No. 0157893

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SENT TO
Mr. C. A. Woolley

STREET AND NO.
P. O. Box 60626

P.O., STATE AND ZIP CODE
New Orleans, LA 70160

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CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
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PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

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Mr. C. A. Woolley
P. O. Box 60626
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3. ARTICLE DESCRIPTION:

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☆GPO : 1979-300-459

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

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

December 17, 1982

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. C. A. Woolley
Exxon Company, U.S.A.
Post Office Box 60626
New Orleans, Louisiana 70160

Dear Mr. Woolley:

Enclosed is Permit Number AC 57-61623, dated December 16, 1982 to Exxon Company, U.S.A. issued pursuant to Section 403, Florida Statutes.

Acceptance of the 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,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

Enclosure

cc: Clifford W. Henry, Exxon Company, U.S.A.
Jack Preece, DER Northwest District

DER Form 17-1.122(65)

FINAL DETERMINATION

Exxon Company, U.S.A.'s application for permit to construct a 3600 HP gas turbine and a 1000 BHP gas engine at their complex in Santa Rosa County, Florida has been reviewