contrutes of the lauthorized activities and	ned by me and found into characterized in the foliation of Fiorida and the foliation of the owner, the applicable, pollution, if applicable, pollution
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	PROFESSIONAL EI This is to certify tha be in conformity wi permit application. erly maintained and rules and regulations cant a set of instruct	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where is pollution continued that computed that the use and operation Sign	A. Kore  6/24/8 e required by trol project to the treatment in the treatme	Name and T  2  Tele  y Chapter 471  have been designed and disposit, that the polappicable stativill furnish, if tion control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativille for	ephone No.  F.S.)  Inned/examiral of polluta ution contriutes of the authorized decilities and Buff, P.  Please Type	Type)  904-427-1361  ned by me and found that characterized in the old facilities, when prostate of Florida and the prostate of Florida and th
	PROFESSIONAL EI This is to certify that be in conformity with permit application, erly maintained and rules and regulations cant a set of instruct sources.	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where is pollution continued that computed that the use and operation Sign	A. Kore  6/24/8 e required by trol project to the treatment in the treatme	Name and T  2  Tele  y Chapter 471  have been designed and disposit, that the polappicable stativill furnish, if tion control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativill furnish, if the control for the polappicable stativille for	ephone No.  F.S.)  Inned/examiral of poiluta  ution contrutes of the authorized decilities and  Buff, P.  Please Type  e and En	Type)  904-427-1361  ned by me and found ints characterized in the old facilities, when prostate of Florida and the old facilities, if applicable, pollution of the owner, the applicable, pollution of the owner, if
	PROFESSIONAL EI This is to certify that be in conformity with permit application, erly maintained and rules and regulations cant a set of instruct sources.	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where  Is pollution continues applicable: to  in my profession  uent that comp  greed that the uner and operation  Sign  Enter	6/24/8 e required by the treatmental judgment lies with all indersigned work the polluled:	Name and T  2 Tele  y Chapter 471  have been desirent and dispos  t, that the pol  applicable stat  will furnish, if  tion control fr  David A.  Name (  cal Science  Company Na	ephone No.  F.S.)  Ined/examiral of poilutz  ution contructs of the authorized diciities and  Buff, P.  Please Type  e and Enume (Please	Type)  904-427-1361  ned by me and found ints characterized in the old facilities, when prostate of Florida and the old facilities, if applicable, pollution of the owner, the applicable, pollution of the owner, if
	PROFESSIONAL EI This is to certify that be in conformity with permit application, erly maintained and rules and regulations cant a set of instruct sources.	NGINEER REGI t the engineering th modern engin There is reasonal operated, will d s of the departm	g features of thineering principlose assurance, ischarge an efficient it is also a	Date  LORIDA (where is pollution continued in my profession uent that compared that the uent and operation  Sign  Enter	A. Kore  6/24/8 e required by the treatme nal judgmen lies with ail ndersigned w of the pollu  ed:  Vironment  Box ESE	Name and T  2 Tele  y Chapter 471  have been designated and dispose t, that the pole applicable stat will furnish, if tion control for  David A.  Name (  Company Na  Gainesvi  Mailing Add	ephone No.  F.S.)  Inned/examinal of poiluta ution contructes of the authorized decilities and Buff, P.  Please Type  e and Fn  me (Please  11e, Flo  ress (Please	Type)  904-427-1361  med by me and found into characterized in the old facilities, when proposed for the owner, the applicable, pollution of the owner, the applicable, pollution of the owner.  E.  gineering Inc. Type)  rida 32602

# SECTION II: GENERAL PROJECT INFORMATION

formance as a result of installation. State whether the project will result in full compliance.  Installation and operation of diesel generating uni	t Imit will be
natural gas fired with 6 percent heat input from No	
	· · · · · · · · · · · · · · · · · · ·
fuel. Unit is rated at 2880 BHP with generating ca	pacity of 2050 kw.
Schedule of project covered in this application (Construction Permit Application Only)	
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only f project serving pollution control purposes. Information on actual costs shall be furnish permit.)	or individual components/units
Not Applicable	-
<u> </u>	
Indicate any previous DER permits, orders and notices associated with the emission point tion dates.	, including permit issuance and e
No previous DER permits have been issued for this u	nit
and Chapter 22F-2, Florida Administrative Code? Yes $\stackrel{ ext{$X$}}{=}$ No	
and Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{}$ No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{5}{}$	
and Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{}$ No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{5}{}$	
and Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day; days/wk	
and Chapter 22F-2, Florida Administrative Code?YesX No  Normal equipment operating time: hrs/day; days/wk	
and Chapter 22F-2, Florida Administrative Code?YesX No  Normal equipment operating time: hrs/day; days/wk	2; if power plant, hrs/yr87
and Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 5  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?	2; if power plant, hrs/yr87
and Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 5  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	2; if power plant, hrs/yr87
and Chapter 22F-2, Florida Administrative Code?YesX_No Normal equipment operating time: hrs/day	2; if power plant, hrs/yr87
And Chapter 22F-2, Florida Administrative Code?YesX No Normal equipment operating time: hrs/day24; days/wk7; wks/yr:5  If seasonal, describe:	2 ; if power plant, hrs/yr 87
and Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 5  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.	2; if power plant, hrs/yr87
<ul> <li>b. If yes, has "Lowest Achievable Emission Rate" been applied?</li> <li>c. If yes, list non-attainment pollutants.</li> <li>2. Does best available-control technology (BACT) apply to this source? If yes, see Section VI.</li> <li>3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.</li> <li>4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to</li> </ul>	2 ; if power plant, hrs/yr 87  No  Yes  Yes

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

# SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contan	ninants	Utilization	Relate to Flow Diagram		
Description	Туре	% Wt	Rate - lbs/hr			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): \_\_\_

Not Applicable

2. Product Weight (lbs/hr): \_

Not Applicable

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission.1		Allowed Emission <sup>2</sup>	Allowabie <sup>3</sup>	Potential Emission <sup>4</sup>		Relate
	Maximum lbs/hr	Actual T/yr	Rate: per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram
Nitrogen Oxides	57.1	250	NA	NΔ	57.1	250	В
<u>Particulate</u>	0.25	1	NA	N.A.	0_25	1	<u>B</u>
Sulfur Dioxide	0.42	2	NA	_ NA	0.42	2	B
Carbon Monoxide	8.9	39	NA	NA	8.9	39	В
Hydrocarbons	2.5	11	NA	NA	2.5	11	В

D. Control Devices: (See Section V, Item 4)

Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
		!		!
	1			
		; ;		:
		İ		

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

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<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

Type (Be Specific)	Consu	Maximum Heat Input	
i ype (be specific)	avg/hr	max./hr	(MMBTU/hr)
Natural Gas (ft <sup>3</sup> )	17,600	17,600	18.05
No. 2 Fuel Oil (gallons)	8.2	8.2	1.15

Fue	Analysis:	Natural Ga	el Oils, barrels/hr, C	Oil	Percent Ash: N	g/Ng	
Den	sity:	NA/7.21	<u> </u>	lbs/gal	Typical Percent Nitrogen:	Ng/0.2	
Oth	er Fuel Contami	nants (which n	nay cause air pollut	ion):	None		
F.			rcent of fuel used: f		ting. Annual Average	NA Maximum —	NA
— F.	Indicate liquid	or solid waste	sigenerated and me olid wastes w	thod of dispo ill be di		r a <u>sanitary sew</u> ag	e
— F.	All lice System Emission Stace	or solid waste quid and so or sanita	s generated and me olid wastes wary landfill.	thod of disponding the di	osal.  isposed of in either  data for each stack):	r a sanitary sewag	e
—— F. G.	All lice System Emission Stace	or solid waste quid and so or sanita	s generated and me olid wastes wary landfill.	thod of disponding the di	osal. Isposed of in either	r a sanitary sewag	e
—— F. G.	All lice System Emission Stack Height:	or solid waste quid and so or sanita c Geometry and	s generated and me olid wastes wary landfill.  d Flow Characteris	thod of disponding the disponding tics (Provide	osal.  isposed of in either  data for each stack):	r a sanitary sewag	efe

# Not Applicable

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated					1		
Description of Wast	e						
Total Weight Incine	rated (lbs/hr) _			Design Capacit	y (lbs/hr)		
Approximate Numb	er of Hours of	Operation per day	·		days/v	veek	
Manufacturer							
Date Constructed _		<u> </u>	_	Model No			

1	Volume	Heat Release	F	uel	Temperature
	(ft)3	(BTU/hr)	Type	BTU/hr	(°F)
Primary Chamber		† 			· · · - · · - ·
Secondary Chamber					
Stack Height:		ft. Stack Diameter		Stack Temp	o
Gas Flow Rate:		ACFM		_ DSCFM* Velocity _	FP:
*If:50 or more tons per- cess:air.	day design capac	city, submit the emission	onstrate in grainstp	er standard cubic foot	dry gas corrected: to 50%; ex
Type of pollution control	device: [ ] C	ycione [ ] Wet Scrub	ber [] Afterbu	rner [ ] Other (spec	ify)
Brief description of opera	itino characteristi	ics of control devices: _			
	· · · · · · · · · · · · · · · · · · ·				
Ultimate disposal of any e	effluent:other tha	an that emitted from th	e-stack (scrubber-	water, ash, etc.):	
Ultimate disposal of any e	effluent:other tha	an that emitted from th	e-stack (scrubber-	water, ash, etc.):	
Ultimate disposal of any e	effluent:other tha	an that emitted from th	e-stack (scrubber-	water, ash, etc.):	
Ultimate disposal of any e	effluent:other tha	an that emitted from th	e stack (scrubber v	water, ash, etc.):	
Ultimate disposal of any e	effluent:other tha	an that emitted from th	e stack (scrubber	water, ash, etc.):	

# SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application:

- 1. Total process input rate and product weight snow derivation. Not Applicable
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to snow proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

  See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See ATTACHMENT B
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).

  Not Applicable
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).

  Not Applicable
- 6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

  See ATTACHMENT C
- 7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

  See ATTACHMENT D
- An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   See ATTACHMENT E

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

The contraction of the contracti

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

# SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

· · · · · · · · · · · · · · · · · · ·	Rate or Concentration
•	
· · · · · · · · · · · · · · · · · · ·	
Has EPA declared the best available control	technology for this class of sources (If yes, attach copy) $[\ ]$ Yes $[\ ]$ No
Contaminant	Rate or Concentration
What emission levels do you propose as best Contaminant	available control technology? See Section IIIC  Rate or Concentration
Describe the existing control and treatment t	echnology (if any). See Part F
1. Control Device/System:	_
2. Operating Principles:	·
3. Efficiency: *	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
7. Energy:	8. Maintenance Cost:
9. Emissions:	
9. Emissions:  Contaminant	Rate or Concentration

<sup>\*</sup>Explain method of determining D 3 above.

			11000	/10. W	٠.	1 C111pC1 C C C T C T C T C T C T C T C T C T C
		ė.	Velocity:	FPS		
Ε.	Des	cribe	the control and treatment technology avai	iable (As r	many	types as applicable, use additional pages if necessary).
	1.		:	See Par	't F	•
		٤.	Control Device:			
		b.	Operating Principles:			
		C.	Efficiency*:		d.	Capital Cost:
		e.	Useful Life:		f.	Operating Cost:
		g.	Energy*:		h.	Maintenance Cost:
		i.	Availability of construction materials and p	process ch	emic	ais:
		j.	Applicability to manufacturing processes:			
		k.	Ability to construct with control device, in	stall in av	ailab	le space, and operate within proposed levels:
	2.					
		a.	Control Device:			
		b.	Operating Principles:			·
		C.	Efficiency *:		d.	Capital Cost:
		e.	Useful Life:		f.	Operating Cost:
		g.	Energy **:		h.	Maintenance Costs:
		i.	Availability of construction materials and p	process chi	emic	als:
		j.	Applicability to manufacturing processes:			
		k.	Ability to construct with control device, in	stall in av	ailab	le space, and operate within proposed levels:
			thod of determining efficiency.			•
**Ene	ergy	to be	e reported in units of electrical power — KW	/H design	rate.	
	3.		•			
		a. '	Control Device:			
		b.	Operating Principles:			
		<b>c</b> .	Efficiency*:		đ.	Capital Cost:
		e.	Life:		f.	Operating Cost:
	,	g.	Energy:		h.	Maintenance Cost:
	lain	met	nod of determining efficiency above.			

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Best Avano

	j.	Арр	licability to manufacturing process	es:		
	k.	Abii	ity to construct with control device	e, install in ava	ilab	le space and operate within proposed levels:
4						
	a.	Con	tral Device			
	b.	Ope	rating Principles:			
	c.	Effic	ciency*:		ď.	Capital Cost:
	e:	Life	:		f.	Operating Cost:
	g.	Ener	rgy:		h.	Maintenance Cost:
	i.	Avai	lability of construction materials ar	nd.process che	mic	als:
	j.	Арр	licability to manufacturing processe	es:		
	k.	Abil	ity to construct with control device	; install in avai	ilab	le-space, and operate-within proposed levels:
F. De	scribe	the	control technology selected:	See I	+	m 10
1	. Con	troi	Device:	See 1	Lei	
2	. Effi	cienc	y*:		3.	Capital Cost:
4	. Life	:			5.	Operating Cost:
6	. Ene	rgy:			7.	Maintenance Cost:
8	. Man	ufact	turer:			
9	. Oth	er loc	cations where employed on similar (	processes:		
	a.					
		(1)	Company:			
		(2)	Mailing Address:			
		(3)	City:		(4)	State:
		(5)	Environmental Manager:			
		(6)	Telephone No.:			
*Explai	n met	hod (	of determining efficiency above.			
		<b>(7</b> )	Emissions*:			
			Contaminant			Rate or Concentration
_					_	
_						· · · · · · · · · · · · · · · · · · ·
		(8)	Process Rate*:	·		
	ь.					
		(1)	Company:			
		(2)	Mailing Address:			
		(3)	City:	1	(4)	State:
*Applica						nformation not be available, applicant must state the reason(s

Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(6)	Telephone No.:	·
(7)	Emissions*:	
	Contaminant	Rate or Concentration
		·

- (8) Process: Rate\*:
- 10. Reason for selection and description of systems:

The BACT proposed for  $\mathrm{NO}_{\mathrm{X}}$  is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower  $\mathrm{NO}_{\mathrm{X}}$  emissions could be achieved by retarding the pilot fuel injection but this would be at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard, optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why

# SECTION VII — PREVENTION OF SIGNIFICANT DETERIORATION

A.	Company Monitored Data Not	Applicable				
	1, no sites	TSP	( <u>)</u> so <sup>2</sup> *		Wind	spd/dir
	Period of monitoring/		:0	<u>/ / </u>		
	month	day year	month		ear	
	Other data recorded	<u>.</u>			<del></del>	
	Attach all data or statistical summaries t	to this application	•			
	2. Instrumentation, Field and Laboratory					
	a) Was instrumentation EPA reference	ed or its equivale	nt?'	Yes	No	•
	b) Was instrumentation calibrated in	accordance with	Departmen	t procedures	s?	Yes No Unknown
٤.	Meteorological Data-Used for Air Quality N	Modeling				
	1. 1 Year(s) of data from 1 / month	1 / 64. t	o 12 month	/ 31 / 6 day ye	54 ear	
	2. Surface data obtained from (location) _	NA				
	3. Upper air (mixing height) data obtained	from (location) _	N.	1		
	4. Stability wind rese (STAR) data obtains	ed from (location)	Daytor	a (WBAN	1.2834)	
C.	Computer Models Used:					
	1Industrial Source Complex	k Long Term			M	odified? If yes, attach description.
	2				м	odified? If yes, attach description.
	3					·
	4.					odified? If yes, attach description.
	Attach copies of all final model runs showi	_				
D.	Applicants Maximum Allowable Emission [	•	spior local	O113, 8110 p11	mcipie out	
U.	,,	Jaca		Emissi	on Rate	
	Pollutant					grams/sec
	XXX NO	_				
	89X	<del></del>				grams/sec
Ε.	Emission Data Used in Modeling See	Permit Appl:	ication	and ATTA	ACHMENT	F .
	Attachilist of emission sources: Emission of UTM coordinates, stack data, allowable em				n on point	: source (on NEDS point number),
F.	Attach all other information supportive to	the PSD review.	See	ATTACHME	ENT F	
*\$06	ecify bubbler (B) or continuous (C).			mi imonin		•
G.	Discuss the social and economic impact of duction, taxes, energy, etc.). Include assessi					echnologies (i.e., jobs, payroll, pro-
	The installation of this ur	nit will imp	rove the	reliabi	ility of	the community
	electrical system without	-			-	•
	impacts.		·		- <b>,</b> <del></del>	
	impacto.					

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ACC4-54553



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

# DER

# APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

JUN 2.8 1982

SOURCE TYPE:	tv Utilitv/Gas Diesel	New <sup>1</sup> [] Existing <sup>1</sup> RAONA
APPLICATION TYPE:	[X] Construction [ ] Operation [ ]	Modification DAV!
COMPANY NAME: _U	tilities Commission, City of	New Smyrna Beach COUNTY: Volusia
Identify the specific er	nission point source(s) addressed in this a Swoope Unit 4 Gas Diesel	oplication (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit
SOURCE LOCATION:	Street 2495 N. Dixie Highwa	City New Smyrna Beach
	UTM: East505.8	North3214.8
	Latitude <u>29</u> o <u>03</u> ' <u>47</u> "	N Longitude <u>80 ° 56 ′ 25 ′</u> W
APPLICANT NAME A	ND TITLE: Utilities Commission	on, City of New Smyrna Beach
APPLICANT ADDRES	S: PO Box 519, New Sm	yrna Beach, FL 32069
,		
	SECTION I: STATEMENTS	BY APPLICANT AND ENGINEER
A. APPLICANT		Utilities Commission City of New Smynna Boach
I am the undersig	ned owner or authorized representative * o	Utilities Commission, City of New Smyrna Beach
permit are true, pollution control Florida Statutes,	correct and complete to the best of my source and pollution control facilities in and all the rules and regulations of the department, will be non-transferable and by the control of the	Construction Permit Application knowledge and belief. Further, I agree to maintain and operate the n such a manner as to comply with the provision of Chapter 403, department and revisions thereof. I also understand that a permit, if will promptly notify the department upon sale of legal transfer of the Signed:  P. A. Korelich, Chief Engineeer  Name and Title (Please Type)  Date: 6/24/82  Telephone No. 904-427-1361
B. PROFESSIONAL	. ENGINEER REGISTERED IN FLORIDA	A (where required by Chapter 471, F.S.)
be in conformity permit apolication erly maintained a rules and regulation	with modern engineering principles appli n. There is reasonable assurance, in my principle and operated, will discharge an effluent that ons of the department. It is also agreed the	on control project have been designed/examined by me and found to cable to the treatment and disposal of pollutants characterized in the rofessional judgment, that the pollution control facilities, when proport complies with all applicable statutes of the State of Florida and the at the undersigned will furnish, if authorized by the owner, the application of the pollution control facilities and, if applicable, pollution
		David A. Buff, P.E.
	·	Name (Please Type)
(Affix Seal)		Environmental Science and Engineering, Inc.
		Company Name (Please Type) PO Box ESE, Gainesville, Florida 32602
Florida Registratio	on No	Mailing Address (Please Type)  Date: 6/22/82 Telephone No. (904) 372-3318

<sup>&</sup>lt;sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

# SECTION II: GENERAL PROJECT INFORMATION

A CONTRACTOR OF THE CONTRACTOR

Installation and operation of diesel generating unit. Unit w	ill be natural gas
fired with 6 percent heat input from No. 2 oil as pilot fuel.	Unit is rated
at 3168 BHP with generating capacity of 2275 kw.	
Schedule of project covered in this application (Construction Permit Application Only)	
Start of Construction upon permit issuance Completion of Construction	December 1982
Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for project serving pollution control purposes. Information on actual costs shall be furnished permit.)  Not Applicable	with the application for ope
····	
·	
indicate any previous DER permits, orders and notices associated with the emission point, in	•
tion dates.	•
	<u> </u>
No previous DER permits have been issued for this unit	<del>-</del>
	nt to Chapter 380, Florida St
nd:Chapter 22F-2, Florida Administrative-Code?Yes <u></u> No Normal equipment operating time: hrs/day <u>2/;</u> days/wk <u>7;</u> wks/yr <u>52</u>	_ ; if power plant, hrs/yr _87
ind: Chapter 22F-2, Florida Administrative-Code?Yes _xNo  Normal equipment operating time: hrs/day2/; days/wk7; wks/yr52  f seasonal, describe:	_ ; if power plant, hrs/yr <u>87</u>
Ind: Chapter 22F-2, Florida Administrative Code?YesYes	_ ; if power plant, hrs/yr <u>87</u>
ind: Chapter 22F-2, Florida Administrative Code?YesYes	_ ; if power plant, hrs/yr _87
Indi Chapter 22F-2, Florida Administrative Code? Yes X No Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  Is this source in a non-attainment area for a particular pollutant?	_ ; if power plant, hrs/yr <u>87</u>
Ind: Chapter 22F-2, Florida Administrative Code?YesYes	_ ; if power plant, hrs/yr _87
Ind: Chapter 22F-2, Florida Administrative-Code?Yes	_ ; if power plant, hrs/yr _87
Indi Chapter 22F-2, Florida Administrative Code? Yes Y No Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?	_ ; if power plant, hrs/yr _87
Ind Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  f seasonal, describe:  f this is a new source or major modification, answer the following questions. (Yes or No)  Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.	_ ; if power plant, hrs/yr _87
Ind Chapter 22F-2, Florida Administrative Code? Yes Y No Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 f seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  Does best available control technology (BACT) apply to this source? If yes, see Section VI.	; if power plant, hrs/yr _87
f this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements	; if power plant, hrs/yr _87

See Attachment A

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considered questionable.

# SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Not Applicable

0	Description	1	Contam	inants	:	Utilization	2-1
U	escription		Туре	% Wt		Rate - lbs/hr	Relate to Flow Diagram
	•		:		:		
			į		j		
		!		<u> </u>		· · · ·	
	<u> </u>	:			İ		
	-				ĺ	<del>-</del>	

B. Process Rate, if applicable: (See S	Section V, I	item:1)
--	--------------	---------

1. Total Process Input Rate (lbs/hr):	: <u>Not Applicable</u>	
2. Product Weight (lbs/hr):	Not Applicable	

# C. Airborne Contaminants Emitted:

	Emission <sup>1</sup>		Allowed Emission <sup>2</sup>	Allowable <sup>3</sup>	Potential	Relate		
Name of Contaminant	Maximum lbs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram	
Nitrogen Oxides	55.9	245	NA	NA	55.9	245	В	
Particulate	0.28	1	NA	NA	0.28	1	B.	
Sulfur Dioxide	0.47	2	NA	NA	0.47	2	В	
Carbon Monoxide	9.8	43	NA	l NA	9.8	43	В	
Hydrocarbons	3.5	15	NA NA	NA	3.5	15	В	

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, ItS
· ·				
<del></del>				!
		í		

<sup>&</sup>lt;sup>1</sup>See-Section V, Item 2.

DER FORM 17-1.122(15) Page 3 of 10

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTÚ heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

Time (Re Secrifie)	Cons	sumption*	Maximum Heat Input	
Type (Be Specific)	avg/hr max./hr		(MMBTU/hr)	
Natural Gas (ft <sup>3</sup> )	19,300	19,300	19.85	
No. 2 Fuel Oil (gallons)	9.1	0 ]	1 27	
	ĺ			

	116/		19.300	1 19.300	<u> </u>	19.85	
No. 2 Fuel	Oil (gallo	ns)	9.1	0.7		1 27	
			-				
ercent Sulfur:	atural Gas, race/0.2 A/7.21 026 Btu/ft ninants (which n	/Pilot Fue <sup>3</sup> /19430 may cause air poercent of fuel uses generated and	l 0il lbs/gal BTU/lb pllution): sed for space heat	Typical Percen  NA/140  None  ing. Annual Avecase.	Neg/Neg t Nitrogen: Neg ) 0 90 erage NA	Maximum	BTU/g NA
S YS:	tem or sani	itarv land	fill teristics (Provide o		in either s	anitary sek	162
	:		•		r:22_	inches	х
					erature:700_		
					145		
Type of Waste	Type O (Plastics)	SECTN			Type IV (Pathological)	∷ Type ∨ (Liq & Gas	Type VI (Solid
	1	1		. (=3.543-7	· · · · · · · · · · · · · · · · · · ·	By-prod.)	By-prod.)
		i			ı	<u> </u>  -	
-bs/hr ncinerated	<u> </u>				!		: !

Model No. \_

Date Constructed \_

- -	Volume	Heat Release	F	uel	Temperature
	(ft)3	(BTU/hr)	Type-	BTU/hr	(OF)
Primary Chamber					
Secondary Chamber					
tack Height:	{	ft. Stack Diameter		Stack Tem	o
ias Flow Rate:		ACFM	<u>.                                    </u>	. DSCFM* Velocity	
If 50 or more: tons per cessair.	day design capac	ity, submit the emissions ra	ate in grains.pe	er standard: cubic. foot	dry gas corrected to f
	devices [1 0u	volone [ ] Wet Scrubber	[ ] Afrachus	nos [] Other lenes	ii6a)
	•				
rief description of opera	ting characteristic	cs of control devices:			
	<del></del>	<del></del>			
			_		
	•				
	£.£1		1. 1		•
litimate disposal of any e	mluent other tha	in that emitted from the state	ck (scrubber w	rater, ash, etc.):	
	-			•	
				• <	
				• .	<u> </u>
		,		• «	·
	s	ECTION V: SUPPLEMENT	TAL REQUIR	·	·
	S	ECTION V: SUPPLEMENT	TAL REQUIR	·	·
lease provide the followi		ECTION V: SUPPLEMENT		·	·
	ng supplements w		cation,	·	

The second secon

- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.,) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
  See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

See Attachment B

- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
  Not Applicable
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
- Not Applicable

  6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
- See Attachment C

  7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic man).
- See Attachment D

  8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

See Attachment E

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

The second of th

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

# SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

	Contaminant			Rate or Concentration	
		· ·		<del></del>	
			·		
Has EPA declared ti		chnology for this	s class of sources (If	yes, attach copy) [ ] Yes [X] N	io
	Contaminant:			Rate or Concentration	
		·		·	
				<u> </u>	
What emission levels	s do you propose as best av	ailable control t	echnology?	See Section IIIC	
	Contaminant	·		Rate or Concentration	
	_				
Describe the existin	g control and treatment ter	chnology (if any	).     See Part F	:	
1. Control Device	/System:		See rait i		
2. Operating Princ	ciples:				
3. Efficiency: *		4.	Capital Costs:		
5. Useful Life:		6.	Operating Costs:		
7. Energy:		. 8.	Maintenance Cost:		
9. Emissions:					
	Contaminant			Rate or Concentration	

<sup>\*</sup>Explain method of determining D 3 above.

	ā.	Height:	ft.	b.	Diameter:
	C.	Flow Rate:	ACFM	ď.	Temperature:
	e.	Velocity:	FPS		
Ε.	Describ	e the control and treatmen	it technology available (As r	nany	types as applicable, use additional pages if necessary).
	1.		See Part F		•
	a.	Control Device:			
	b.	Operating Principles:			
	c.	Efficiency*:		d.	Capital Cost:
	e.	Useful Life:		f.	Operating Cost:
	g.	Energy *:		h.	Maintenance Cost:
	i,	Availability of constructi	on materials and process ch	emic	ais:
	j.	Applicability to manufac	turing processes:		
	k.	Ability to construct with	control device, install in av	ailab	le space, and operate within proposed levels:
	2.				
	a.	Control Device:			
	b.	Operating Principles:			•
	c.	Efficiency*:		d.	Capital Cost:
	e.	Useful Life:		f.	Operating Cost:
	g.	Energy **:		h.	Maintenance-Costs:
	i.	Availability of construction	on materials and process ch	emic	ais:
	j.	Applicability to manufact	turing processes:		
	k.	Ability to construct with	control device, install in av-	ailab	ie space, and operate within proposed levels:
•E×	plain me	ethod of determining efficie	ency.		
**En	ergy to b	be reported in units of elect	trical power – KWH design	rate.	•
	3.				
	a.	Control Device:			
	b.	Operating Principles:	•		
	c.	Efficiency*:		d.	Capital Cost:
	9.	Life:		f.	Operating Cost:
	g.	Energy:		h.	Maintenance Cost:

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<sup>\*</sup>Explain method of determining efficiency above.

. *	i. ,	Availability of construction materials	and process chemic	ais:
	j.	Applicability to manufacturing process	ses:	
••	k.	Ability to construct with control device	e, install in availab	le space and operate within proposed levels:
4.				
	a.	Control Device		
	b.	Operating Principles:		
	c.	Efficiency*:	d.	Capital Cost:
	e.	Life:	f.	Operating Cost:
	g.	Energy:	h.	Maintenance Cost:
	i.	Availability of construction materials a	and: process: chemic	als:
	j.	Applicability to manufacturing process	ses:	
	k.	Ability to construct with control device	æ, install in availab	le-space; and operate within proposed levels:
F. De:	scribe	e-the control technology selected:	See Item 10	
1.	. Car	ntrol Device:		·
2.	. Effi	iciency*:	3.	Capital Cost:
4.	Life	<b>:</b>	5.	Operating.Cost:
· 6.	Ene	ergy:	7.	Maintenance Cost:
8.	Mar	nufacturer:	•	
9.	Oth	er locations where employed on similar	processes:	
	a.			
		(1) Company:		
		(2) Mailing Address:		
		(3) City:	(4)	State:
		(5) Environmental Manager:		
		(6) Telephone No.:		
*Explair	n met	thod of determining efficiency above:	•	
		(7) Emissions*:		
		Contaminant		Rate or Concentration
				<del></del>
_				
_				
		(8) Process Rate*:		•
	ъ.			
		(1) Company:		
		(2) Mailing Address:		
		(3) City:	(4)	State:

The state of the s

DER FORM 17-1,122(15) Page 8 of 10

(6) Telephone No.:	
(7) Emissions*:	
Contaminant	Rate or Concentration
· · · · · · · · · · · · · · · · · · ·	
	•
(G) Panana Stan *:	

(8) Process Rate\*

# 10. Reason for selection and description of systems:

(5) Environmental Manager:

The BACT proposed for NOx is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower NOx emissions could be achieved by retarding the pilot fuel injection, but at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard optimum fuel efficiency is considered the best available control technology.

\*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

# SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A.	Company Monitored Data NOT Applicable
	1 no sites TSP ( ) SO <sup>2.*</sup> Wind spd/dir
•	Period of monitoring / / to / / month day year month day year
	Month day year month day year  Other data recorded
	Attach all data or statistical summaries to this application:
	2. Instrumentation, Field and Laboratory
	a) Was instrumentation EPA referenced or its equivalent?YesNo
	b) Was instrumentation calibrated in accordance with Department procedures? Yes No Unknown
8.	Meteorological Data Used for Air Quality Modeling
	1. Year(s) of data from 1 / 1 / 64 to 12 / 31 / 64 month day year month day year
	2. Surface data obtained from (location)NA
	3. Upper air (mixing height) data obtained from (location)NA-
	4. Stability wind rose (STAR) data obtained from (location) Daytona (WBAN 12834)
C.	Computer Models Used
•	1 Modified? If yes, attach description.
	2 Modified? If yes, attach description:
	3 Modified? If yes, attach description.
	4 Modified? If yes, attach description.
	Attach copies of all final model runs showing input data, receptor locations, and principle output tables.
D.	Applicants Maximum Allowable Emission Data
U.	VVVVVV NO.
	•
	SO <sup>2</sup> : grams/sec
E.	Emission Data Used in Modeling see permit application and Attachment F
	Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data; allowable emissions, and normal operating time.
۴.	Attach all other information supportive to the PSD review.  See Attachment F
*S06	ecify bubbler (B) or continuous (C).
G.	Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

The installation of this unit will improve the reliability of the community electrical system without significant social, economic, or environmental impacts.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

# ATTACHMENT A

(Reference to Permit Section II)

- Volusia County is not a non-attainment area for any pollutant.
- 2&3. The existing plant is not a major source for any pollutant so PSD review does not apply to any pollutant that does not increase 250 TPY with this modification. PSD Section (Attachment F) Table F-1, shows that the proposed expansion is a major source for nitrogen dioxide, thus both BACT and PSD review apply for this pollutant.
- 4. On July 23, 1979, NSPS were proposed for internal combustion engines; these standards were to become effective for engines which commenced construction after January 23, 1982, and would be applicable to dual fuel engines with displacements greater than 560 cubic inches per cylinder. The two proposed units each have a displacement of 1037 cubic inches per cylinder and would be required to meet the standard. However, these standards have not yet been adopted by law.
- 5. NESHAPS regulations do not apply to this type of source.

# **Colt Industries**



Fairbanks Morse Engine Division 701 Lawton Avenue Beloit, Wisconsin 53511

608/364-4411

(206608)1

June 11, 1982

Environmental Science & Engr, Inc. P. O. Box #ESE Gainesville, Florida 32502

Attention:

Mr. Michael H. Dybevick

Subject:

Two (2) 12 Cy1 - 38TDD 8-1/8 OP Engines

Relocated Gensets
Exhaust Emissions Data

Dear Mr. Dybevick:

At the request of our customer, Mr. Ed Berrier - Plant Supt. at the New Smyrna Beach Generating Facility, we have been instructed to advise you directly as to the exhaust emissions relative to the two (2) units planned for this installation. The data is as follows:

Unit No. 1 - 12 Cyl 38TDD 8-1/8 OP - Turbo Blower Series Rated 2880 BHP @ 720 RPM - S/N 970348

<u>Mode</u>	<u>Diesel</u>	<u>Dual Fuel</u>
NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	10.0 1.2 .3 .16 1.0	9.0 1.4 .4 .4 0.3% S1 .2.

<u>Unit No. 2</u> - 12 Cy1 - 38TDD 8-1/8 OP - Turbo Blower Series Rated 3168 BHP @ 720 RPM - S/N 873068

Susope #4

	<u>`-</u>			
	<u>Mode</u>	<u>Diesel</u>	<u>Dual Fuel</u>	
*	NO <sub>X</sub> - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO <sub>2</sub> - GM/BHP-HR Smoke - Bosch Units	9.0 1.2 .3 .18 1.0	8.0 1.4 1.2 based on .04 0.3% S1 .2	this is totalHC by mistake Non-methane is ~0.5  (conversation with EL-Betker

6/18/82

Environmental Science & Engr, Inc. Gainesville, Florida 32602 June 11, 1982 Page 2

All Emission Values are for typical injection timings at each rating. These valves (\*) are calculated from smoke emissions and for .3% sulfur fuel.

Should any additional information be required with respect to the foregoing, please feel free to contact the writer at your convenience.

Very truly yours,

COLT INDUSTRIES OPERATING CORP FAIRBANKS MORSE ENGINE DIVISION

E. L. Betker

Contract Administrator

# ELB:flb

cc: Al Belvedere - Beloit

Ed Berrier - New Smyrna Beach, Fla.

H. Dahlman - Beloit

H. Keinschrodt - Daytona Beach, Fla.

W. Marx - Houston Sales



# SGS Control Services Inc.

Redwood Petroleum and Petrochemical division

June 7, 1982

TO WHOM IT MAY CONCERN

Corrected Certificate

# ENGINEERING

JUN 24 1982

UTILITIES COMMISSION NEW SMYRNA BEACH, FL

825 Wynkoop Road PO Box 5351 Tampa, Florida 33675 Tel. (813) 247-3984 TWX (810) 876-2927

to accompany Certificate No

# Analysis Certificate

el Shore Tank No. 18

Receiver \* Belcher Oil Company, Port Canaveral, Florida

Jargo No.2 Fuel Oil File No. 3743

Sample Marked Shore Tank No. 18 (Top, Middle and Bottom) (6-4-82)

Lab Reference No LP-2070-82
Sample Description No. 6 Fuel Oil

Submitted By SGS Control Services Inc.

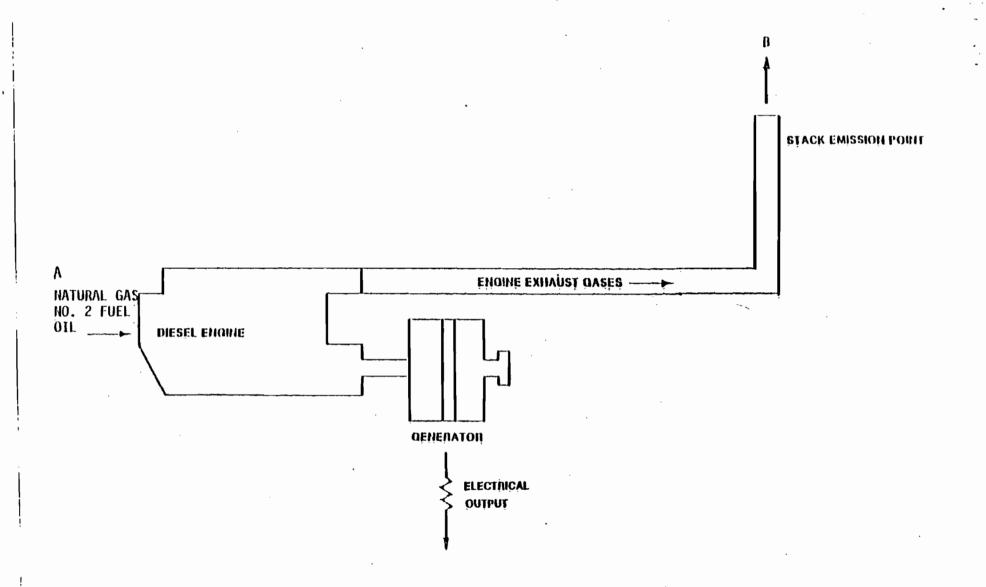
In accordance with your instructions per Mr. Dick Reed, we proceeded to \* Belcher Oil Company, Port Canaveral, Florida on June 4, 1982 for the purpose of drawing a top, middle and bottom sample from Shore Tank No. 18. A portion of this sample was submitted to our Tampa laboratory for analytical findings. We now report to you as follows:

·		
TEST	METHOD	RESULT
GRAVITY, A.P.I. @ 60°F	ASTM D-287	36.8
FLASH, °F (PMCC)	ASTM D-93	150
SEDIMENT & WATER, VOL.%	ASTM D-96	Trace
S.U.S. VISCOSITY, @ 100°F	ASTM D-445	33.5·
POUR POINT, °F	ASTM D-97	Below 0°F
SULFUR, WT. %	ASTM D-1552	0.12
RAMSBOTTOM CARBON RES., WT. % (10% BOTTOM)	•	0.14
CETANE INDEX	ASTM D-976	45.4
DISTILLATION, °F	ASTM D-86 I.B.P.	356
	5%	388
•	10%	404
	20%	422
	90%	570
•	END POINT	634
	% RECOVERY	98.5
;	% LOSS	1.5
TRACE METALS	A.A. CALICUM, ppm	
	LEAD, ppm	0.3
	POTASSIUM, ppm	0.1
	SODIUM, ppm	0.1
	VANADIUM, ppm	0.2
	VARVADION, DDM	V • &
		/

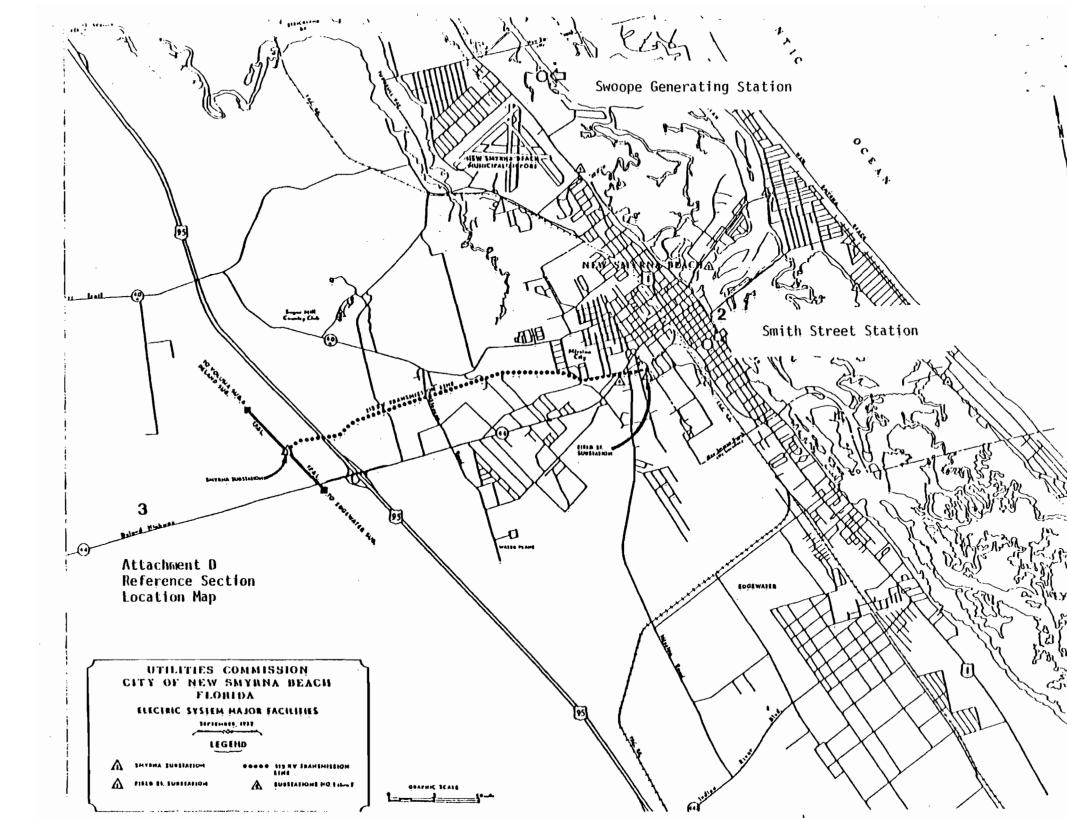
RSS/sl

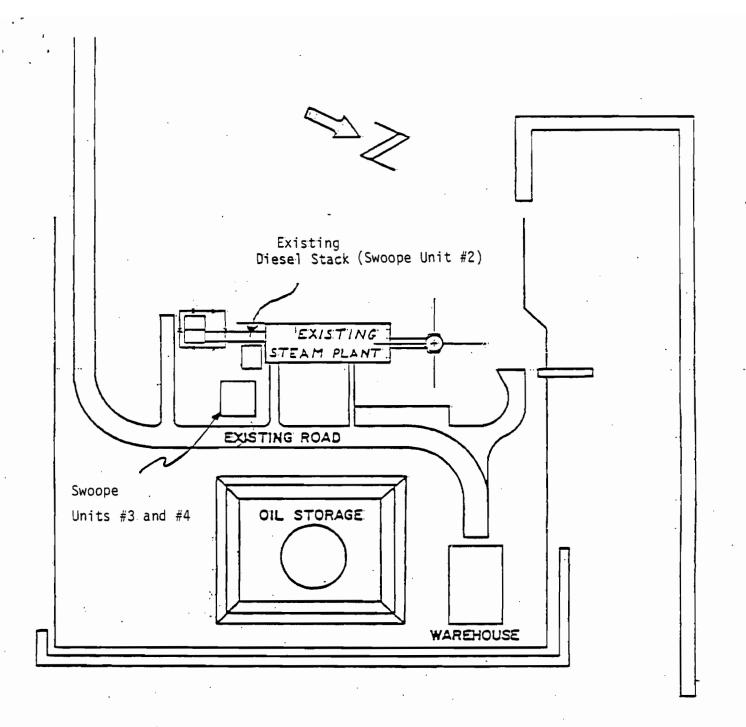
Operations Department

SERVICES INC.



Attachment C: Reference Section V 6 FLOW DIAGRAM





# Attachment E Reference Section V 7 Utility Plot Plan NY WATERWAY UTILITIES COMMISSION CITY OF NEW SMYRNA BEACH, FL. Swoope Generating Station— Plot Plan DWN. R\_W | SCALE Snown | REV. O CXD. | DATE 3-3-61 | SAA-109 APP.

# ATTACHMENT F PSD ANALYSIS

The Swoope Generating Station currently consists of a 116 X 10<sup>6</sup> Btu/hr steam generator (Swoope #1) and a 910 KW gas diesel generator (Swoope #2), which is limited by permit condition to a 70 percent capacity factor. Neither of these sources are in a category listed in 40 CFR 52.21 or FAC 17-2, and Table F-I shows that current emission levels of all pollutants are below 250 TPY. The current configuration is therefore not a major source.

The proposed modification is an addition of two more gas diesel units, and an increase to 100 percent capacity factor for Swoope #2. Table F-1 shows that the change would be a major source for NOx only, and requires PSD review for this pollutant. The source description and control technology review components of the PSD review are contained in the accompanying construction permit application. This attachment describes the air quality impact analysis and its results.

Both state and federal regulations contain only annual average standards for NOx, so modeling was performed with the EPA approved ISC long term model. One year (1964) of surface observations from Daytona International Airport were summarized in STAR format and input to the model. The stack parameters are shown in Table F-2. A rectangular grid with 100 meter spacing was used, and all sources were assumed to emit at maximum allowable rates 24 hours a day, every day of the year. The attached computer output contains the results of two model runs. The first run modeled the impacts of the entire plant, the second run modeled the impacts of the two new units (Swoope #3 and #4) and the increased emissions due to the increased capacity factor for Swoope #2.

Both state and federal regulations require pre-construction monitoring unless the impacts of the modification are below certain <u>de minimis</u> levels. For NOx, the <u>de minimis</u> level is  $14 \text{ ug/m}^3$ , annual average. The maximum impact of the proposed modification is  $11 \text{ ug/m}^3$ , and therefore the project may be exempted from the PSD pre-construction monitoring requirement.

The state and federal air quality standard for NOx is 100 ug/m<sup>3</sup>. The highest predicted annual average impact due to the Swoope Generating Station is 16 ug/m<sup>3</sup>. The only other major point source of NOx within 40 km is the New Smyrna Beach Smith Street station (see Attachment D). Since the Smith Street station also consists of gas diesels, and the maximum impacts of the Swoope Generating Station were small relative to the standard and occurred within 800 meters of the plant, no other sources were modeled for interaction. The nearest NOx monitoring data available are from a gas bubbler station located 1.5 miles north of the FPL Sanford power plant, about 25 miles southwest of the Swoope Station, (site code 10-4600-001-J-02). In 1980, the annual average NOx concentration at this site was 22.5 ug/m<sup>3</sup>. Even if this value was used directly as a background concentration, the projected impacts of the Swoope Generating Station are low enough to provide reasonable assurance that air quality standards will not be exceeded.

Table F-1. Annual Emissions From Swoope Generating Station

	Particulate Matter	Sulfur Dioxide	Carbon Monoxide	Nitrogen Oxides	Hydrocarbons
Current					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel) <sup>†</sup> Total	<u>0.1</u> 27	$\frac{0.3}{1}$	12 17	$\frac{94}{234}$	37 45
<u>Projected</u>					
Swoope #1 (steam)*	27	1	5	140	8
Swoope #2 (diesel) (at 100% capacity h		0.4	17	134	53
Swoope #3 (diesel)	+ 1	2	39	250	11
Swoope #4 (diesel)- Total	1 29		4 <u>3</u> 104	<u>245</u> 769	1 <u>5</u> 87
Net Increase	2	4	87	535	42

<sup>\*</sup>based on Swoope #2 permit application (AC64-43484) and revisions in June 26, 1981, letter to C. M. Collins FDER ST. Johns River District from K. F. Kosky, ESE, Inc.

Note: Swoope #2 hydrocarbons reported as total HC, Swoope #3 and #4 reported as non-methane.

<sup>+</sup>based on manufacturers letter, Attachment B.

Table F-2. Modeling Parameters - Swoope Generating Station

Source	NOx Emission Rate (g/s)	Stack Height (m)	Gas Temperature (k)	Exist Velocity (m/s)	Diameter (m)
Swoope #1	4.04	38.1	644	9.5	1.38
Swoope #2	3.84	6.1	589	43.9	0.36
Swoope #3	7.2	6.1	644	41.2	0.56
Swoope #4	7.0	6.1	644	44.2	0.56

```
*** ISCIT ******** ISCIT -- ANNUAL NOX
                                                        ALL SOURCES
                                                                       (041)
                                                                                                            AACA DAGE
                                                              and new only
                                      - ISCUT INPUT DATA -
        NUMBER OF SOURCES =
        MUNLER OF & AXIS GRID SYSTEM POINTS =
                                                21
        NUMBER OF Y AXIS GRID SYSTEM FOINTS =
                                                21
        NUMBER OF SPECIAL POINTS =
        NUMBER OF SEASONS = 1
        NUMBER OF WIND SPEED CLASSES =
        NUMBER OF STABILITY CLASSES = 5
        NUMBER OF WIND DIRECTION CLASSES = 16
        FILE NUMBER OF DATA FILE USED FOR REPORTS = 1
        THE PROGRAM IS RUN IN RURAL MODE
        CONCENTRATION (DEPOSITION) UNITS CONVERSION FACTOR =0.10000000E+07
        ACCELERATION OF GRAVITY (METERS/SEC **2) = 9.800
        HEIGHT OF MEASUREMENT OF WIND SPEED (MEIERS) = 7.000
        ENTRAINMENT CARAMETER FOR UNSTABLE CONDITIONS = 0.600
        ENTRAINMENT PARAMETER FOR STABLE CONDITIONS = 0.600
        CURALCTION ANGLE FOR GRID SYSTEM VERSUS DIRECTION DATA NORTH (DEGREES) = 0.000
        DECAY COEFFICIENT =0.00000000E+00
        FROGRAM OPTION SWITCHES = 1. 1. 1. 0. 0. 3. 2. 2. 3. 0. 0. 0. 0. 0.-1.-1. 0. 0. 1. 1. C.
        ALL SOURCES ARE USED TO FORM SOURCE COMBINATION 1
       1:1STANCE X AXIS GRID SYSTEM POINTS (METERS )= -1000.00.
                                                                                            -700.00.
                                                                                                       -600.00.
                                                                    -900.00.
                                                                                -800.00.
            -460.00.
                        -300.00.
                                    -200.00.
                                                -100.00.
                                                                         100.00.
                                                                                     200.00.
                                                                                                300.00.
                                                                                                            400.00.
                                                               0.00.
                                                                                                                        500.00.
                                                            1000.00.
             600.00.
                         700.00.
                                     800.00.
                                                 900.00.
                                                                    -900.00.
                                                                              -800+00+
                                                                                          -700.00.
                                                                                                                   -500.00
       LISTANCE Y AXIS GRID SYSTEM POINTS (METERS )= -1000.00.
                                                                                                       -600.00.
            -400.00.
                        -360.00.
                                    -200.00.
                                                -100.00.
                                                               0.00.
                                                                         100.00.
                                                                                     200.00.
                                                                                                300.00.
                                                                                                            400.00.
                                                                                                                        500.00.
             600.00.
                         700.00.
                                     800.00.
                                                 900.00.
                                                            1000.00.
                             - AMBIENT AIR TEMPERATURE (DEGREES KELVIN) -
                  STABILITY STABILITY STABILITY STABILITY STABILITY
                  CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 CATEGORY 6
        SEASON 1
                   300.0000 300.0000 300.0000 295.0000 289.0000
                                    - MIXING LAYER HLIGHT (METERS) -
```

SEASON 1

WIND SPEED W



# Best Available Copy

\*\*\* ISCLT \*\*\*\*\*\* ISCLT -- ANNUAL NOX

ALL SOURCES (D41)

- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCURRENCE OF WIND SPEED. DIRECTION AND STABILITY -

# SEASON 1

# STABILITY CATEGORY 1

,	VINU SPEED	MIND SPEED	MIND SPEED	VIND SCEED	VIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	2.5000MPS)	( 4.3000MPS)	( 6.80,00MPS)	( 9.5000MPS)	(12.5000MPS)
(DLGRELS)					•	
$0 \cdot 0 \cdot 0 \cdot 0$	6,00004700	0.00011400	0,00000000	0.00000000	0.00000000	0.00000000
22.500	0.00700000	0.000000000	0.00000000	0.00000000	0.00000000	0.00000000
45.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.000000000
u7.500	0.000000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
90.000	0.06016100	0.000000000	6.00000000	0.00000000	0.00000000	0.00000000
112.590	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
135.006	9 • 9 U E 0 0 0 9 P	0.000000000	0.00000000	0.00000000	0.000000000	0.000000000
157.500	0.00.00000	0.00000000	$C \bullet 000000000$	0.00000000	0.00000000	0.00000000
180.000	0.00020800	0.00011400	0.00000000	0.00000000	0.00000000	0.0000000
202.500	0.00014100	0.00034200	0.000000000	0.00000000	0.00000000	0.00000000
225.000	0.00000000	0.00000000	0.000000000	0.00000000	0.00000000	0.00000000
247.500	0.00023409	0.00056900	0.00000000	0.00000000	0.00000000	0.00000000
270.000	u.00v14100	0.00031200	0.00000000	0.00000000	0.00000000	0.00000000
292.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
315.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
337.590	0.00000000	0.000000000	0.000000000	0.000000000	0.00000000	0.00000000

# SEASON 1

# STABILITY CATEGORY 2

	LINU SPEED	WIND SPEED	WIND SPEED	WIND SPEED	VIND SPEED	WIND SPEED
DIRECTION	CATEGORY 1 ( 0.7500MPS)	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	(12.5000MPS)
(DEGREES)					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	110000000000
0.000	0.00110700	0.00113800	0.00102500	0.00000000	0.000000000	0.00000000
22.500	0.00025700	0.00034290	0.00045500	0.00000000	0.00000000	0.000000000
45.053	0.00014300	0.00045500	0.00102500	(.000000000	0.00000000	0.00000000
67.500	0.00032900	0.00156900	0.00250500	0.00,00000	0.00000000	0.000000000
90.000	0.00087360	0.60182100	0.00318800	0.00000000	0.00000000	0.00000000
112.500	0.60066400	0.00068300	0.00091160	0.00000000	0.0000000	0.00000000
135.000	0.000007200	6.00655800	0.00045500	0.000000000	0.000000000	0.00000000
157.500	6.06(51590	9.000683.0	0.00022800	0.50(00000	0.000000000	0.00000000
180.000	0.00192200	6.00102500	5.00045590	0.00000000	0.00000000	• (60)5010
212.500	0.06003616	0.30611436	0.00068560	0.000000000	0.000000000	0.00000000
225.000	0.00066400	0.00068310	0.00102500	0.000000000	0.00000000	0.000000000
247.500	5.00103600	0.66691120	6.00136660	0.00000000	0.00000000	0.00000000
276.600	J.OUL62200	0.00102500	0.00113850	0.00000000	0.20000000	0.00000000
292.500	0.00343700	6.600911.0	( . 60 . 342 00	.00000000	9.000000000	0.00000000
315.000	0.60122100	0.001005 0	0.000455 #	1.00000000	0.00000	0.000000000
3.57.500	1.60.43746	0.00001100	1.0 0742 0	000000000	9.900000000	r_roomaann



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\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX

ALL SOURCES (041)

- ISCLT INPUT DATA (CONT.) -

- FREWUENCY OF OCCURRENCE OF WIND SPECD, DIRECTION AND STABILITY -

# SEASON 1

# STABILITY CATEGORY 3

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	NIND SPEED	MIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.300DMPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MES)
(DLGREES)					•	
0.000	0.00067800	0.00170800	0.00339100	0.00148000	0.00045500	0.00000000
22.500	0.00013200	0.00056900	0.00421199	0.00227700	0.00011400	0.00000000
45.000	0.00027300	0.00956900	0.00455400	0.00227700	0.00011400	(.90000000
67.500	e.00a <b>07</b> 900	0.00034200	0.00762799	0.00466799	0.90034200	0.00000000
90.000	0.00029100	0.00125200	ŭ • 01229499	0.00853799	0.00000000	0.00000000
112.500	0.00015900	0.00068300	0.00557799	0.00318800	0.00034200	0.00000000
135.000	0.00032600	0.00079780	0.00182100	0.00034200	0.00000000	0.00000000
157.500	0.00010600	0.00045500	0.00193500	0.00034200	0.00000000	0.00000000
180.000	0.00053700	0.00170800	0.00318800	0.00045500	0.00000000	0.00000000
202.500	0.00015900	0.00068300	0.00296000	0.00056900	0.00022800	0.00000000
225.000	U.00U59U00	0.00193500	0.00421199	0.00102500	0.00000000	0.00000000
247.500	0.00055600	0.00239100	0.00432600	0.00011400	0.00000000	0.00000000
270.660	0.00123100	0.00227700	0.00261800	0.00136600	0.00000000	0.00000000
292.500	V.00690500	0.00148000	0.00204900	0.00011400	0.00011400	0.00000000
315.000	U.OUU37000	0.00159490	0.00125200	0.00022000	0.00000000	0.00000000
337.500	0.00021200	0.00091100	0.00227700	0.00022800	0.00000000	0.000000000

# SEASON 1

# STABILITY CATEGORY 4

	WIND SPEED CATEGORY 1	WIND SPEED CATEGORY 2	WIND SPEED CATEGORY 3	WIND SPEED CATEGORY 4	WIND SPEED CATEGORY 5	WIND SPEED CATEGORY 6
DIRECTION	· · · · · · · · · · · · · · · · · · ·	· · · · · ·		( 6.8000MPS)		(12.5000MPS)
(DEGREES)						
0.000	0.00122200	0.00387100	0.01411698	0.03403896	0.01206699	0.00113890
22.500	e.0un40300	0.00125200	(.00751399	6.01445798	0.00170800	0.00922899
45.360	0.00023500	0.06091109	0.00648899	0.01092899	0.00113800	0.00022800
67.500	0.03047000	0.00182100	0.01001799	5.01718998	0.00125200	0.00011400
90.006	0.00055100	0.00259500	0.02014998	0.02834697	0.00159400	0.00022800
112.566	0.00035600	0.001935-0	0.01343349	0.02128898	0.00216300	0.00011400
135.000	0.00053700	6.00239100	0.01126999	0.01092899	0.00227700	0.00000000
157.500	6.60034300	C.6C182100	•00922699	C.00637490	0.00125200	0.00022860
159.000	6.60.76630	6.604326 0	0.1.1434398	0.01354699	0.00256000	0.00070700
202.000	6.00055730	0.00148 60	0.00853792	(.01104299	0.00296000	0.00079710
225.666	6.66.84600	6.00284600	0.00546359	(.00751399	9.00250500	0.00056900
247.500	0.00181306	0.00364300	0.00455489	0.09899399	0.00102500	0.00045500
270.000	•00 a 551 6 0	0.00056560	0.00523699	6.01115699	0.00626 99	0.00239100
292.501	0.60.57000	0.69204500	1.00484466	.00375730.		0.00068310
315.000	0.26112700	0.01727400	6.694390	1.09671699	0.00066700	0.00634270
351.563		Cartifolis	1 1922 9	1.06646800	1.00117800	n.cce68315



### SEASON 1

### STABILITY CATEGORY 5

# Best Available Copy

	WIND STEED	WIND SPIED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIFECTION	( 0.7500MPS)	2.5000MFS1	( 4.3600MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MI'S)
(DEGREES)	•			•		,
0.000	0.00694999	0.00842399	0.00591999	0.00000000	0.00000000	0.00000000
22.500	0.00428799	0.06523699	0.00432600	0.00000000	0.00000000	0.00000000
45.000	0.00372700	0.00546399	0.00182100	0.00000000	0.00000000	0.00000000
61.536	0.60357460	0.00478099	0.00432600	0.000000000	0.00000000	0.00000000
90.606	0.00888199	0.01183999	0.01001799	0.000000000	0.00000000	0.00000000
112.500	0.00430499	0.00705799	0.00705799	0.00000000	0.00000000	0.00000000
135.000	0.01047199	0.01559698	0.00375700	0.00000000	0.00000000	0.00000000
157.500	0.00815999	0.01172599	0.00364300	0.00000000	0.00000000	0.00000000
100.000	0.01391298	0.02402097	0.00660299	0.00000000	0.00000000	0.000000000
202.500	0.00745999	0.01058699	0.00296000	0.000000000	0.00000000	0.00000000
225.000	0.00954299	0.01218099	0.00296000	0.00000000	0.00000000	0.00000000
247.500	6.01129099	0.01377498	0.00318800	0.00000000	0.00000000	0.00000000
270.600	0.01047599	0.01024579	0.00352900	0.000000000	0.00000000	0.00000000
292.500	0.00750399	0.00053799	0.00148000	0.00000000	0.00000000	0.00000000
315.000	0.01033499	0.01422998	0.00557799	0.00000000	0.00000000	0.00000000
337.506	v.Cu776299	0.00944899	0.00535099	0.00000000	0.000000000	0.00000000

# - VERTICAL POTENTIAL TEMPERATURE GRADIENT (DEGREES KELVIN/METER) -

```
VIND SPEED WIND SPEED
```

### - WIND PROFILE POWER LAW EXPONENTS -

WIND SPEED WIND SPEED



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**** ISCLI ********** ISCLI -- ANNUAL NOX
                                                       ALL SOURCES
                                                                      (D41)
                                               - SOURCE INPUT DATA -
C 1 SOURCE SOURCE
                    х
                                        EMISSION BASE /
A A NUMBER BYPE COORDINATE COORDINATE HEIGHT FLEV- /
                                                                         - SOURCE DETAILS DEPENDING ON TYPE -
                    (E)
                                (4)
                                                ATION /
D E
                                                  (11) /
        1 STACK
                        6.00
                                    0.00 38.10
                                                  0.00 GAS EXIT TEMP (DEG K)= 644.00, GAS EXIT VEL. (M/SEC)= 9.50,
                                                       STACK DIAMETER (M)= 1.380. HEIGHT OF ASSO. BLDG. (M)= 1.00. WILLIAM
       Swoone#1 Steam unit
                                                       ASSO. BLDG. (M) = G.OD. WAKE EFFECTS FLAG = C
                                                             - SOURCE STRENGTHS ( GRAMS PER SEC
                                                                                                                       1 -
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                            SEASON 3
                                                                                                        SEASON 4
                                                                  4.040000 +00
WARNING - DISTANCE BETWEEN SOURCE
                                    1 AND FOINT X.Y=
                                                            0.00.
                                                                        0.00 IS LESS THAN PERMITTED
      2 STACK
                   1.06
                                    6.60 6.10
                                                  0.00 GAS EXIT TEMP (DEG K) = 589.00. GAS EXIT VEL. (M/SEC) = 43.90.
                                                       STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO. BLDG. (M)= 1.00. WILLIE OF
      Swoope #2 Existing Diesel
                                                       ASSO. BLDG. (H) = 0.00. WAKE EFFECTS FLAG = 0
                                                             - SOURCE STRENGTHS ( GRAMS PER SEC
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                            SEASON 3
                                                                                                        SEASON 4
                                                                  3.84000E+00
WARNING - DISTANCE BETWEEN SOURCE
                                      2 AND POINT X.Y=
                                                            0.00.
                                                                        0.00 IS LESS THAN PERMITTED
                                                  0.00 GAS EXIT TEMP (DEG K) = 644.00. GAS EXIT VEL. (M/SEC) = 42.70.
      STACE
                  0.00
                                    0.00 6.10
                                                       STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WILTH (1
      Swoope #3 (#4 Proposed Combined
                                                       ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0
                                                             - SOURCE STRENGTHS & GRAMS PER SEC
                                                                                                                       ) -
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                                        SEASON 4
                                                                                            SEASON 3
                                                                  1-424805+01
                                      3 AND POINT X.Y=
                                                                        0.00 IS LESS THAN PERMITTED
WARNING - DISTANCE BETWEEN SOURCE
                                                            0.00,
```



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**** 18CL1 ****	***** 1SCL	T ANNUAL NO	X	ALL SOURCES	(D41)			AAAAAAA PAGE	
									, "
** ANNUAL	GROUND LEVEL	CONCENTRATION	( MICROGRAM	S PER CUBIC M	EŢER	') FROM AL	L SOURCES CO	MBINED	* *
				RID SYSTEM RE		;			
				XIS (DISTANCE					
	-1609.006	-966.000	-800.000	-700.000	-600.000	-50 <b>0.</b> 000	- 4 û û • L û u	-300.000	-200.00C
Y AXIS (LISTANCE	• METE	RS )		- CONCEN	TRATION -	•			
1000.000	6.125322	6.127700	6.094093	6+019985	5.903982	5.759503	5.766286	7.027227	P • 41156.0
960.000	6.356190	6.562686	6.538740	6.464639	6.336689	6.156047	5.930664	6.638919	0.411560
NU 0 . UU 0	6.668039	6.840491	7.033495	6.959665	6.801756	6.533855	6.225493	6.464143	P.050186
700.000	6.885277	7.149355	7.366058	7.564187	7.251660	6.901388	6.489676	6.016775	7.490542
600.000	7.194715	7.498895	7.754884	7.816087	7.742961	7.266974	6.676906	6.082864	6.595673
500-100	7.546048	7.900994	8.133423	8.204315	8.057222	7.643398	6.811241	5.924693	5.3783(6
466.000	8.055733	8.369009	8.642580	8,730305	8.529869	7.936595	6.917276	5.617212	4.515312
3 u 0 • 0 u u	9.276226	9.495520	9.558521	9.481441	9.293653	8.57847£	7.194072	5.255514	3.547310
250.000	10.560844	10.957678	11.205563	11.196426	10.786316	9.825712	8.124658	5.543178	1.633395
100.000	11.878965	12.509329	13.024607.	13.297129	13.123604	12.206591	10.177889	6.063959	7.344545
0.000	13.175667	14.069460	14,932831	15.609529	15.906578	15.455215	13.770771	10.179537	6.265190
-100.000	11.479237	12.059605	12.524664	12.754679	12.562798	11.683037	9.802814	6.831932	4 - 04 2 8 1 0
-206.000	9.757664	10.048000	10.185202	10.073137	9.595356	8 . 657013	7.427290	5.412742	3.138496
-3 0 6 • 6 0 0	8.083979	8.146931	8.041805	7.836459	7.696771	7.169133	6.144971	4.714012	4.265816
-433.000	6.523219	6.666589	6.814183	6.816475	6,600318	6 • 095775	5.297487	5.407205	5 4670534
-500.000	5.789970	5,952070	6.020259	5.953754	5.715382	5.282607	5.591874	5.971330	6.611378
-600.000	5.209709	5.307322	5.329631	5.225793	4.991627	5.364688	5.777692	6.268412	7.558534
-768.006	4.695052	4.736332	4.715121	44609434	4.974573	5.372901	5.816212	6.325062	8.071970
-860.066	4.234854	4.235273	4.180302	4,530062	4.907113	5.299863	5.730793	6.542064	E • 24561.3 .
-980.600	3.826123	3.797574	4.095892	4.421498	4.775195	5 - 156284	5.559735	6.678347	8.187111
-1000.066	3.464766	3,718670	3.994530	4.292553	4.612313	4 . 952946	5.426483	6.658607	7.9859 1
				• •					
	•		- G	RID SYSTEM RE	CEPTORS -				
				XIS (DISTANCE		:			
	-100.000	0.000	100.000	200.000	300.000	400.000	500.000	600.000	700.000
Y AXIS (DISTANCE	• METE	RS )		- CONCEN	ITRATION -				
1 : 0 0 0 0 0	0.040400	11 751/54	D 05 4001	0.543453	7 078740	. 010775	E 740100	E . 10000	C 4 ( 4 5 1 4
1000.000	9.869898	11.351654	9.954981	8.567457	7.239342	6.018775	5,742392	5 • 614089 5 • 897486	5•464535 5•755775
900.600	9•9 <b>72</b> 689 9•866144	11,668583	10.092953	8.553875	7.136763	6 • 168166 6 • 375821	6.034616 6.270579	5.037406 6.17*037	1.(35849
₽60.600 700.660	9.4398.4	11.81°623 11.630123	10.036242 9.681034	8•363705 7•935769	6.886261	6.508605	6.455699	6.460480	1.311404
			8.90734 <b>7</b>		6.610111	6.538840	6.592488	6.618515	( • 517968
6.0.00	8.565241	10.960043		7,2279#2	6.529463 6.236110	6 • 45899B	6,697357	6.717663	€ • 7085E3
500.00	7.140026	9.615231	7.623003 5.840555	6.270267		6.315817	(+5P0545	6.845285	6.911712
4 0 0 • 5 0 0 3 0 9 • 6 0 0	5.176396 2.920495	7.472654 4.577614	3.767562	5.353290 4.160435	5.737908 5.157791	5.825749	6.482625	6.943979	7.170019
201.000	1.752586	1.858342	2.132963	3.936516	4.179140	5.506903	6.573929	7. 35001	7.204319
				2.076285		5.489461	6.603579	7.105307	7 3481 6
100.06 (.000	5.494475 2.162560	0.328506 1.000600	0.980206 0.761915	2.792976	3.765391 4.605332	6.317080	7.246098	7.024152	7.644953
-10000	1.276458	p.966945	0.761915 0.429746			4.214346	5.382066	6.060357	6.360042
-200.600	2.493481	4.143008	1.425524	1.256586 2.429105	2.576521 3.112972	3.619251	4.031170	4.12(282	5.239251
-300.000	4.745513	7.68539	5.847863	2.424105 3.685576	4.915764	4.951458	4.RR2779	4.720389	4.483761
- 4 t (* • J ()	7.764564	19.736780	6.724645	4.526572	5.552440	6.444570	6.676629	F.61rn29	1.195419
-530.000	9. 197662	12.267583	1.7.2476		6.041991	6.552313	7.91-106	6.499350	1.085405
-616-165	9.713.2	12.724 - 7	5.76 342	7.532158	6.294653	6.561132	6.977 5 5	7.143116	6.068727
								,	



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**** ISCLT *****	***** 1SCL	T ANNUAL N	IOX	ALL SOURCES	= (041)		4	***** PAGE	7 + 4 4 4
** ANNUAL	GROUND LEVEL	. CONCENTRATIO	- 6	AS PER CURIC M GRID SYSTEM RE AXIS (DISTANCE	CEPTORS -	) FROM AL	L SOURCES COM	BINED (CONT.)	**
	-100.600	9 • 0 e n	100.000	200.000	300.000	400.000	500.000	600.000	700.000
Y AXIS CUISTANCE	• FETE	(RS )		- CONCEN	TRATION -	•	•		
-700.000	10.237406	12.561598	10.150810	7.966827	6.318871	6.453076	6,639539	6.874550	6.512958
- としら. せじり	10.124470	12.066780	10.116732	8.277456	6.653737	6.250275	6.361072	6.465375	6.500518
-910.000	9.796532	11.413338	9.836887	8.301712	6.892848	5.985910	6.046538	6.089931	(.108262
-1660.000	9.359263	10.721052	9.428007	8.147799	6.925193	5.804323	5 • 6 8 9 3 3 0	5.724257	5.742361
				•					
				GRID SYSTEM RE					
		000 000		XXIS (DISTANCE	* METERZ) -				
N AND ADJOINED	600.000	909.000	1000.000	001054	to 4 * 1 * 0 41				
Y AXIS CUISTANCE	, METE	1112	•	- CONCEN	TRATION -				
1.00.000	5-351343	5.214439	5.075349	•					
960.660	5.6085.2	5.455925	5.299848						
8 ( 6 • 6 0 0	5.877198	5.704020	5.534438						
706.600	6.143172	5.961765	5.778400						
666.630	6-404109	6.229158	6.031364	•		•			
500.000	6.640710	6.506221	6.294152	•					
4 8 0 . 0 3 0	6.897082	6.788972	6.539887	•					
3.6.600	7.162132	6.893804	6.608261						
210.000	7.142980	6.943727	6.671797	•					
160.000	7.251471	7.024717	6.727612						
6.600	7.453820	7.152027	6.003570						
-106.000	6.403279	6.289764	6.090511						
-200.000	5.441939	5.474588	5.400136			•			
-364.060	4.611043	4.736916	4.743624			·			
-41:6.66	4.785154	4.395904	4.14448						
-5:0.000	5.369918	4.879007	4.419462						
-6:0.050	5.864269	5.293977	4.790988	, , ,			₹		
-700.000	6.231319	5.628532	5.102954						
-800.000	6.485319	5.881890	5.350441						
-960.660	6.098072	6.059033	5.535456						
-1 -00 -000	5.7384 5	5.711648	5.664222	•					



```
*** ISCLT ******* ISCLT -- ANNUAL NOX
                                            NEW SOURCES & 30% OF SWOOPE #2
                                                                         HS= 20 FT
                                                                                       (D31)
                                              - SOURCE INPUT DATA -
C T SGURCE SOURCE
                                       FMISSION BASE /
A A NUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV-/
                                                                      - SOURCE DETAILS PEPENDING ON TYPE -
R P
                                               ATION /
DE
                                                (M) /
       1 STACK 0.00
                               0.00 6.10
                                                 0.00 GAS EXIT TEMP (DEG K)= 589.00, GAS EXIT VEL. (M/SEC)= 43.90,
                                                      STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO, PLDG. (M)= (.00, MIPTH OF
      Sweepe #2 Exiling Diesel
                                                      ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0
           Emission rate corresponds to
                                                  - SOURCE STRENGTHS I GRAMS PER SEC
           Increase above 70% capacity factor limitation.
                                                                 SEASON 1
                                                                             SEASON 2
                                                                                         SEASON 3
                                                                                                     SEASON 4
                                                                1.15000E+00
WARNING - DISTANCE BETWEEN SOURCE
                                   1 AND POINT X+Y=
                                                          0.00.
                                                                     0.00 IS LESS THAN PERMITTED
                                   0.00 6.10
                                                 0.00 GAS EXIT TEMP (DEG K)= 694.00, GAS EXIT VEL. (M/SEC)= 42.70,
        . STACK
                  € • O O
                                                      STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WHITH OF
      Swoope #3 8#4 Combined
                                                      ASSO. BLDG. (M) = 0.00, WAKE EFFECTS FLAG = 0
                                                           - SOURCE STRENGTHS I GRAMS PER SEC
                                                                 SEASON 1
                                                                             SEÁSON 2
                                                                                         SEASON 3
                                                                                                     SEASON 1
                                                                1.42400E+01
```

0.00.

2 AND POINT X+Y=

0.00 IS LESS THAN PERMITTED

WARNING - DISTANCE BETWEEN SOURCE

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**** ISCLT ****	······ ISCL	T ANNUAL N	OX NEW SOUR	CES & 30% OF	SMOOPE #2	HS= 20 FT (D	31)	AAAAAA PAGE	6 **** w
** ANNUAL	GROUND LEVEL	. CONCENTRATIO				) FROM AL	L SOURCES COM	181NED	<b>*</b> *
				RID SYSTEM RE					
				XIS (DISTANCE					
	-1669.000	-900.000	-806.630	-700.000	-600.000	-500.000	-490.000	-300.000	-200.00C
Y AXIS (UISTANCE	, HETE	RS )		- CONCEN	TRAȚION -				
1000.000	4.522756	4.530(03	4.511012	4.458233	4.371409	4.254956	4.263452	5.188281	6.206468
530.000	4.710518	4.858240	4.843405	4.787018	4.686647	4.544641	4.369836	5.001120	(.102467
836.60C	4.914683	5.079499	5.210071	5.147761	5.016402	4.796514	4.548201	4.09167	5-817814
700.000	5.136922	5.321885	5.464080	5.538367		5.018771	4.668899	4.348303	5.300343
660.000	5.382038	5.593119	5.741446.	5.755008	5.635359	5.215117	4.713485	4.732643	4.523201
500.000	5.658475	5.903630	6.037080	6.023872	5.819725	5.394122	4.680183	3.961777	3.533211
4 6 0 . 0 0 0	6.051797	6.265864	6 - 41 90 33	6.399251	6.124184	5.521543	4.598712	3.564828	1.762926
360.066	6.950764	7.094189	7.094568	6.957702	6.661875	5.923663	4.682643	3.135205	1.962312
200.000	7.407338	8-164433	8.276503	8.153919	7 • 686349	6,776796	5.296220	3,207801	1.209849
100.000	€.086095	9.308157	9.599226	9.646774	9.284388	8.294069	6.462439	3.851166	1.837839
0.000	9.8536 31	10.469259	11.008928	11,332335	11.268307	10.526871	8.779190	5.721337	2.732776
-100.000	8.5841v8	8.971802	9.231838	9.260172	8.906273	7.978684	6.299791	3.949928	2.376006
-260.600	.7.298388	7.480745	7.520294	7.341415	6.861167	6.030926	4.925282	3.290251	1.714410
-360.000	6.05 619	6.976718	5.962884	5.757898	5.557244	5.038174	4.145288	3.009334	2.549349
-460.000	4,887339	4.913474	5.165331	5.019750	4.790734	4.332579	3.663387	3.624520	3.700043
-560.000	4.329359	4.449526	4.481150	4.399299	4.177841	3.807566	3.968241	9.176242	4.569763
-660.000	3.899849	3.967222	3.972616	3.875276	3.678033	3.921675	4.191241	4.519220	5.295178
-700.00u	3.511554	3.539032	3.516667	3,428170	3.690674	3.973131	4.287094	4.652943	5.6906°0
-860.000	3.163233	3.161773	3.117146	3.380041	3.661081	3.950712	4.268748	4.863949	6.162528
-900.000	2.852649	2.830565	3.058518	3.306043	3.573822	3.861777	4.166854	9.499716	1.1105:5
-1:00.000	2.576872	2.772741	2.984722	3.212920	3.457094	3.716992	4.076913	4 • 995479	5.98627 <b>1</b>
				RID SYSTEM RE					
				XIS IDISTANCE				404 050	70/ 06:
	-100.000	0.000	100.000	200.000	300.000	400.000	500.000	600.060	100 • 00C
Y AXIS CLISTANCE	• METE	RS )		- CONCENTRATION -					
1.00.000	7.280466	8.376677	7.351406	6.337106	5.367568	4.477124	4.267008	4.163865	4.058664
500 <b>.</b> 000	7.297355	8.543688	7.396438	6-285521	5.269374	4.575168	4.472225	4.366213	4.255118
868.306	7.116298	8.526773	1.254468	6.074090	5.046179	4.691741	4.62#716	4.154272	4.453 6114
756.668	6.659750	8.203991	6.842833	5.658136	4.784166	4.728436	4.713701	4.694533	4.642612
650.600	5.816922	7.452812	6.081230	5.018644	4 • 6 1 1 7 8 0	4.664504	4.754748	4.818905	4.768115
500.000	4.586627	6.170086	4.942447	4.205564	4.257614	4.502133	4.762873	4.831600	4.872947
4 . 0 . (; 6 ()	3.464259	4.409218	3.522186	3.386473	3.754132	4.272801	4.572902	4.806157	4.9704 5
300.000	1.528748	2.354199	2.049510	2.423868	3.224925	3.798440	4.397372	4.859688	5.129473
205.000	0.4372.8	0.984886	1.189432	1.626314	2.418874	3 - 453 172	4.35.290	4.885594	5.142177
1 0.000	6.5889 9	184 37	0.610358	1.128199	2.062204	3.402621	4.353205	4.067965	5 52612
2.000	1.303775	000000	1.449375	1.675433	2.608347	4.020135	9.013108	5.3762 3	6.525256
~196.660	F.813881	1.575565	P.254399	0.684745	1.414449	2.620183	3.591723	4.127063	4.561974
-23( • troir	1.385221	2.350632	*•738085	1.256501	1.774751	2.247698	2.668141	3.318553	3.137797
-306.000	2.628058	4.129972	2.088264	2.113579	3.013345	3.196694	7.288650	3.205767	3.195413
-46(.(t	4.633.48	6.712242	4.171715	3.196665	3.602641	1.341627	9.176773	3.171232	1.733963
-500 ands	6.165556	5.376.46		4.011763	4.109592	4.547927	6 100(6	4.141565	4.77254 (
-600 · 000	7.162424	9.217756	.8678FF	5.074903	4.4527:4	4.667537	4.90 30 61	5-1 19545	4.736632
- 6 a c • c o a	1.02727	• . 1 / /	• (-1)		1013611	• • •	• •		

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**** ISCLT *****	****** 1SCL	T ANNUAL NO	X NEW SOUR	CES & 30% OF	SMOOPE #2 II	S= 20 FT (D)	51)	***** CVGE	. 12 a a a a a
ANNUAL	GROUND LEVEL	CONCENTRATION	- 0	RID SYSTEM RE	CEPTORS -	) FROM ALI	SOURCES COM	BINED (CONT.)	••
	-100.000	0.000	- X A	XIS (DISTANCE		100 000	F00 600	4.0.0.00	701 500
Y AXIS COISTANCE	-100.000 • METE		100.000	200.000 - CONCENT	300.000 - TRATION	400.000	500.000	600.000	701.600
	, HLIC				ikai104 -				
-700.000	7.445539	9.141445	7.348537	5.749539	4.562780	4.676843	4.841251	4.790833	5.092170
-800.000	7.481155	8.919882	7.450238	6.079086	4.880642	4.587487	4.679839	4.768476	4.0007:7
-900.000	7.305363	8.512440	7.316545	6.160236	/ 5 · 104819	4-427017	4.472134	4.505086	4.5178/8
-1100.000	7.012363	8.032454	7.049086	6.019269	5.154711	4.307981	4.217338	4.239096	4.245018
				GRID SYSTEM REG XIS (DISTANCE					
	900.000	900.000	1,000.000	WIS COISINGE	, ucitio,				
Y AXIS CUISTANCE	, METE		1 55400	- CONCEN	TRATION -	•			
1000.000	3.949165	3.835467	3.719000						
900.000	4.137527	4.013654	3.890831				•		
8 à 0 • 6 à û	4.331511	4.199357	4.067876						
700.600	4.522667	4.388280	4.249101						
6.00.000	4.702225	4.580199	4.434093						
500.000	4.856625	4.775698	4.623975						
460.000	5.022134	4.973322	4.802281	• •					
300.000	5.156453	5.050423	4.862032	•					
200.600	5.187934	5.095057	4.919748						
1	5.264164	5.170049	4.973930						
0.000	5.467811	5.288786	5.047168	· .					
-100.000	4.672099	4.633645	4.505657				•		
-268.000	3.953654	4.018564	3.983482						
-300.000	3.340763	3.466486	3.487743						
-400.0uu	3.476663	3.212633	3.035532						
-500.000	3.918939	3.578633	3.242239			•			
-600.000	4.309852	3.894997	3.522620						
-700.560	4.594871	4.149644	3.757112						
-600.000	4.790774	4.340483	3.940945						
-906.660	4.506586	4.471251	4.075399						
-1 00.000	4.239617	4.211085	4.165322						





### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

#### **REGION IV**

345 COURTLAND STREET ATLANTA, GEORGIA 30365

SEP 24 1982

DER SEP 27 1982 BAQM

REF: 4AW-AM

Mr. C. H. Fancy, P.E. Deputy Chief Bureau of Air Quality Management Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32301

Dear Mr. Fancy:

This is to acknowledge receipt of your August 24, 1982, letter containing your Bureau's preliminary determination for the City of New Smyrna Beach Utilities Commission's proposed construction of two additional gas diesel units to be located at their existing Swoope Generating Station.

My staff has reviewed the preliminary determination and finds it complete.

Sincerely yours,

James T. Wilburn, Chief

Air Management Branch

Air & Waste Management Division

# DEPARTMENT OF ENVIRONMENTAL REGULATION

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ROUTING A			LSLIP	ACTION DUE DA	19
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### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301 8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

August 24, 1982

Mr. Clem Malecki, Librarian Brannon Memorial Library 105 Riverside Drive New Smyrna Beach, Florida 32069

Dear Mr. Malecki:

Proposed Air Pollution Source, City of New Smyrna Beach RE: Utilities Commission, Swoope Units 3 and 4, PSD-FL-089

The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, has need to display certain information regarding the subject source pursuant to Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21, Paragraph (q)). You will find this information enclosed. We appreciate your offer to make this information available to the interested public. A notice directing people to the library will be published in the local newspaper in the near future.

The information must be available upon request for a period of at least 30 days from the notice date. At the end of the period, we will forward to you a Final Determination on the permit application which must be available for an additional 30-day period.

We appreciate your help in providing this valuable public service. Should you have any questions, please call Mr. Bill Thomas at (904)488-1344.

Sincerely.

C. H. Fancy,

Deputy Chief

Bureau of Air Quality

Management

CHF/pa

Enclosure

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION IV** 

345 COURTLAND STREET ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300



Mr. C. H. Fancy, P.E. Deputy Chief Bureau of Air Quality Management Twin Towers Office Building 2600 Blairstone Road Tallahassee, Florida 32301

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### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

August 24, 1982

Mr. James T. Wilburn, Chief Air Management Branch Air & Waste Management Division U.S. EPA, Region IV 345 Courtland Street, N.E. Atlanta, Georgia 30365

Dear Mr. Wilburn:

RE: Preliminary Determination - City of New Smyrna Beach Utilities Commission, Swoope Units 3 and 4, PSD-FL-089

Enclosed for your review and comment are the Public Notice and Preliminary Determination for the City of New Smyrna Beach Utilities Commission's proposal to construct two additional gas diesel units at the Swoope Generating Station located in the City of New Smyrna Beach, Volusia County, Florida.

Please inform my office if you have comments or questions regarding this determination, at (904) 488-1344.

Sincerely,

C. H. Fancy, P.E.

Deputy Chief

Bureau of Air Quality

Management

CHF/pa

Enclosure

### STATE OF FLORIDA

# DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM GOVERNOR VICTORIA J. TSCHINKEL SECRETARY

August 24, 1982

Mr. Clifford Gullet
East Central Regional Planning
 Council
1011 Wymore Road
Winter Park, Florida 32769

Dear Mr. Gullet:

RE: Preliminary Determination - New Smyrna Beach Utilities Commission, Swoope Units 3 and 4 (PSD-FL-089)

I wish to bring to your attention that the City of New Smyrna Beach Utilities Commission proposes to construct two additional gas diesel units, Swoope #3 and #4, at the Swoope Generating Station located in the City of New Smyrna Beach, Volusia County, Florida, and that emissions of air pollutants will thereby be increased. The Florida Department of Environmental Regulation, under the authority delegated by the U.S. Environmental Protection Agency, has reviewed the proposed construction under Federal Prevention of Significant Deterioration Regulations (40 CFR 52.21) and reached a preliminary determination of approval, with conditions, for this construction. This approval applies only to Federal regulatory requirements and has no bearing on other State or local functions.

Please also be aware that the attached Public Notice announcing the preliminary determination, the availablility of pertinent information for public scrutiny and the opportunity for public comment will be published in a local newspaper in the near future. This notice has been mailed to you for your information and in accordance with regulatory requirements. You need take no action unless you wish to comment on the proposed construction. If you have any questions, please feel free to call Mr. Bill Thomas or myself at (904) 488-1344.

Sincerely,

H. Pancy, P.E.

Deputy Chief

Bureau of Air Quality Management

CHF/pa Attachment

DER

JUN 28 1982

BAQM

 $\begin{array}{c} \text{PERMIT APPLICATIONS} \\ \text{AND} \\ \text{PSD ANALYSIS FOR NEW SMYRNA BEACH UTILITIES} \end{array}$ 

SWOOPE UNIT #3 AND #4

## CONTENTS

	AReference to Permit Section II
III	ATTACHMENTS
II	CONSTRUCTION PERMIT APPLICATION SWOOPE #4
I	CONSTRUCTION PERMIT APPLICATION SWOOPE #3

B--Manuafacturers letter-basis of emissions estimate
C--Flow diagram
D--Location map
E--Plot plan
F--PSD analysis

G-ISCLT computer model output



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

DER

JUN 28 1982

, FL

SOURCE TYPE: City Utility/	Gas Diesel	[X] New1 [	] Existing <sup>1</sup>	
APPLICATION TYPE: [ x] Construct	tion [ ] Operation [ ]	Modification		BAOM
COMPANY NAME: Utilities Co	ommission, City of	New Smyrna	Beach	COUNTY: Volusia
Identify the specific emission point son No. 2, Gas Fired) Swoope Unit 3	urce(s) addressed in this ap Gas Diesel	plication (i.e. L	ime Kiln No	. 4 with Venturi Scrubber; Peeking Unit
SOURCE LOCATION: Street	95 N. Dixie Highwa	y y		City New Smyrna Beach
UTM: East .	505.8		North	3214.8
Latitude	29 o 03 · 47 ···	١	Longitude .	80 <u>o 56</u> · <u>25</u> ·w
APPLICANT NAME AND TITLE:	Jtilities Commissic	n,_City of	New Smyr	na Beach
APPLICANT ADDRESS: PO Box	519, New Smyrna Be	ach, FL 320	069	
•	TION I: STATEMENTS BY	Y APPLICANT	AND ENGIN	EER
A. APPLICANT		11+11:+:00	Cammila	on City of No. C
				on, City of New Smyrna Beach
pollution control source and pol Florida Statutes, and all the rule	npiete to the best of my li Hution control facilities in Is and regulations of the de	cnowledge and t such a manner partment and re	belief. Furth r as to comp evisions ther	er, I agree to maintain and operate the oly with the provision of Chapter 403, eof. I also understand that a permit, if rement upon sale or legal transfer of the
*Attach letter of authorization		Signed:	rolich	Chief Engineer
		1. A. AO	Name ar	Chief Engineer  nd Title (Please Type)
		Date: 6/24	/82	Telephone No. 904-427-1361
B. PROFESSIONAL ENGINEER RE	GISTERED IN FLORIDA			
be in conformity with modern er permit application. There is reaso erly maintained and operated, will rules and regulations of the depar cant a set of instructions for the p	ngineering principles applic pnable assurance, in my pro Il discharge an effluent that rtment. It is also agreed tha	able to the treat ofessional judgm complies with a t the undersigne	tment and distent, that the all applicable distribution will furnish	designed/examined by me and found to sposal of pollutants characterized in the pollution control facilities, when propstatutes of the State of Florida and the n, if authorized by the owner, the applicable, pollution
sources.		Signed:	Day	vid a Buff
				A. Buff, P.E.
(Affix Seal)			Nar	ne (Please Type)
W W W Cook		Environme		ence and Engineering, Inc. y Name (Please Type)
		PO Box ES		sville, Florida 32602
Starida Basiserrair - No	19011	Dags 6/22/	_	Adoress (Please Type) Telephone No.(904)372-3318
Florida Registration No	17011	Date: <u>0/22/</u>	<u> </u>	rereprione No.(209.13/2-3316

<sup>&</sup>lt;sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

# SECTION II: GENERAL PROJECT INFORMATION

Installation and operation of diesel generating uni	t. Unit will be
natural gas fired with 6 percent heat input from No	o. 2 oil as pilot
fuel. Unit is rated at 2880 BHP with generating ca	pacity of 2050 KW.
Schedule of project covered in this application (Construction Permit Application Only)  Start of Construction upon permit issuance Completion of Construction  Costs of pollution control system(s): (Note: Show breakdown of estimated costs only project serving pollution control purposes. Information on actual costs shall be furnish permit.)	for individual components/unit
Not Applicable	
Indicate any previous DER permits, orders and notices associated with the emission point tion dates.  No previous DER permits have been issued for this is	t, including permit issuance and
	-
Is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{5}{}$ if seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{1}$ ; if power plant, hrs/yr $\frac{8}{1}$
is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No Normal equipment operating time: hrs/day $\frac{24}{}$ ; days/wk $\frac{7}{}$ ; wks/yr $\frac{5}{}$ if seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{1}$ ; if power plant, hrs/yr $\frac{8}{1}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes $\frac{X}{X}$ No Normal equipment operating time: hrs/day $\frac{24}{2}$ ; days/wk7; wks/yr5 if seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{1}$ ; if power plant, hrs/yr $\frac{8}{1}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr5  if seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{2}$ ; if power plant, hrs/yr $\frac{8}{2}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursand Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day	suant to Chapter 380, Florida S $\frac{2}{2}$ ; if power plant, hrs/yr $\frac{8}{2}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr5  if seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{2}$ ; if power plant, hrs/yr $\frac{8}{2}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursand Chapter 22F-2, Florida Administrative Code? YesX No  Normal equipment operating time: hrs/day24; days/wk7; wks/yr5  If seasonal, describe:	suant to Chapter 380, Florida S $\frac{2}{2}$ ; if power plant, hrs/yr $\frac{8}{2}$
Is this application associated with or part of a Development of Regional Impact (DRI) pursuand Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 5  if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.	Suant to Chapter 380, Florida S  2 ; if power plant, hrs/yr
Is this application associated with or part of a Development of Regional Impact (DRI) puriand Chapter 22F-2, Florida Administrative Gode? Yes X_No  Normal equipment operating time: hrs/day 24	No  Yes

See Attachment A

## SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contaminants		Utilization	Rales as Flaw Risson
Description	Type	% Wt	Rate - Ibs/hr	Relate to Flow Diagram
·	i			
			•	
				"

В.	Process	Rate,	if applicable:	(See Section	٧,	Item	1	Ì
----	---------	-------	----------------	--------------	----	------	---	---

1. Total Process Input Rate (lbs/hr):

Not Applicable

2. Product Weight (lbs/hr): \_\_

Not Applicable

### C. Airborne Contaminants Emitted:

No.	Emission <sup>1</sup>		Allowed Emission <sup>2</sup>	Allowable <sup>3</sup>	Potential Emission <sup>4</sup>		Relate	
Name of Contaminant	Maximum lbs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram	
Nitrogen Oxides	57.1	250	NA	NA	57.1	250	В	
Particulate	0.25	1	NA	NΑ	0.25		В	
Sulfur Dioxide	0.42	2	NA	NA .	0.42		B	
Carbon Monoxide	8.9	39	NA	NA	8.9	39	<b>B</b>	
Hydrocarbons	2.5	11	NA	NA	2.5	11	В	

D. Control Devices: (See Section V, Item 4)

Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
-				
		!		
		,		1
				!
			•	

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

DER FORM 17-1.122(16) Page 3 of 10

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

<sup>&</sup>lt;sup>3</sup>Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>&</sup>lt;sup>5</sup>If Applicable

Type (Be Specifie)	Consu	Maximum Heat Input	
Type (Be Specific)	avg/hr	max./hr	(MMBTU/hr)
Natural Gas (ft <sup>3</sup> )	17,600	17,600	18.05
No. 2 Fuel Oil (gallons)	8.2	8.2	1.15

Percent Suffur: Trace/0.2 Percent Ash: Ne/Ne  Density: NA/7.21   Ibs/gel Typical Percent Nitrogen: Ng/0.2  Heat Capacity: 1026 Btu/ft³/19,430 BTU/Ib Na/140,090 BTU/Ig  Other Fuel Contaminants (which may cause air pollution): None  F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA Maximum NA  G. Indicate liquid or solid wastes generated and method of disposal.  All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft. Stack Diameter: 22 inches ft.  Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 OF  Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Lia & Gas Sy-prod.) By-prod.)  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week						<u> </u>		-
Percent Suffur: Trace/0.2 Percent Ash: Ng/Ng  Density: NA/7.21   Ibs/gel Typical Percent Nitrogen: Ng/0.2  Heat Capacity: 1026 Btu/ft <sup>3</sup> /19,430 BTU/ib Na/140,090 BTU/ge  Other Fuel Contaminants (which may cause air pollution): Note  F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA Maximum NA  G. Indicate liquid or solid wastes generated and method of disposal.  All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft. Stack Diameter: 22 inches ft.  Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 OF  Water Vapor Content: 5 % Velocity: 135 FPt.  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas (Solid By-prod.) By-prod.)  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week	*Units Natural Ga	s, MMCF/hr; Fue	el Oils, barrels/hr; (	Coal, lbs/hr				
Density: NA/7.21   Ibs/gal Typical Percent Nitrogen: Ng/0.2   Heat Capacity: 1026 Btu/ft <sup>3</sup> /19,430   BTU/lb Na/140,090   BTU/ga Other Fuel Contaminants (which may cause air pollution): None  F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA   Maximum NA   G. Indicate liquid or solid wastes generated and method of disposal.  All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20   ft. Stack Diameter: 22 inches   ft. Stack Height: 20   ft. Stack Diameter: 700   OF   Water Vapor Content: 5   % Velocity: 135   FP!  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste   Type 0   Type 1   Type II   Type IV   (Pathological)   (Liq & Cas   (Solid   Sy-prod.)   BY-prod.)  Lbs/hr   Incinerated   Design Capacity (lbs/hr)   Design Capacity (lbs/hr)   Agproximate Number of Hours of Operation per day   days/week   Agenufacturer   days/week   Agenufacturer   days/week   d	Fuel Analysis:		s/Pilot Fuel	Oil				
Heat Capacity: 1026 Btu/ft 3/19,430 BTU/lb NA/140,090 BTU/ga  Other Fuel Contaminants (which may cause air pollution): None  F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA Maximum NA  G. Indicate liquid or solid wastes generated and method of disposal.  All 1 (quid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft. Stack Diameter: 22 inches ft.  Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 7.00 OF Water Vapor Content: 5 % Velocity: 135 FP:  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type 0 Type 1 Type 11 Type 11 Type 11 Type 14 (Liq & Gas By-prod.)  Lbs/hr Incinerated  Description of Waste Footal Weight Incinerated (lbs/hr) Design Capacity (lbs/hr) Agay/week Manufacturer  Design Capacity (lbs/hr) days/week			<u> </u>		Percent Ash: _	Ng/Ng		
Other Fuel Contaminants (which may cause air pollution): None  F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA Maximum NA  G. Indicate liquid or solid wastes generated and method of disposal.  All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft. Stack Diameter: 22 inches ft. Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 or Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type 0 Type 1 Type II Type III Type III Type IV (Ling & Gas (Solid By-prod.))  Lbs/hr Incinerated (Ips/hr) Description of Waste  Poscription of Waste Number of Hours of Operation per day days/week Aganufacturer	Density:		·- <u>-</u>	ibs/gai	Typical Percen	t Nitrogen:	Ng/0.2	
F. If applicable, indicate the percent of fuel used for space heating. Annual Average NA Maximum NA  G. Indicate liquid or solid wastes generated and method of disposal.  All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft Stack Diameter: 22 inches ft Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 OF Water Vapor Content: 5 % Velocity: 135 FPt  SECTION IV: INCINERATOR INFORMATION Not Applicable  Type of Waste Type 0 Type 1 Type II Type III Type III Type IV (Liq & Gas (Solid By-prod.))  Lbs/hr Incinerated (lbs/hr) Design Capacity (lbs/hr) Approximate Number of Hours of Operation per day days/week	Heat Capacity:	1026 Btu/f	t <sup>3</sup> /19,430	ВТU/IЬ	NA/140,090			BTU/ga
All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height:	Other Fuel Conta	minants (which n	nay cause air pollu	tion): <u>1</u>	None			
All liquid and solid wastes will be disposed of in either a sanitary sewage system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height:	F. If applicable	e indicate the ne	rent of fuel used:	for space heat	ing Annual Av	erage NA	Maximum	NA NA
All liquid and solid wastes will be disposed of in either a sanitary sewage  system or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20								
System or sanitary landfill.  H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height:			_			n either a s	sanitary sew	30e
H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  Stack Height: 20 ft. Stack Diameter: 22 inches ft  Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 °F  Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type 0 Type 1 Type II Type III Type IV (Liq & Gas (Solid By-prod.))  (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) By-prod.)  Description of Waste Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week					<u> </u>		<u> </u>	<del>4.6</del>
Stack Height: 20 ft. Stack Diameter: 22 inches ft. Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 OF Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type O (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas (Solid By-prod.))  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week		or builte	1		,			
Stack Height: 20 ft. Stack Diameter: 22 inches ft. Gas Flow Rate: 21,200 ACFM Gas Exit Temperature: 700 OF Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type O (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas (Solid By-prod.))  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week	. Emission Co		d Elaw Chasses i	esian (Banvida	dasa 6aa aaab asa			
Gas Flow Rate:		·					22 inches	4
Water Vapor Content: 5 % Velocity: 135 FPS  SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Solid By-prod.) By-prod.)  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day Manufacturer								
SECTION IV: INCINERATOR INFORMATION  Not Applicable  Type of Waste Type O Type I Type II Type III Type III Type IV (Liq & Gas (Solid (By-prod.)) By-prod.)  Lbs/hr Incinerated Incinerated (lbs/hr) Design Capacity (lbs/hr)  Approximate Number of Hours of Operation per day Manufacturer								
Not Applicable  Type of Waste Type O Type I Type II Type III Type III Type IV (Liq & Gas (Solid (Refuse)))  Lbs/hr Incinerated (lbs/hr) Design Capacity (lbs/hr)  Approximate Number of Hours of Operation per day days/week	Water Vapo	r Content:		%	Velocity:		133	FP:
Not Applicable  Type of Waste Type O Type I Type II Type III Type IV (Liq & Gas (Solid (Refuse)) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas (Solid By-prod.))  Lbs/hr Incinerated  Description of Waste		•						
Not Applicable  Type of Waste Type O Type I Type II Type III Type IV (Liq & Gas (Solid (Refuse)) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas (Solid By-prod.))  Lbs/hr Incinerated  Description of Waste						=		
Type of Waste  Type O (Plastics)  Type I (Refuse)  Type III (Garbage)  Type IV (Liq & Gas By-prod.)  Type V Type V (Liq & Gas By-prod.)  Description of Waste  Total Weight Incinerated (Ibs/hr)  Approximate Number of Hours of Operation per day  Manufacturer					-	MATION		
Type of Waste (Plastics) (Rubbish) (Refuse) (Garbage) (Pathological) (Liq & Gas By-prod.)  Lbs/hr Incinerated (Ibs/hr) Design Capacity (Ibs/hr)  Approximate Number of Hours of Operation per day days/week	<del> </del>		NC	Applica	.p.te	<del></del>	,	
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Description of Waste	, ====					· !	į	į
Potal Weight Incinerated (lbs/hr) Design Capacity (lbs/hr) days/week days/week	Incinerated		İ					
Approximate Number of Hours of Operation per day	Description of Wa	ste						
Manufacturer	Total Weight Incir	nerated (lbs/hr) _			Design Capacit	y (lbs/hr)		
Manufacturer	Approximate Num	nber of Hours of	Operation per day			days/	week	
	•		•					
Date Constructed Model No								

7	Volume	Heat Release	F	-ue!	Temperature
i 	(ft)3	(BTU/hr)	Туре	BTU/hr	(OF)
Primary Chamber			<u>.</u>		
Secondary Chamber					
Stack Height:		ft. Stack Diameter _		Stack Temp.	
Gas Flow Rate:		ACFM		_ DSCFM* Velocity	FP:
*If 50 or more tons per cess air.	day design capac	ity, submit the emissio	ins rate in grains p	per standard cubic foot d	ry gas corrected to 50% ex
Type of pollution contro	device: [ ] Cy	rcione [ ] Wet Scrubi	ber [] Afterbu	rner [ ] Other (specify	<i>(</i> )
Brief description of oper	ating characteristic	cs of control devices: _			
	<b>-</b>	_	<del></del>	•	•
Ultimate disposal of any	effluent other tha	n that emitted from the	e stack (scrubber	water, ash, etc.):	•
			<u></u>	_	
	S	ECTION V: SUPPLEM	IENTAL REQUIF	REMENTS	
Please provide the follow	ing supplements w	where required for this	ennlication		
,	•	,			-
1. Total process input	rate and product	weight — show derivati	ion. Not A	pplicable	
turer's test data, e applicable standard	tc.,) and attach pi is. To an operatio	roposed methods (e.g., n application, attach te	FR Part 60 Meth st results or meth	nods 1, 2, 3, 4, 5) to show ods used to show proof o	wings, pertinent manufar v proof of compliance with of compliance. Information time at which the test wa

- See Attachment B
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See ATTACHMENT B
- With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.). Not Applicable
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency). Not Applicable
- 6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. See ATTACHMENT C
- An 8%" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic See ATTACHMENT D
- 8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram. See ATTACHMENT E

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

# SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant	Rate or Concentration
Has EPA declared the best available control t	technology for this class of sources (If yes, attach copy) $\{\ \ \}$ Yes $[\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
Contaminant	Rate or Concentration
<u> </u>	
What emission levels do you propose as best	
Contaminant	Rate or Concentration
Describe the existing control and treatment t	technology (if any). See Part F
1. Control Device/System:	
2. Operating Principles:	
3. Efficiency:*	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
	8. Maintenance Cost:
7. Energy:	
7. Energy: 9. Emissions:	
	Rate or Concentration
9. Emissions:	Rate or Concentration

<sup>\*</sup>Explain method of determining D 3 above.

	a.	Height:	ft.	ь.	Diameter:
	c.	Flow Rate:	ACFM	d.	Temperature:
	e.	Velocity:	FPS		
E.	Describe	the control and treatment tech		-	types as applicable, use additional pages if necessary).
	1.		See Par	^t F	
	<b>.</b> s	Control Device:			
	ь.	Operating Principles:			
	c.	Efficiency*:		d.	Capital Cost:
	e.	Useful Life:		f.	Operating Cost:
	g.	Energy*:		h.	Maintenance Cost:
	i.	Availability of construction ma	terials and process ch	emic	als:
	j.	Applicability to manufacturing	processes:		
	k.	Ability to construct with contr	ol device, install in av	ailab	le space, and operate within proposed levels:
	2.				
	a.	Control Device:			
	b.	Operating Principles:			•
	c.	Efficiency*:		d.	Capital Cost:
	e.	Useful Life:		f.	Operating Cost:
	g.	Energy **:		h.	Maintenance Costs:
	i.	Availability of construction ma	terials and process ch	emic	als:
	j.	Applicability to manufacturing	processes:		•
	k.	Ability to construct with contr	ol device, install in av	railab	le space, and operate within proposed levels:
*Ex	plain met	thod of determining efficiency.			
**En	ergy to b	e reported in units of electrical	power – KWH design	rate.	
	3.				
	a.	Control Device:			
	b.	Operating Principles:	·		
	c.	Efficiency*:		d.	Capital Cost:
	e.	Life:		f.	Operating Cost:
	g.	Energy:		ħ.	Maintenance Cost:

٥F

10. Stack Parameters

<sup>\*</sup>Explain method of determining efficiency above.

,	i.	. Ava	illability of construction materials and	process chemic	cals:
	j.	 . App	plicability to manufacturing processes:		·
	k	. Abi	lity to construct with control device,	install in availat	ole space and operate within proposed levels:
	4.				
	а	. Con	ntrol Device		
	b	o. Ope	erating Principles:		
	c	. Effi	ciency*:	d.	Capital Cost:
	e	. Life	<b>:</b>	. f.	Operating Cost:
	9	. Ene	rgy:	h.	Maintenance Cost:
	i.	. Ava	ilability of construction materials and	process chemic	cals:
	j.	. Арг	plicability to manufacturing processes:		
	k	. Abi	lity to construct with control device,	install in availab	ple space, and operate within proposed levels:
F.	Descr	ibe the	control technology selected:	See Ite	m 10
	1. C	Control	Device:	<i>500</i> 110	
	2. E	fficiend	cy*:	3.	Capital Cost:
	4. L	_ife:		5.	Operating Cost:
	6. E	nergy:		7.	Maintenance Cost:
	8. N	Manufac	turer:		
	9. C	other lo	cations where employed on similar pro	ocesses:	
	a.	•			
		(1)	Company:		
		(2)	Mailing Address:		
		(3)	City:	(4)	State:
		(5)	Environmental Manager:		
		(6)	Telephone No.:		
•Ex	plain m		of determining efficiency above.		
		(7)	Emissions*:		
			Contaminant		Rate or Concentration
	-		-		
		(8)	Process Rate*:		
	ъ.				
		(1)	Company:		
		(2)	Mailing Address:		
		(3)	City:	(4)	State:

\*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

F.

(5)	Environmental	Manager

- (6) Telephone No.:
- (7) Emissions\*:

_				
Co	nta	m	na	חו

Rate or Concentration

(8) Process Rate\*:

10. Reason for selection and description of systems:

The BACT proposed for  $\mathrm{NO}_{\mathrm{X}}$  is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower  $\mathrm{NO}_{\mathrm{X}}$  emissions could be achieved by retarding the pilot fuel injection but this would be at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard, optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

## SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

المرافقين الفرائضة تباد العربيعة أأثاث يعهونا

A.	Company Monitored Data Not Applicable	
	1 no sites TSP	( ) SO <sup>2</sup> * Wind spd/dir
	Period of monitoring / /	to/_/
	month day year	month day year
	Other data recorded	
	Attach all data or statistical summaries to this applicatio	n.
	2. Instrumentation, Field and Laboratory	
	a) Was instrumentation EPA referenced or its equival	ent? Yes No
	b) Was instrumentation calibrated in accordance with	Department procedures? Yes No Unknow
В.	Meteorological Data Used for Air Quality Modeling	
	1. 1 Year(s) of data from 1 / 1 / 64 month day year	to 12 / 31 / 64 month day year
	Surface data obtained from (location)	•
	Upper air (mixing height) data obtained from (location)	NA
	4. Stability wind rose (STAR) data obtained from (location	
_		· · · · · · · · · · · · · · · · · · ·
C.	Computer Models Used  1 Industrial Source Complex Long Term	
		Woodings, 11 year action accounts
		Modified? If yes, attach description
		Modified? If yes, attach description
	4	Modified? If yes, attach description
	Attach copies of all final model runs showing input data, re	ceptor locations, and principle output tables.
D.	Applicants Maximum Allowable Emission Data	
	Pollutant	Emission Rate
	XXX NO <sub>X</sub>	
		grams/sec
Ε.	Emission Data Used in Modeling see Permit Appl	ication and ATTACHMENT F
	Attach list of emission sources. Emission data required is UTM coordinates, stack data, allowable emissions, and norm	source name, description on point source (on NEDS point number hall operating time.
F,	Attach all other information supportive to the PSD review.	
*Sp	ecify bubbler (B) or continuous (C).	See ATTACHMENT F
3.	Discuss the social and economic impact of the selected ted duction, taxes, energy, etc.). Include assessment of the envi	chnology versus other applicable technologies (i.e., jobs, payroll, or conmental impact of the sources.
	The installation of this unit will im	prove the reliability of the community
	electrical system without significant	
	impacto	

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

AC64-59323



# STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

DER JUN 28 1982

SOURCE TYPE: City Utility/Gas Diesel [X] N	ew <sup>1</sup> [] Existing <sup>1</sup> RAONA
APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modific	ation DAV!VI
COMPANY NAME: Utilities Commission, City of New Sm	nyrna Beach COUNTY: Volusia
Identify the specific emission point source(s) addressed in this application.  No. 2, Gas Fired) Swoope Unit 4 Gas Diesel	n (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit
SOURCE LOCATION: Street 2495 N. Dixie Highway	City New Smyrna Beach
UTM: East505.8	North3214.8
Latitude <u>29</u> • <u>03</u> ′ <u>47</u> ″N	Longitude <u>80</u> ° <u>56</u> ′ <u>25</u> ′ <b>w</b>
APPLICANT NAME AND TITLE: Utilities Commission, Cit	y of New Smyrna Beach
APPLICANT ADDRESS: PO Box 519, New Smyrna Be	each, FL 32069
,	
SECTION I: STATEMENTS BY APPLI	CANT AND ENGINEER
A. APPLICANT Utili	ties Commission, City of New Smyrna Beach, FL
I am the undersigned owner or authorized representative* of	
I certify that the statements made in this application for a permit are true, correct and complete to the best of my knowled pollution control source and pollution control facilities in such a Florida Statutes, and all the rules and regulations of the department granted by the department, will be non-transferable and I will prompermitted establishment.  *Attach letter of authorization Signed	manner as to comply with the provision of Chapter 403, at and revisions thereof. I also understand that a permit, if ptly notify the department upon sale of legal transfer of the
	P. A. Korelich, Chief Engineeer  Name and Title (Please Type)
Date:	6/24/82 Telephone No. 904-427-1361
B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where	
This is to certify that the engineering features of this pollution controlled in conformity with modern engineering principles applicable to a permit application. There is reasonable assurance, in my professional erly maintained and operated, will discharge an effluent that complied rules and regulations of the department. It is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that it is also agreed that the uncomplied that the unc	ol project have been designed/examined by me and found to the treatment and disposal of pollutants characterized in the all judgment, that the pollution control facilities, when propes with all applicable statutes of the State of Florida and the dersigned will furnish, if authorized by the owner, the applific the pollution control facilities and, if applicable, pollution
Signed	: David a. Bulk
0.5.1.60	David A. Buff, P.E.
(Affin Coal)	Name (Please Type)
(Affix Seal) Envi	ronmental Science and Engineering, Inc.
PO B	Company Name (Please Type) ox ESE, Gainesville, Florida 32602
	Mailing Address (Please Type)
Florida Registration No. 19011 Date:	6/22/82 Telephone No. (904) 372-3318

<sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.) DER FORM 17-1.122(16) Page 1 of 10

## SECTION II: GENERAL PROJECT INFORMATION

The second secon

Schedule of project covered in this application (Construction Permit Application Only)  Start of Construction Upon Permit issuance Completion of Construction December 1982  Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/unit project serving pollution control purposes. Information on actual costs shall be furnished with the application for opermit.)  Not Applicable  Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and tion dates.  No previous DER permits have been issued for this unit.  It is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida S and Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 2/2 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr 8 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "Offset" been applied?  b. If yes, has "Cowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements years to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?  1. In this source in a non-attainment pollutants.	Installation and operation of diesel generating unit. Unit	vill be natural ass
Schedule of project covered in this application (Construction Permit Application Only)  Start of Construction Pon Permit issuance   Completion of Construction   December 1982    Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/uniproject serving pollution control purposes. Information on actual costs shall be furnished with the application for opermit.)  Not Applicable  Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and tion dates.  No previous DER permits have been issued for this unit.  Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Sand Chapter 22F-2, Florida Administrative Code? Yes X No  Normal equipment operating time: hrs/day 2/4 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr 8 if seasonal, describe:  If this is a new source or major modification, answer the following questions. (Yes or No)  1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Clowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does the State "Prevention of Significant Deterioriation" (PSD) requirements years to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
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Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Sand Chapter 22F-2, Florida Administrative Code?Yes	No previous DER permits have been issued for this unit	
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1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	f seasonal, describe:	
1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
1. Is this source in a non-attainment area for a particular pollutant?  a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	f this is a new source or major modification, answer the following questions. (Yes or No)	
a. If yes, has "offset" been applied?  b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		No
b. If yes, has "Lowest Achievable Emission Rate" been applied?  c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see  Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	a. 11 yes, has offset been appried:	
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	The state of the s	
Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?		
apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?  No.	c. If yes, list non-attainment pollutants.  Does best available control technology (BACT) apply to this source? If yes, see	Yes
this source?	c. If yes, list non-attainment pollutants.  Does best available control technology (BACT) apply to this source? If yes, see	Yes
	c. If yes, list non-attainment pollutants.  Does best available control technology (BACT) apply to this source? If yes, see Section VI.  Does the State "Prevention of Significant Deterioriation" (PSD) requirements	
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP)	c. If yes, list non-attainment pollutants.  2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII.  4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to	Yes

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

See Attachment A

### SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable: Not Applicable

Description	Contaminants			Utilization	Dalass as Elem Diagram
Description	Type	İ	% Wt	Rate - lbs/hr	Relate to Flow Diagram
		1			
			_		

В.	<b>Process</b>	Rate.	if applicable	: (See Section	V.	ltem	1)	

1	Total Process	Input Rate	(lbs/br):	Not App	licable

2. Product Weight (lbs/hr): Not Applicable

### C. Airborne Contaminants Emitted:

N f	Emission <sup>1</sup>		Allowed Emission <sup>2</sup>	Allowable <sup>3</sup>	Potential Emission <sup>4</sup>		Relate	
Name of Contaminant	Maximum lbs/hr	Actual T/yr	Rate per Ch. 17-2, F.A.C.	Emission lbs/hr	lbs/hr	T/yr	to Flow Diagram	
Nitrogen Oxides	55.9	245	NA	NA	55.9	245	В	
Particulate	0.28	1	NA	NA	0.28	J	В	
Sulfur Dioxide	0.47	2	NA	NA	0.47	2	В	
Carbon Monoxide	9.8	43	NA	NA NA	9.8	43	В	
Hydrocarbons	3.5	15	NA	NA NA	3.5	15	В	

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup>
				1
	1			

<sup>&</sup>lt;sup>1</sup>See Section V, Item 2.

DER FORM 17-1.122(16) Page 3 of 10

<sup>&</sup>lt;sup>2</sup>Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

 $<sup>^{3}</sup>$ Calculated from operating rate and applicable standard

<sup>&</sup>lt;sup>4</sup>Emission, if source operated without control (See Section V, Item 3)

<sup>51</sup>f Applicable

Tuna (Pa Paraifia)	Cons	Consumption*		
Type (Be Specific)	avg/hr	max./hr	(MMBTU/hr)	
Natural Gas (ft <sup>3</sup> )	19.300	19,300	19.85	
No. 2 Fuel Oil (gallons)	9.1	9.7	] 27	
			·	

	its Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Co I Analysis: Natural Gas/Pilot Fuel Oi	•				
Pero Den Hea	rent Sulfur:Trace/0.2 sity:NA/7.21 t Capacity:1026 Btu/ft <sup>3</sup> /19430	bs/gal BTU/lb	Typical Percent Nitrogen: Neg/0.2		1.2	BTU/gal
F.	If applicable, indicate the percent of fuel used fo Indicate liquid or solid wastes generated and met All liquid and solid wastes  System or sanitary land fill	r space heati hod of dispo will be	ng. Annual Average _ sal. disposed of in	NA Pither san	_ Maximum	NA
Н.	Emission Stack Geometry and Flow Characteristic Stack Height: 20  Gas Flow Rate: 23,320  Water Vapor Content: 5	ft. ACFM	Stack Diameter:	:: <u>700</u>	_	°F.

# SECTION IV: INCINERATOR INFORMATION

# Not Applicable

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)		
Lbs/hr Incinerated									
Description of Waste									
Total Weight Incinerated (lbs/hr) Design Capacity (lbs/hr)									
Approximate Number of Hours of Operation per day				days/week					
Manufacturer									
Date Constructed				Model No					

	Volume			Fuel	Temperature
	(ft)3	(BTU/hr)	Туре	BTU/hr	(OF)
Primary Chamber					
Secondary Chamber					
Stack Height:		ft. Stack Diameter		Stack Tem	ıp
Gas Flow Rate:		ACFM		DSCFM* Velocity	FPS
*If 50 or more tons per cess air.	day design capac	city, submit the emiss	ions rate in grains	per standard cubic foo	t dry gas corrected to 50% ex
Type of pollution control	device: [ ] Cy	volone [ ] Wet Scru	bber [] Afterb	urner [ ] Other (spe	cify)
Brief description of opera	ting characteristi	cs of control devices:			
					·
	eel				•
Ultimate disposal of any e	effluent other tha	an that emitted from t	he stack (scrubber	water, ash, etc.):	
		···			
	<del>-</del>			•	
	s	ECTION V: SUPPLE	MENTAL REQUI	REMENTS	
Please provide the following	ng supplements y	where required for this	application.	,	
1. Total process input	rate and product	weight — show deriva	ition. Not	Applicable	
turer's test data, etc applicable standards provided when appl	c.,) and attach p s. To an operation lying for an oper	roposed methods (e.g on application, attach r ration permit from a c	stimate (e.g., desig ., FR Part 60 Met test results or metl	gn calculations, design hods 1, 2, 3, 4, 5) to sh hods used to show prod	drawings, pertinent manufac now proof of compliance with of of compliance. Information the time at which the test was
made.	See Atta	chment B			
3. Attach basis of pote	intial discharge (e	e.g., emission factor, t	hat is, AP42 test).	See Attach	mant R
		n, include design detai			g., for baghouse include cloth
		,	Not Appli		st or design data. Items 2, 3
		missions = potential (1	l-efficiency).		st or design data. Items 2, 0
	erials enter, whe	ere solid and liquid wa ained.	trade secrets, iden aste exit, where ga		rations and/or processes. Indi- airborne particles are evolved
		e location of the estab			s, in relation to the surround portion of USGS topographic

See Attachment E

See Attachment D.

8. An  $8\frac{1}{2}$  × 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate

all flows to the flow diagram.

9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.

The second secon

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

# SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Contaminant	Rate or Concentration
-	
Has EPA declared the best available contro Contaminant	of technology for this class of sources (If yes, attach copy) [ ] Yes $[\chi]$ No Rate or Concentration
<u>-</u>	
What emission levels do you propose as bes	st available control technology? See Section IIIC
Contaminant	Rate or Concentration
<u> </u>	<del></del>
	· · · · · · · · · · · · · · · · · · ·
	· · · · · · · · · · · · · · · · · · ·
Describe the existing control and treatment	st technology (if any).  See Part F
1. Control Device/System:	
2. Operating Principles:	
3. Efficiency:*	4. Capital Costs:
5. Useful Life:	6. Operating Costs:
7. Energy:	. 8. Maintenance Cost:
9. Emissions:	
Contaminant	Rate or Concentration
	<u> </u>

<sup>\*</sup>Explain method of determining D 3 above.

	a.	Height:	ft.	ъ.	Diameter:				
	c.	Flow Rate:	ACFM	d.	Temperature:				
	e.	Velocity:	FPS						
E.	Describ	e the control and treatmer	nt technology available (As r	nany	types as applicable, use additional pages if necessary)				
	1.		See Part F						
	a.	Control Device:							
	b.	Operating Principles:							
	c.	Efficiency*:		d.	Capital Cost:				
	e.	Useful Life:		f.	Operating Cost:				
	g.	Energy *:		h.	Maintenance Cost:				
	i.	Availability of construct	ion materials and process ch	emic	als:				
	j.	Applicability to manufac	cturing processes:						
	k.	Ability to construct with control device, install in available space, and operate within proposed levels:							
	2.								
	· a.	Control Device:							
	b.	Operating Principles:							
	c.	Efficiency*:		d.	Capital Cost:				
	e.	Useful Life:		f.	Operating Cost:				
	g.	Energy **:		h.	Maintenance Costs:				
	i.	Availability of constructi	ion materials and process ch	emic	ais:				
	j.	Applicability to manufac	cturing processes:						
	k.	Ability to construct with	control device, install in av	ailab	le space, and operate within proposed levels:				
•E×	plain me	thod of determining effici	ency.						
**En	ergy to b	be reported in units of elec	trical power – KWH design	rate.					
	3.								
	a.	Control Device:							
	b.	Operating Principles:	•						
	C.	Efficiency*:		d.	Capital Cost:				
	e.	Life:		f.	Operating Cost:				
	g.	Energy:		h.	Maintenance Cost:				

ft. OF

10. Stack Parameters

<sup>\*</sup>Explain method of determining efficiency above.

•	i	Ava	ilability of construction materials	s and process ch	nemic	als:			
	j.	Арр	licability to manufacturing proce	esses:					
	k.	Abil	ity to construct with control dev	rice, install in av	ailab	ole space and operate within proposed levels:			
4	•								
	a.	Con	trol Device						
	b.	Ope	rating Principles:						
	c.	Effic	ciency *:		ď.	Capital Cost:			
	e.	Life	:		f.	Operating Cost:			
	g.	Ene	rgy:		h.	Maintenance Cost:			
	i.	svA	lability of construction materials	s and process ch	emic	als:			
	j.	Арр	licability to manufacturing proce	esses:					
	k.	Abii	ity to construct with control dev	rice, install in av	ailab	le space, and operate within proposed levels:			
. De	scribe	the	control technology selected:	See Item	10				
1	. Cor	ntroi l	Device:		10				
2	. Effi	icienc	y*:		3.	Capital Cost:			
4	. Life	<b>::</b> .			5.	Operating Cost:			
6.	. Ene	rgy:			7.	Maintenance Cost:			
8	. Mar	nufact	turer:						
9	. Oth	er loc	cations where employed on simila	ar processes:		•			
	а.								
		(1)	Company:						
		(2)	Mailing Address:						
		(3)	City:		(4)	State:			
		(5)	Environmental Manager:						
		(6)	Telephone No.:						
Explai	in me	th <b>o</b> d (	of determining efficiency above.						
		<del>(</del> 7)	Emissions*:						
			Contaminant			Rate or Concentration			
				<del></del>					
	-	***	-						
_		<del></del>				<del>-</del>			
		(8)	Process Rate*:						
	b.								
		(1)	Company:						
		(2)	Mailing Address:						
		(3)	City:		7.43	State:			

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager
(5) Environmental Manager

- (6) Telephone No.:
- (7) Emissions\*:

Contaminant	Rate or Concentration

- (8) Process Rate\*:
- 10. Reason for selection and description of systems:

The BACT proposed for NOx is natural gas firing with the ignition timing set as recommended by the manufacturer. Lower NOx emissions could be achieved by retarding the pilot fuel injection, but at the cost of decreasing fuel efficiency. Since air quality impacts are only 16 percent of the standard optimum fuel efficiency is considered the best available control technology.

<sup>\*</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

# SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

The transfer of the first of the contraction of the first water in a state of the second of the contraction of

A.	Company Monitored Data Not Applicable
	1 no sites TSP ( ) SO <sup>2</sup> * Wind spd/dir
	Period of monitoring / / / to / / month day year month day year
	Other data recorded
	Attach all data or statistical summaries to this application.
	2. Instrumentation, Field and Laboratory
	a) Was instrumentation EPA referenced or its equivalent? Yes No
	b) Was instrumentation calibrated in accordance with Department procedures? Yes No Unknown
В.	Meteorological Data Used for Air Quality Modeling
	1 Year(s) of data from
	2. Surface data obtained from (location) NA
	3. Upper air (mixing height) data obtained from (location)NA
	4. Stability wind rose (STAR) data obtained from (location) Daytona (WBAN 12834)
C.	Computer Models Used
	1 Modified? If yes, attach description.
	2 Modified? If yes, attach description.
	3 Modified? If yes, attach description.
	4 Modified? If yes, attach description.
	Attach copies of all final model runs showing input data, receptor locations, and principle output tables.
D.	Applicants Maximum Allowable Emission Data
	XXXXXXX NOX Emission Rate
	7.0 grams/sec
	SO <sup>2</sup> grams/sec
E.	
	See permit application and Attachment F  Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number).
	UTM coordinates, stack data, allowable emissions, and normal operating time.
F.	Attach all other information supportive to the PSD review.  See Attachment F
*Spe	ecify bubbler (B) or continuous (C).
G.	Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.
	The installation of this unit will improve the reliability of the community electrical system without significant social, economic, or environmental impacts.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

### ATTACHMENT A

(Reference to Permit Section II)

- 1. Volusia County is not a non-attainment area for any pollutant.
- 2&3. The existing plant is not a major source for any pollutant so PSD review does not apply to any pollutant that does not increase 250 TPY with this modification. PSD Section (Attachment F) Table F-1, shows that the proposed expansion is a major source for nitrogen dioxide, thus both BACT and PSD review apply for this pollutant.
- 4. On July 23, 1979, NSPS were proposed for internal combustion engines; these standards were to become effective for engines which commenced construction after January 23, 1982, and would be applicable to dual fuel engines with displacements greater than 560 cubic inches per cylinder. The two proposed units each have a displacement of 1037 cubic inches per cylinder and would be required to meet the standard. However, these standards have not yet been adopted by law.
- 5. NESHAPS regulations do not apply to this type of source.

## **Colt Industries**



Fairbanks Morse Engine Division 701 Lawton Avenue Beloit, Wisconsin 53511 608/364-4411

(206608)1

June 11, 1982

Environmental Science & Engr, Inc. P. O. Box #ESE Gainesville, Florida 32602

Attention:

Mr. Michael H. Dybevick

Subject:

Two (2) 12 Cy1 - 38TDD 8-1/8 OP Engines

Relocated Gensets Exhaust Emissions Data

Dear Mr. Dybevick:

At the request of our customer, Mr. Ed Berrier - Plant Supt. at the New Smyrna Beach Generating Facility, we have been instructed to advise you directly as to the exhaust emissions relative to the two (2) units planned for this installation. The data is as follows:

Unit No. 1 - 12 Cyl 38TDD 8-1/8 OP - Turbo Blower Series
Rated 2880 BHP @ 720 RPM - S/N 970348

	<u>Mode</u>	Diesel	<u>Dual Fuel</u>
*	NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	10.0 1.2 .3 .16 1.0	9.0 1.4 .4 based = .04 non-methrane 0.3% S = .1 .2

<u>Unit No. 2</u> - 12 Cyl - 38TDD 8-1/8 OP - Turbo Blower Series Rated 3168 BHP @ 720 RPM - S/N 873068

5000	pe #4

ope #4		-	<u>-</u>	
	Mode	<u>Diesel</u>	<u>Dual Fuel</u>	
	NOx - GM/BHP-HR CO - GM/BHP-HR HC - GM/BHP-HR Particulate - GM/BHP-HR SO2 - GM/BHP-HR Smoke - Bosch Units	9.0 1.2 .3 .18 1.0	8.0 1.4 1.2 based on .04 0.3% S1 .2	this is totalHC by mistake Non-methane is ~0.5  (conversation with EL. Betker

6/18/82>

Environmental Science & Engr, Inc. Gainesville, Florida 32602 June 11, 1982 Page 2

All Emission Values are for typical injection timings at each rating. These valves (\*) are calculated from smoke emissions and for .3% sulfur fuel.

Should any additional information be required with respect to the foregoing, please feel free to contact the writer at your convenience.

Very truly yours,

COLT INDUSTRIES OPERATING CORP FAIRBANKS MORSE ENGINE DIVISION

E. L. Betker

Contract Administrator

### ELB:flb

cc: Al Belvedere - Beloit

Ed Berrier - New Smyrna Beach, Fla.

H. Dahlman - Beloit

H. Keinschrodt - Daytona Beach, Fla.

W. Marx - Houston Sales



# SGS Control Services Inc.

Redwood Petroleum and Petrochemical division.

June 7, 1982

TO WHOM IT MAY CONCERN

Corrected Certificate

# ENGINEERING

JUN 24 1982

UTILITIES COMMISSION NEW SMYRNA BEACH, FL

825 Wynkoop Road PO Box 5351 Tampa, Florida 33675 Tel (813) 247-3984 TWX (810) 876-2927

to accompany Certificate No

# Analysis Certificate

Vessel

Shore Tank No. 18

Receiver \* Belcher Oil Company, Port Canaveral, Florida

No.2 Fuel Oil

Shore Tank No. 18 (Top, Middle and Bottom)

File No. 37434 (6-4-82)

Sample Marked Lab Reference No.

LP-2070-82

Sample Description

No. 6 Fuel Oil

Submitted By

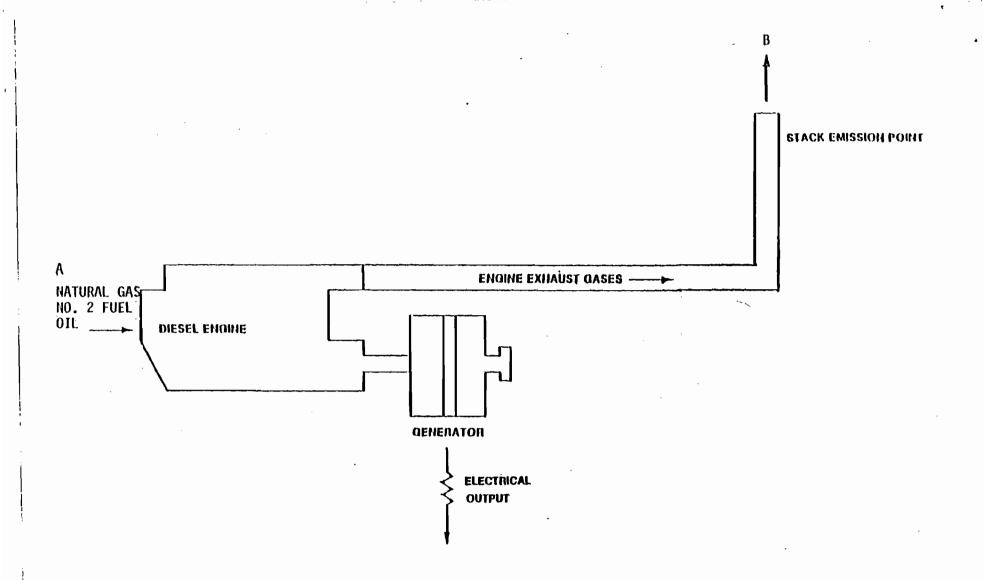
SGS Control Services Inc.

In accordance with your instructions per Mr. Dick Reed, we proceeded to \* Belcher Oil Company, Port Canaveral, Florida on June 4, 1982 for the purpose of drawing a top, middle and bottom sample from Shore Tank No. 18. A portion of this sample was submitted to our Tampa laboratory for analytical findings. We now report to you as follows:

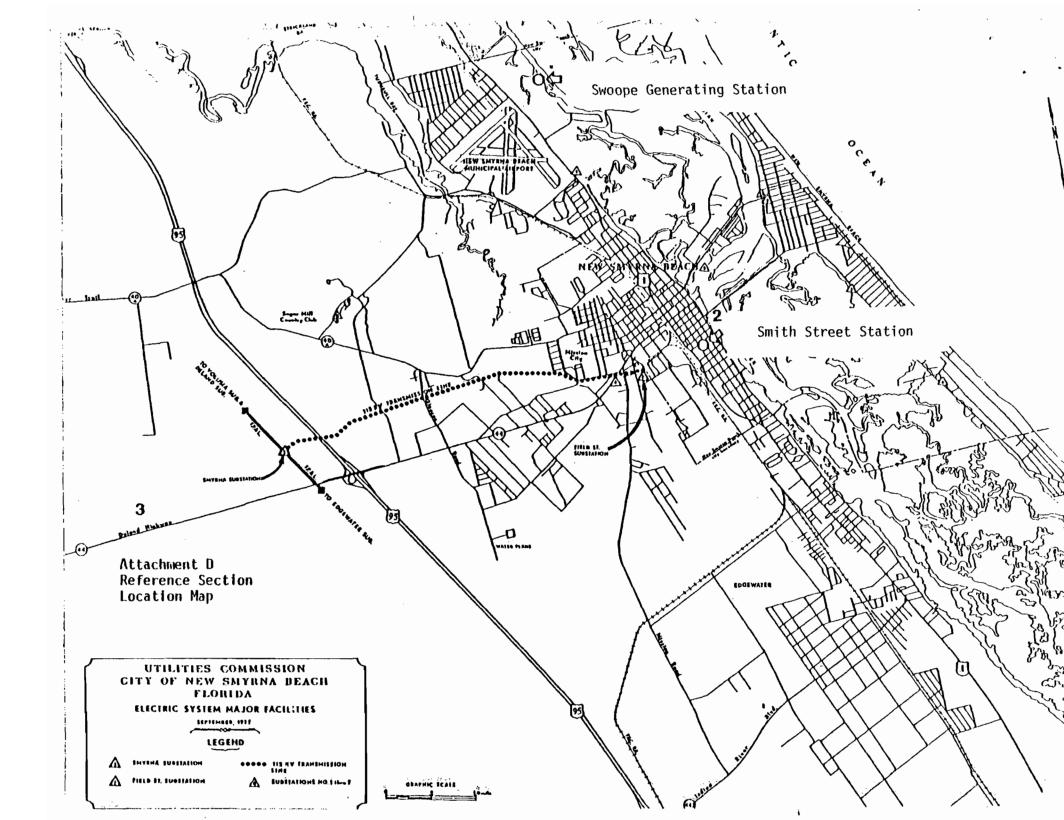
TEST	METHOD	RESULT
GRAVITY, A.P.I. @ 60°F	ASTM D-287	36.8
FLASH, °F (PMCC)	ASTM D-93	150
SEDIMENT & WATER, VOL.%	ASTM D-96	Trace
S.U.S. VISCOSITY, @ 100°F	ASTM D-445	33.5
POUR POINT, °F	ASTM D-97	Below O°F
SULFUR, WT. %	ASTM D-1552	0.12
RAMSBOTTOM CARBON RES., WT. % (10% BOTTOM)	. •	0.14
CETANE INDEX	ASTM D-976	45.4
DISTILLATION, °F	ASTM D-86 I.B.P.	356
	5%	388
	10%	404
	20%	422
	90%	570
	.;	634
	% RECOVERY	98.5
	% LOSS	1.5
TRACE METALS	A.A. CALICUM, ppm	
	LEAD, ppm	
	POTASSIUM, ppm	0.1
	SODIUM, ppm	0.1
	VANADIUM, ppm	0.2
	VANADION, DOM	0.2
	see contact A	PRUTORC THO

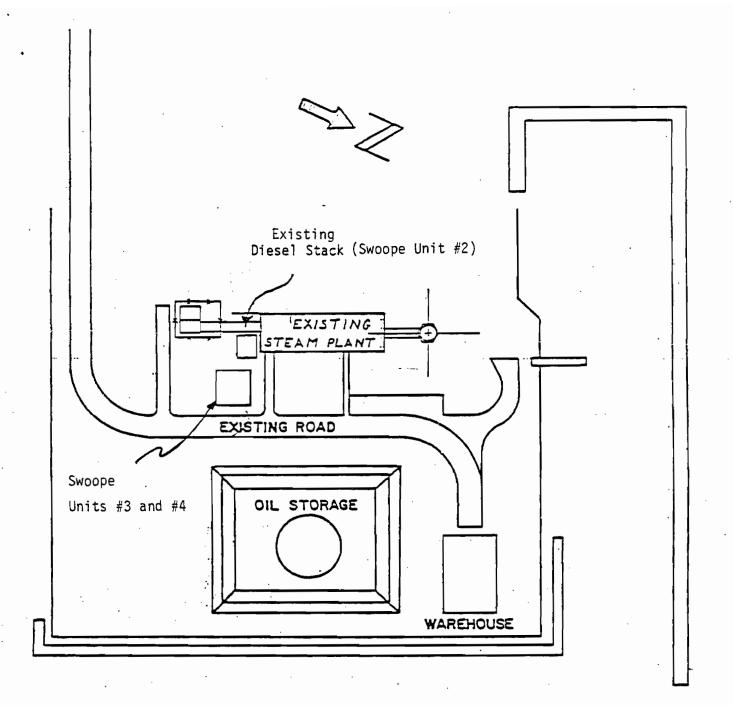
RSS/sl

Operations Department



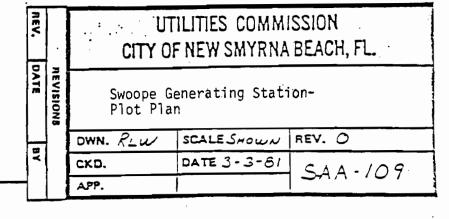
Attachment C: Reference Section V 6 FLOW DIAGRAM





## INTRACOASTAL WATERWAY

Attachment E Reference Section V 7 Utility Plot Plan



#### ATTACHMENT F PSD ANALYSIS

The Swoope Generating Station currently consists of a 116 X 10<sup>6</sup> Btu/hr steam generator (Swoope #1) and a 910 KW gas diesel generator (Swoope #2), which is limited by permit condition to a 70 percent capacity factor. Neither of these sources are in a category listed in 40 CFR 52.21 or FAC 17-2, and Table F-1 shows that current emission levels of all pollutants are below 250 TPY. The current configuration is therefore not a major source.

The proposed modification is an addition of two more gas diesel units, and an increase to 100 percent capacity factor for Swoope #2. Table F-l shows that the change would be a major source for NOx only, and requires PSD review for this pollutant. The source description and control technology review components of the PSD review are contained in the accompanying construction permit application. This attachment describes the air quality impact analysis and its results.

Both state and federal regulations contain only annual average standards for NOx, so modeling was performed with the EPA approved ISC long term model. One year (1964) of surface observations from Daytona International Airport were summarized in STAR format and input to the model. The stack parameters are shown in Table F-2. A rectangular grid with 100 meter spacing was used, and all sources were assumed to emit at maximum allowable rates 24 hours a day, every day of the year. The attached computer output contains the results of two model runs. The first run modeled the impacts of the entire plant, the second run modeled the impacts of the two new units (Swoope #3 and #4) and the increased emissions due to the increased capacity factor for Swoope #2.

Both state and federal regulations require pre-construction monitoring unless the impacts of the modification are below certain <u>de minimis</u> levels. For NOx, the <u>de minimis</u> level is  $14 \text{ ug/m}^3$ , annual average. The maximum impact of the proposed modification is  $11 \text{ ug/m}^3$ , and therefore the project may be exempted from the PSD pre-construction monitoring requirement.

The state and federal air quality standard for NOx is 100 ug/m<sup>3</sup>. The highest predicted annual average impact due to the Swoope Generating Station is 16 ug/m<sup>3</sup>. The only other major point source of NOx within 40 km is the New Smyrna Beach Smith Street station (see Attachment D). Since the Smith Street station also consists of gas diesels, and the maximum impacts of the Swoope Generating Station were small relative to the standard and occurred within 800 meters of the plant, no other sources were modeled for interaction. The nearest NOx monitoring data available are from a gas bubbler station located 1.5 miles north of the FPL Sanford power plant, about 25 miles southwest of the Swoope Station, (site code 10-4600-001-J-02). In 1980, the annual average NOx concentration at this site was 22.5 ug/m<sup>3</sup>. Even if this value was used directly as a background concentration, the projected impacts of the Swoope Generating Station are low enough to provide reasonable assurance that air quality standards will not be exceeded.

Table F-1. Annual Emissions From Swoope Generating Station

	Particulate Matter	Sulfur Dioxide	Carbon Monoxide	Nitrogen Oxides	Hydrocarbons	
<u>Current</u>						
Swoope #1 (steam)*	27	1	5	140	8	
Swoope #2 (diesel) Total	27	<u>0.3</u> 1	12 17	$\frac{94}{234}$	<del>37</del> 45	
Projected						
Swoope #1 (steam)*	27	1	5	140	8	
Swoope #2 (diesel)* (at 100% capacity f		0.4	17	134	53	
Swoope #3 (diesel)	+ 1	2	39	250	11	
Swoope #4 (diesel) Total		5	43 104	<u>245</u> 769	<u>15</u> 87	
Net Increase	2	4	87	535	42	

<sup>\*</sup>based on Swoope #2 permit application (AC64-43484) and revisions in June 26, 1981, letter to C. M. Collins FDER ST. Johns River District from K. F. Kosky, ESE, Inc.

Note: Swoope #2 hydrocarbons reported as total HC, Swoope #3 and #4 reported as non-methane.

<sup>+</sup>based on manufacturers letter, Attachment B.

Table F-2. Modeling Parameters - Swoope Generating Station

Source	NOx Emission Rate (g/s)	Stack Height (m)	Gas Temperature (k)	Exist Velocity (m/s)	Diameter (m)
Swoope #1	4.04	38.1	644	9.5	1.38
Swoope #2	3.84	6.1	589	43.9	0.36
Swoope #3	7.2	6.1	644	41.2	0.56
Swoope #4	7.0	6.1	644	44.2	0.56

```
**** ISCLT ********* 1SCLT -- ANNUAL NOX
                                                        ALL SOURCES
                                                                       (D41)
                                                                                                        **** PAGE
                                      - ISCLT INPUT DATA -
        NUMBER OF SOURCES = 3/2
        NUMBER OF X AXIS GRID SYSTEM POINTS =
                                                21
        NUMBER OF Y AXIS GRID SYSTEM FOINTS =
        NUMBER OF SPECIAL POINTS =
        NUMBER OF SEASONS = 1
        NUMBER OF WIND SPEED CLASSES =
        NUMBER OF STABILITY CLASSES = 5
        NUMBER OF WIND DIRECTION CLASSES = 16
        FILE NUMBER OF DATA FILE USED FOR REPORTS = 1
        THE PROGRAM IS RUN IN RURAL MODE
        CONCENTRATION (DEPOSITION) UNITS CONVERSION FACTOR =0.10000000E+07
        ACCELERATION OF GRAVITY (METERS/SEC++2) = 9.800
        HEIGHT OF MEASUREMENT OF WIND SPEED (METERS) = 7.000
        ENTRAINMENT PARAMETER FOR UNSTABLE CONDITIONS = 0.600
        ENTRAINMENT PARAMETER FOR STABLE CONDITIONS = 0.600
        CURRECTION ANGLE FOR GRID SYSTEM VERSUS DIRECTION DATA NORTH (DEGREES) = .0.000:
        DECAY COEFFICIENT =0.00000000E+00
        PROGRAM OPTION SWITCHES = 1, 1, 1, 1, 0, 0, 3, 2, 2, 3, 0, 0, 0, 0, -1,-1, 0, 0, 1, 1, 0,
        ALL SOURCES ARE USED TO FORM SOURCE COMBINATION 1
       DISTANCE X AXIS GRID SYSTEM POINTS (METERS )= -1000.00, -900.00. -800.00.
                                                                                                       -60r.00,
                                                                                                                  -501 . Df .
                                                                                           -700.00.
            -400.00.
                        ~300.00.
                                    -200.004
                                                -100.00.
                                                               0.00.
                                                                        100.00.
                                                                                    200.00
                                                                                                300.00.
                                                                                                            400.00.
                                                                                                                       500.00.
             600.00.
                         700.00.
                                     80C.00.
                                                 900.00.
                                                            1000.00.
       DISTANCE Y AXIS GRID SYSTEM POINTS (METERS )= -1000.00, -900.00,
                                                                             -800.00.
                                                                                          -700.00.
                                                                                                       -600.00.
                                                                                                                  -506.06.
            -460.00,
                        -300.00.
                                    -200.00.
                                                -100.00.
                                                               0.00
                                                                         100.00.
                                                                                    200.00
                                                                                                300.00.
                                                                                                            400.00.
                                                                                                                       500.00.
             600.00.
                         700.00.
                                     00.00
                                                 900.00.
                                                            1000.00.
```

#### - AMBIENT AIR TEMPERATURE (DEGREES KELVIN) -

STABILITY STABILITY STABILITY STABILITY STABILITY STABILITY CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 CATEGORY 6 SEASON 1 300.0000 300.0000 300.0000 295.0000 289.0000

- MIXING LAYER HEIGHT (METERS) -

#### SEASON 1

WIND SPEED WIND SPEED



\*\*\* ISCLT \*\*\*\*\*\*\* ISCLT -- ANNUAL NOX

ALL SOURCES (D41)

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- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCUPRENCE OF WIND SPEED. DIRECTION AND STABILITY -

#### SEASON 1

#### STABILITY CATEGORY 1

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	VIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	C 2.5000MPS1	( 4.3000MPS)	( 6.8000MFS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)						
0.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
22.500	0.00000000	0.000000000	0.00000000	0.00000000	0.000000000	0.00000000
45.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.000000000
67.500	0.000000000	0.00000000	0.00000000	0.00000000	0.0000000	0.00000000
90.000	0.06016180	0.000000000	0.000000000	0.000000000	0.00000000	0.00000000
112.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
135.000 .	0.00000000	0.000000000	0.000000000	0.00000000	0.00000000	0.00000000
157.50 U	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
180.606	0.00020800	0.00011400	0.000000000	0.000000000	0.00000000	0.00000000
202.500	0.00014100	0.00034200	0.00000000	0.00000000	0.00000000	0.000000000
225.000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
247.500	0.00023409	0.00056900	0.000000000	0.00000000	0.00000000	0.00000000
270.000	6.00014100	0.00034200	0.000000000	0.00000000	0.00000000	0.00000000
292.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
315.000	0.00004700	0.00011400	0.00000000	0.00000000	0.00000000	0.00000000
337.500	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000

#### SEASON 1

#### STABILITY CATEGORY 2

		KIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
		CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
Ð1	RECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5009MPS)
UDE	GREESI						
	0.690	0.00110700	0.00113800	0.00102500	0.00000000	0.00000000	0.000000000
	22.500	0.00025700	0.00034200	0.00045500	0.00000000	0.00000000	0.000000000
	45.060	0.00014300	0.00045510	0.00102500	0.000000000	0.00000000	0.000000000
	67.500	.0.00332900	0.00(56900	0.00250500	0.000000000	0.00000000	0.000000000
	90.000	0.00087300	0.60182190	0.00318800	0.00000000	0.00000000	0.00000000
	112.500	0.00066400	0.00068300	0.00091100	0.00000000	0.00000000	0.000000000
	135-000	0.000 <b>07</b> 200	0.00022880	0.00045500	0.00000000	0.000000000	0.00000000
	157.500	0.00051500	9.00068370	0.00022800	0.00000000	0.000000000	0.000000000
	160.600	0.00192220	0.09192590	5.00045590	0.00000000	0.00000000	0.00000000
	262.500	0.00903600	0.00011400	0.00068380	0.000000000	0.00000000	0.000000000
	225.000	0.00066400	0.000683:0	0.00102500	0.00000000	0.000000000	0.000000000
	247.500	5.00103600	0.60091100	0.00136600	0.00000000	0.00000000	0.000000000
	270.600	3.04662200	0.00102500	0.00113880	0.00000000	0.00000000	0.00000000
	292.500	0.00343700	6.600911.J	1.90934200	0.00000000	0.000000000	0.000000000
	315.000	0.0012210b	0.001025 0	0.019455(#	5.000B/000	0.00000000	9.000000000
	137 600	5 60. 47766	0.00031190	6 03076256	0.000.000.00	0.50000556	e cocococo



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ALL SOURCES (D4)

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- ISCLT INPUT DATA (CONT.) -

- FREGUENCY OF OCCURRENCE OF WIND SPEED, DIRECTION AND STABILITY -

#### SEASON 1

#### STABILITY CATEGORY 3

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)					•	
0.000	0.00067800	0.00170800	0.00330100	0.00148000	0.00045500	0.00000000
22.500	0.00013200	0.00056900	0.00421199	0.00227700	0.00011400	0.00000000
45.000	0.00027300	0.00056900	0.00455400	0.00227700	0.00011400	0.00000000
67.500	0.00007900	0.00034200	0.00762799	0.00466799	0.90034200	0.000000000
90.000	0.00029100	0.00125200	0.01229499	0.00853799	0.00000000	0.00000000
112.500	0.00015900	0.00068300	0.00557799	0.00318800	0.00034200	0.00000000
135.000	0.00032600	0.00079780	0.00182100	0.00034200	0.00000000	0.00000000
157.500	0.00010600	0.00045500	0.00193500	0.00034200	0.00000000	0.000000000
180.500	0.00053700	0.00170800	0.00318800	0.00045500	0.00000000	0.00000000
202.500	0.00015900	0.00068300	0.00296000	0.00056900	0.00022800	0.00000000
225.000	0.00059000	0.00193500	0.00421199	0.00102500	0.000000000	0.00000000
247.530	0.00055600	0.00239100	0.00432600	0.00011400	0.00000000	0.00000000
270.000	0.00123100	0.00227700	0.00261800	0.00136600	0.00000000	0.00000000
292.500	0.00690500	0.00148000	0.00204900	0.00011400	0.00011400	0.00000000
315.000	0.00037000	0.00159490	9.00125200	0.00022800	0.00000000	0.00000000
337.500	0.00021200	0.00091100	0.00227700	0.00022800	0.00000000	0.00000000

#### SEASON 1

#### STABILITY CATEGORY 4

	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
DIRECTION	( 0.7500MPS)	( 2.5000MPS)	( 4.3000MPS)	( 6.8000MPS)	( 9.5000MPS)	(12.5000MPS)
(DEGREES)						
0.000	0.00122200	0.00387100	0.01411698	0.03403896	0:01206699	0.00113890
22.500	0.00040300	0.00125200	0.00751399	6.01445798	0.00170800	0.00022800
45.360	6.00023500	0.00091199	0.00648899	0.01092899	0.00113800	0.00022800
67.560	0.00047000	0.60182100	0.01001799	9.01718998	0.00125200	0.00011400
90.006	0.00(55100	0.00259500	0.02014998	0.02834697	0.00159400	0.00022800
112.500	0.00035600	0.00193500	0.01343349	0.02128898	0.00216300	0.00011400
135.000	0.00053700	6.00239100	0.01126999	0.01092899	0.00227700	0.900000000
15 <b>7 •</b> 50 v	0.00034300	0.00182100	).00922099	0.00637490	0.00125200	0.00022890
189.000	0.696766)6	0.604326-0	0.01434398	0.01354659	0.08296080	C • 00 0 7 0 7 0 0
202.500	0.00055730	0.00148 00	9.00853797	0.04104299	0.00296900	0.00079730
225.666	0.00.84600	0.00284600	0.08546399	1.00751399	0.00250500	0.00056900
247.500	0.00081300	0.00364300	0.00455400	0.00899399	0.00102500	0.00045500
270.000	00.55160	(.00250500	0.00523699	6.01115699	0.00626759	0.00239109
292.50t	0.60.37000	0.00204500	1.00484499	r.50375710.	0.00273210	0.00068310
515.00u	0.00112700	0.01707400	0.00694399	60671799	0.00068796	0.00034256
457-561	-1.130PPB	- C-111163976	1 - 0 4 0 9 0 1 4 9	5.0064FR95	0.00113990	8.00068316



\*\*\* ISCLT \*\*\*\*\*\*\*\* ISCLT -- ANNUAL NOX

ALL SOURCES (D41)

- ISCLT INPUT DATA (CONT.) -

- FREQUENCY OF OCCURRENCE OF WIND SPEED+ DIRECTION AND STABILITY -

SEASON 1

#### STABILITY CATEGORY 5

WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
CATEGORY I	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	CATEGORY 6
( 0.7500MPS)	( 2.5000MPS)	( 4.3GOOMPS)	( 6.8900MPS)	C 9.5000MPS)	(12.5000MFS)
			·		
0.00694999	0.00842399	0.00591999	0.00000000	0.000000000	0.00000000
0.00428799	0.00523699	0.00432600	0.00000000	0.00000000	0.00000000
0.00372700	0.00546399	0.00182100	0.00000000	0.00000000	0.00000000
0.00357460	0.00478099	0.00432600	0.0000000000	0.000000000	0.00000000
0.00888199	0.01183999	0.01001799	0.000000000	0.00000000	0.00000000
0.00430499	0.00705799	0.00705799	0.000000000	0.00000000	0.00000000
0.01047199	0.01559698	0.00375700	0.00000000	0.00000000	0.00000000
0.00815999	0.01172599	0.00364300	0.00000000	0.00000000	0.00000000
0.01391298	0.02402097	0.00660299	0.000000000	0.00000000	0.00000000
0.00745999	0.01058699	0.00296000	0.000000000	0.00000000	0.00000000
0.00954299	0.01218099	0.00296000	0.00000000	0.00000000	0.00000000
0.01129099	0.01377498	0.00318800	0.000000000	0.00000000	0.00000000
U • 01047599	0.01024599	0.00352900	0.000000000	0.00000000	0.00000000
0.00750399	0.00853799	0.00148000	0.00000000	0.00000000	0.00000000
0.01033499	0.01422998	0.00557799	0.00000000	0.00000000	0.00000000
0.00776299	0.00944899	0.00535099	0.00000000	0.000000000	0.00000000
	CATEGORY 1 (0.7500MPS) 0.00694999 0.00428799 0.00372700 0.00357460 0.00888199 0.00430499 0.01647199 0.01847199 0.00815999 0.01391298 0.00745999 0.00954299 0.0129099 0.0129099 0.0147599 0.00750399 0.01033499	CATEGORY 1 CATEGORY 2 ( 0.7500MPS) ( 2.5000MPS)  0.00694999	CATEGORY 1 CATEGORY 2 CATEGORY 3 (0.7500MPS)(2.5000MPS)(4.3G00MPS)  0.00694999 0.00842399 0.00591999 0.00372700 0.00523699 0.00432600 0.00372700 0.00546399 0.00182100 0.00357480 0.00478099 0.00432600 0.00888199 0.01183999 0.01001799 0.00430499 0.00705799 0.01047199 0.01559698 0.00375700 0.01647199 0.01559698 0.00375700 0.01815999 0.01172599 0.00364300 0.01391298 0.02402097 0.00660299 0.01391298 0.02402097 0.00660299 0.007545999 0.0128699 0.00296000 0.00954299 0.01377498 0.00318800 0.01047599 0.01047599 0.010377498 0.00318800 0.01047599 0.00853799 0.00148000 0.01033499 0.01422998 0.00557799	CATEGORY I CATEGORY 2 CATEGORY 3 CATEGORY 4 (0.7500MPS) (2.5000MPS) (4.3000MPS) (6.8000MPS) (0.7500MPS) (2.5000MPS) (4.3000MPS) (6.8000MPS) (6.8000MPS) (0.0054000000000000000000000000000000000	CATEGORY 1 CATEGORY 2 CATEGORY 3 CATEGORY 4 CATEGORY 5 (0.7500MPS) (2.5000MPS) (4.3000MPS) (6.8000MPS) (9.5000MPS) (0.7500MPS) (4.3000MPS) (6.8000MPS) (9.5000MPS) (4.3000MPS)  (4.3000MPS) (4.0000MPS)

#### - VERTICAL POTENTIAL TEMPERATURE GRADIENT (DEGREES KELVIN/METER) -

VIND SPEED WIND SPEED

#### - WIND PROFILE POWER LAW EXPONENTS -

WIND SPEED WIND SPEED



\*\*\* ISCLT \*\*\*\*\*\*\* ISCLT -- ANNUAL NOX ALL SOURCES - SOURCE INPUT DATA -C T SOURCE SOURCE X Y EMISSION BASE / A A NUMBER TYPE COORDINATE COORDINATE HEIGHT ELEV-/ - SOURCE DETAILS DEPENDING ON TYPE -R P (M) (M) ATION / D E (M) / 1 STACK 0.00 0.00 38.10 0.00 GAS EXIT TEMP (DEG K) = 644.00. GAS EXIT VEL. (M/SEC) = 9.50. STACK DIAMETER (M)= 1.380, HEIGHT OF ASSO. BLDG. (M)= (.00, WINTH OF Swoope#1 Steam unit ASSO. BLDG. (M)= 0.00, WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS ( GRAMS PER SEC SEASON 1 SEASON 2 SEASON 3 SEASON 4 4.04000E+00 WARNING - DISTANCE BETWEEN SOURCE 1 AND FOINT X.Y= 0.00 IS LESS THAN PERMITTED 2 S1ACK 0.00 - 6.60 - 6.10 - 0.00 GAS EXIT TEMP (DEG K)= 589.00, GAS EXIT VEL. (M/SEC)= 43.90, STACK DIAMETER (M)= 0.360. HEIGHT OF ASSO. BLDG. (M)= 4.60. WIDTH OF Swoope#2 Existing Diesel ASSO. BLDG. (M)= 0.00. WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS ( GRAMS PER SEC ) -SEASON 1 SEASON 2 SEASON 3 SEASON 4 3.84000E+00 2 AND POINT X+Y= WARNING - DISTANCE BETWEEN SOURCE 0.00. O.00 IS LESS THAN PERMITTED 5 STACK 0.00 0.00 6.10 0.00 GAS EXIT TEMP (DEG K)= 644.00, GAS EXIT VEL. (M/SEC)= 42.70, STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WIGHT OF Swoope #3 1#4 Proposed Combined ASSO. BLDG. (M)= 0.00, WAKE EFFECTS FLAG = 0 - SOURCE STRENGTHS ( GRAMS PER SEC SEASON 1 SEASON 2 SEASON 3 SEASON 4 1.42400E+01 WARNING - DISTANCE BETWEEN SOURCE 3 AND POINT X+Y= 0.00 IS LESS THAN PERMITTED . . . . . . .



*** ISCLT ***	***** 1SCI	LT ANNUAL I	иох	ALL SOURCES	(D41)			****** PAGE	, ,,,,
÷÷ ANNUAL	L GROUND LEVEL	L CONCENTRATIO	ON ( MICROGRAM			) FROM AL	L SOURCES CO	MBINED	• •
				RID SYSTEM RE					
	16:0.000	0.56 6.00		XIS (DISTANCE		F 0.0 0.00	***	700 000	000 000
Y AXIS (LISTANCE	-1000.000	-960.000 ERS )	-800.000	-700.000	-600.000 - ITRATION	-500.00n	-400 • roj	-300.000.	-200.000
	, MC10			- CONCEN					
1000.000	6.125322	6.127700	6.094093	6.019985	5.903982	5.750503	5.766286	7.027227	U • 411560
500.000	6.356190	6.562686	6.538740	6.464639	6.336689	6.156047	5.930664	6.838400	8.3328 6
5 € Û • Û Û Û	6.608039	6.840491	7.033495	6.959665	6.801756	6.533855	6.225493	6.464143	8.05918e
700.000	6.885277	7.149355	7.366058	7.504187	7.254660	6.901388	6.489676	6.076775	7.490542
600.000	7 • 194715	7.498895	7.734884	7.816087	7.742961	7.266974	6.676906	6.082804	6.595673
500.000	7.546048	7.900994	P 133423	8.204315	8.057222	7.643398	6.811241	5.924693	5-3783(6
466.000	8.455733	8.369009	8.642580	8.730305	8.529869	7.936595	6.917276	5.617219	4.515312
300.000	9.270226	9.495520	9.558521	9.481441	9.293653	8.578476	7.194072	5.255514	7.547310
200.000	10.560844	10.957678	11.205563	11.196426	10.786316	9.825712	8.184858	5.543178	1.6333395
100.000	11.878965	12.509329	13.024607	13.297129	13.123604	12.206591	10.177889	6.863959	7.344543
0.000	13.175607	14.069468	14.932831	15.609529	15.906578	15.455215	13.776771	10.179537	6.265150
-130.000	11.479237	12.059605	12.524664	12.754679	12.562798	11.683037	9.802814	6-831932	4.040810
-206.000	9.757004	10.040000	10.185202	10.073137	9.595356	8:657013	7.427299	5.412742	3.138496
-300.000	8.083979	8.146931	8.041805	7.836459	7.696771	7 • 16 9 1 3 3	6.144471	4.714012	4.3658°6
-455.000 506-656	6.523219	6.666589	6.814183	6-816475	6.600318	6.095775	5.297487	5.407205	5.670534
-500.000	5.789070	5.952070	6.020259	5.953754	5.715382	5.282607	5.591874	5.971330	6.611378
-600.000	5.209709	5.307322	5.329631	5.225793	4.994627	5.364688	5.777692	6.268412	7.558514
-766.006	4.695052	4.736332	4.715121	4.609434	4.974573	5.372901	5.816212	6.325062	8.071970
-R60.000	4 • 234854	4.235273	4.180302	4.530062	4.907113	5.299863	5.730793	6.542064	6.245613
-900.000	3.826123	3.797574	4.095892	4.421498	4.775195	5+156284	5.559735	6.678347	8.187111
-1008.066	3.464766	3.718670	3.994530	4.292553	4.612313	4.952946	5.426483	6.6586 <sup>0</sup> 7	7.9859 1
	<b>F</b>		•						
				RID SYSTEM RE				•	
	100 000	0 000		XIS (DISTANCE		400 000	F 0.0 3.00	400 005	726 800
v 4016 (1.15 <b>7</b> 4.6)	-100.000	0.000	100.000	200.000	300.000	400.000	500.000	600.000	739 • 090
Y AXIS (DISTANCE	t • Pit.   1	ERS )		- LUNCER	ITRATION -				
1000.000	9.869898	11.351654	9.954981	8.567457	7.239342	6.018775	5.742392	5.614089	5.484535
900.600	9.972689	11.668583	10.092953	8.553875	7.136763	6.168166	6.034616	5.897486	5.755775
800.000	9.866144	11.810623	10.035242	8.363705	6.886261	6.375821	6.270579	6.173937	f • (35849
700.000	9.439804	11.630123	9.681034	7.935769	6.610131	6.508605	6.455699	6.466486	1.311404
6.0.0€0	8.565241	10.960843	E.907347	7.227982	6.529463	6.538840	6.592488	6.618515	6.517968
500.50 <b>0</b>	7.140826	9.615231	7.623003	6.270267	6.236110	6.458998	6.697357	6.717663	( • 7085A3
400.600	5.176396	7.472694	5.840555	5.353290	5.737008	6.315817	ۥ580545	6.895285	6.911712
3 4 9 • 0 8 0	2.920495	4.577614	3.7675 <b>6</b> 2	4.160435	5.157791	5.825749	6.482625	4.943979	7.170019
201.666	1.252086	1.858342	2 • 1 3 2 9 6 3	3.936510	4.177140	5.504903	6.523929	7 • - 35 ne c	7.204359
100.06	9.494475	6.358586	6.489506	2.176285	3.765391	5.489461	6.603579	7.165307	7.334886
6.666	2.162560	0.000000	6.761915	2.792976	4.605332	6.317080	7.246098	7.624152	7.644953
-1 u . • 3 8 0	1.276458	0.946945	6.429746	1.256586	2.570521	4.214346	5.382666	6.060357	6.360042
-200.000	2.493481	4.143008	1.435534	2.429105	3.112772	3.619251	4.031170	4.720282	5.239251
-300.000	4.745513	7.685390	0.847863	3.685576	4.915764	4.951458	4.RR2779	4.720389	4.483781
-460.000	7.364324	10.736786	6.724648	4.526872	5.552440	6.444570	6.676.629	£ • 6-1 r n 2 9	1.195459
±500.€€€€	9.097662	12.263588	8.7/2436 .	5.048792	6.041901	6.552313	7.055106	6.450358	5.785475
-611.100	9 - 2713 - 2	18.724 17	5.765342	7.032058	6.290433	6.561132	6.9756 3	7.143156	6.068727
	• • • • •								



**** ISCLT *****	***** ISCL	T ANNUAL N	οx	ALL SOURCES	(041)		•	***** PAGE	7 ***
** ANNUAL	GROUND LEVEL	CONCENTRATIO	- G	S PER CURIC ME RID SYSTEM REC XIS (DISTANCE)	ETER CEPTORS -		_ SOURCES COM	BINED (CONT.)	* *
Y AXIS (DISTANCE	-100.000 • EETE	0,000 RS )	100.000	200.000 - CONCENT	300.000	400.000	500.000	609 <b>.</b> 900	700.009
-700.000	10.237406	12.561590	10.150810	7.966827	6.318871	6 • 453076	6 • 63 953 9	6.894550	6.512558
-806.666	10.124470	12.066780	10.116732	8.277456	6.653737	6.250275	6.361072	6.465375	6.500518
	9.796532	11.413338	9.836887	8.301712	6.892848	5.985910	6.046538	6.089931	6.108262
-1000.00v	9.359283	10.721052	9.428007	8.147799	6.925193	5.804323	5.689330	5.124257	5.792361
				•					
				RID SYSTEM REC					
				XIS (DISTANCE	• METERS) -				
	800.000	909.000	1900.000						
Y AXIS CDISTANCE	• METE	RS )		- CONCENT	TRATION				
1:00.000	5.351303	5.214439	5.075349		11 to 1				
966.600	5.608502	5.455925	5.299848						
8 ( C • C 0 0	5.877198	5.704020	5.534438						
766.990	6 • 143172	5.961765	5.778400						
660.600	6.404109	6.229158	6.031364				•		
500.000	6.640710	6.506221	6.294152	. '	: .				
4 8 0 • 0 0 0	6.897082	6.788972	6.539887						
300.600	7.102132	6.893804	6.608261						
200.000	7.142980	6.943727	6.671797						
150.000	7.251471	7.024717	6.727612						
t: • 6 0 6	7.453820	7.152027	6.803570		•				
-106.000	6.403279	6.289964	6.090511	i	•				
-200.000	5.441939	5.474588	5.400136		•	,			
-365.060	4.611043	4.736916	4.743624	•					
- 4 ti C • 6 ti C	4.785154	4.395904	4.144448						
-500.000	5.360918	4.879607	4 • 4.19462			6.0			
-660.000	5.864269	5.293977	4.790988						
-700.000	6.231319	5.628532	5.102954						
-800.000	6.485319	5.881890	5.350441						
-960.060	6.098072	6 • 659633	5.535496						
-1:00.00	5.73845	5.711648	5.664222	•					



```
**** ISCLT ********** ISCLT -- ANNUAL NOX
                                              NEW SOURCES & 30% OF SWOOPE #2
                                                                             HS= 20 FT
                                                                                         (D31)
                                                - SOURCE INPUT DATA -
C T SOURCE SOURCE
                                 Y
                                        FMISSION BASE /
A A NUMBER TYPE COORDINATE COORDINATE HEIGHT FIEV- /
                                                                         - SOURCE DETAILS DEPENDING ON TYPE -
R P
                    (11)
                                (M)
                                           (M)
                                                 ATION /
D F
       1 STACK
                        0.00
                                    0.00 6.10
                                                   0.00 GAS EXIT TEMP (DEG K) = 589.00. GAS EXIT VEL. (M/SEC) = 43.90.
                                                       STACK DIAMETER (M)= 0.360, HEIGHT OF ASSO. PLDG. (M)= 0.00, WIPTH OF
      Sweepe #2 Existing Diesel
                                                       ASSO. BLDG. (M)= 0.00. WAKE EFFECTS FLAG = 0
           Emission rate corresponds to
                                                        - SOURCE STRENGTHS ( GRAMS PER SEC
           Increase above 70% capacity factor limitation.
                                                                   SEASON 1
                                                                               SEASON 2
                                                                                         SEASON 3
                                                                                                        SEASON 4
                                                                  1.15000E+00
WARNING - DISTANCE BETWEEN SOURCE
                                    1 AND POINT X+Y=
                                                            0.00.
                                                                        0.00 IS LESS THAN PERMITTED
        ¿ STACK
                        (· • 0 0
                                    0.00 6.10
                                                   0.00 GAS EXIT TEMP (DEG K) = 644.00, GAS EXIT VEL. (M/SEC) = 42.70,
                                                       STACK DIAMETER (M)= 0.560, HEIGHT OF ASSO. BLDG. (M)= 0.00, WIDTH OF
      Swoope #3 E#4 Combined
                                                       ASSO. BLDG. (M) = 0.00. WAKE EFFECTS FLAG = 0
                                                             - SOURCE STRENGTHS ( GRAMS PER SEC
                                                                 SEASON 1
                                                                               SEÁSON 2
                                                                                            SEASON 3
                                                                                                         SEASON 4
                                                                  1.42400E+01
WARNING - DISTANCE BETWEEN SOURCE
                                      2 AND POINT X+Y=
                                                                        0.00 IS LESS THAN PERMITTED
                                                            0.00.
```

(3°)

-1000.000 E , NETE 4.520756 4.710518 4.914883 5.136922 5.382028 5.658475 6.051797 6.950764 7.9073.38 6.086795 9.853631 8.584108 7.298388	-900.000 ERS ) 4.530603 4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	- G - X A	RID SYSTEM RE  XIS (DISTANCE  -700-000  - CONCEN  4-458233  4-787018  5-147761  5-538367  5-755008  6-023872  6-399251	CEPTORS - , METERS)600.000 TRATION - 4.371409 4.686647 5.016402 5.320856 5.635359		-430.000 4.263452 4.364836 4.548201 4.668899	•	-200.000 
4.520756 4.710518 4.914883 5.136922 5.382008 5.658475 6.051797 6.950764 7.907338 8.886895 9.853631 8.584108 7.298388	4.530603 4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.894189 8.164433	4.511012 4.845405 5.210071 5.464080 5.741446, 6.037080 6.419033 7.094568	-700.000 - CONCEN 4.458233 4.787018 5.147761 5.538367 5.755008 6.023872 6.399251	-600.000 TRATION	4.254956 4.544641 4.796514 5.018771	4 • 263452 4 • 369836 4 • 548201 4 • 668899	5 • 188281 5 • 021120 4 • 622167	6 • 28646 6 • 12246 5 • £1780
4.520756 4.710518 4.914883 5.136922 5.382008 5.658475 6.051797 6.950764 7.907338 8.886895 9.853631 8.584108 7.298388	4.530603 4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.894189 8.164433	4.511012 4.845405 5.210071 5.464080 5.741446 6.037080 6.419033 7.094568	- CONCEN 4.458233 4.787018 5.147761 5.538367 5.755008 6.023872 6.399251	4.371409 4.686647 5.016402 5.320856 5.635359	4.254956 4.544641 4.796514 5.018771	4 • 263452 4 • 369836 4 • 548201 4 • 668899	5 • 188281 5 • 021120 4 • 622167	6 • 28646 6 • 12246 5 • £1780
4.520756 4.710518 4.914883 5.136922 5.382008 5.658475 6.051797 6.950764 7.9073.38 8.886595 9.853631 8.584108 7.298388	4.530603 4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.694189 8.164433	4.843405 5.210071 5.464080 5.741446, 6.037080 6.419033 7.094568	4.458233 4.787018 5.147761 5.538367 5.755008 6.023872 6.399251	4.371409 4.686647 5.016402 5.320856 5.635359	4.544641 4.796514 5.018771	4•369836 4•548201 4•668899	5.001120 4.67916 <b>7</b>	(+)0240 5+81780
4.710518 4.914883 5.136922 5.382028 5.658475 6.051797 6.950764 7.907338 6.086595 9.853631 8.584108 7.298388	4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	4.843405 5.210071 5.464080 5.741446, 6.037080 6.419033 7.094568	4.787818 5.147761 5.538367 5.755008 6.023872 6.399251	4.686617 5.016402 5.320856 5.635359	4.544641 4.796514 5.018771	4•369836 4•548201 4•668899	5.001120 4.67916 <b>7</b>	(+)0240 5+81780
4.710518 4.914883 5.136922 5.382028 5.658475 6.051797 6.950764 7.907338 6.086595 9.853631 8.584108 7.298388	4.858240 5.079499 5.321885 5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	4.843405 5.210071 5.464080 5.741446, 6.037080 6.419033 7.094568	4.787818 5.147761 5.538367 5.755008 6.023872 6.399251	4.686617 5.016402 5.320856 5.635359	4.544641 4.796514 5.018771	4•369836 4•548201 4•668899	5.001120 4.67916 <b>7</b>	( • ) 2240 5 • 81780
4.914883 5.136922 5.382008 5.658475 6.051797 6.950764 7.907338 8.886095 9.853631 8.584108 7.298388	5.079499 5.321885 5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	5.210071 5.464080 5.741446, 6.037080 6.419033 7.094568	5.147761 5.538367 5.755008 6.023872 6.399251	5.016402 5.320856 5.635359	4.796514 5.018771	4 • 5482 P.L 4 • 668897	4.629167	5.81780
5.136922 5.382008 5.658475 6.051797 6.950764 7.907338 8.886095 9.853631 8.584108 7.298388	5.321885 5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	5.464080 5.741446 6.037080 6.419033 7.094568	5.538367 5.755008 6.023872 6.399251	5.635359	5.018771	4.668899		
5.382008 5.658475 6.051797 6.950764 7.907338 8.886095 9.853631 8.584108 7.298388	5.593119 5.903630 6.265864 7.094189 8.164433 9.308157	5.741446, 6.037080 6.419033 7.094568	5.755008 6.023872 6.399251	5.635359				
5.658475 6.051797 6.950764 7.907338 6.886095 9.853631 8.584108 7.298388	5.903630 6.265864 7.094189 8.164433 9.308157	6.037080 6.419033 7.094568	6.023872 6.399251			4.713485	4.232613	4.5232
6.051797 6.950764 7.907338 8.886095 9.853631 8.584108 7.298388	6.265864 7.094189 8.164433 9.30E157	6•419033 7•094568	6.399251	5.819725	5.394122	4.680183	3.961777	3.5332
7.907338 8.686895 9.853631 8.584108 7.298388	7 • 094189 8 • 164433 9 • 30£157	7.094568		6.124184	5.521543	4.598712	3.564828	.7629
7.907338 8.686895 9.853631 8.584108 7.298388	8 • 164433 9 • 308157		6.957702	6.661875	5.923663	4.682643	3.135205	1.9623
ۥ686095 9•8536∂1 8•5841∪8 7•298388	9.308157		8.153919	7.686349	6.776796	5.296220	3.207801	1.3098
9•8536 d1 8•5841 u8 7•298388			9.646774	9.284388	8 • 294069	6.462439	3.851166	1.8378
8•584108 <b>7</b> •298388	エレ・サロフィンフ	11.008928	11.332335	11.268307	10.526871	8.779190	5.721337	3.7327
7.298388	8.971802	9.231838	9.260172	8.906273	. 7.978684	6.299791	3.949928	2.3760
	7.480745	7.520294	7.341415	6.861167	6.030926	4.925282	3.290251	1.7144
6.050619	6.076718	5.962884	5.757898	5.557244	5.038174	4.145288	3.009334	2.5993
4.887339	4.983474	5.965331	5.019750	4.790734	4.332579	3.663387	3.624520	3.7000
4.329359	4.449526	4.481150	4.399299		3.807566	3.968241	1.176242	4.5697
3.899849	3.967222	3.972616	3.875276	3.678033	3.921675	4.191241	1.519220	5.3951
3.511554	3.539032	3.516667				4.287094		5.8906
								6.1025
								6.1105
2.576872	2.772741	2.984722	3.212920	3.457094		4.076913	4.995479	5.7862
			RID SYSTEM RE	CEPTORS -	·			
			XIS (DISTANCE					
-100.000	$\mathbf{c} \bullet \mathbf{o} \circ \mathbf{o}$	100.000	200.000	300.000	400.000	500.000	€ b i. • 6 6 a	70(.00
E • METE	RS )		- CONCEN	TRATION -				
7.280466	я. 376677	7.351406	6.337106	5.367568	4 - 477124	4.267008	4.163865	4.0586
								4.2551
								4.4530
								4.6426
								4.7688
								4.8724
								4.9794
								5.1294
								5.1421
								5.1526
								5.6252
								4.5619
								3.7377
								3.1954
								2.7339
								4.7725
			5.074963	-	4.667537	4.919.47		4.7366
	3.163233 2.852649 2.576872 -100.000	3.163233	3.163233	3.163233	3.163233	3.163233	3.163233	3.163235

**** ISCLT *****	***** ISCLT	ANNUAL NO	NEW SOL	JRCES & 30% OF S	WOOPE #2	IS= 20 FT (D)	51) +	***** FAGE	. 7****
•• ANNUAL	GROUND LEVEL	CONCENTRATION		MS PER CUBIC ME GRID SYSTEM REC	_	) FROM ALI	L SOURCES COM	BINED (CONT.)	••
Y AXIS (DISTANCE	-100.000 • METER	0.000 S )	- X 100.000	AXIS (DISTANCE, 200.000 - CONCENT	300.000	400.000	500.000	600.900	700.000
-750.000 -800.600 -960.666 -1606.666	7.445539 7.481155 7.305363 7.012303	9•141445 8•919882 8•512440 8•032454	7.348537 7.450238 7.316545 7.049086	5.749539 6.079086 6.160236 6.079269	4.562780 4.880642 5.104819 5.154711	4.676843 4.587487 4.427017 4.307981	4.841251 4.679839 4.472134 4.217338	4.990833 4.768476 4.595086 4.239996	5.092170 4.000777 4.5178/8 4.249018
Y AXIS CUISTANCE	800∙000 • METER	900.000 S )		GRID SYSTEM REC AXIS (DISTANCE)	METERS) -	¦.			
1600.000 900.000 800.000 760.000 600.000 500.000 460.000 200.000	3.949165 4.137527 4.331511 4.522067 4.702225 4.856625 5.022134 5.156453 5.187934	3.835467 4.013654 4.199357 4.388280 4.580199 4.775698 4.973322 5.050423 5.095057	3+719000 3-890831 4-067876 4-249101 4-434093 4-623975 4-802281 4-862032 4-919748						
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.264164 5.467811 4.672099 3.953654 3.340763 3.476663 3.918739 4.309852 4.594871 4.790774 4.506586 4.239617	5.170949 5.288986 4.633645 4.018964 3.466486 3.212633 3.578633 3.894997 4.149644 4.340483 4.471251 4.211085	4.973930 5.047168 4.505657 3.983482 3.487743 3.035532 3.242239 3.522620 3.757112 3.940945 4.075399 4.165322						

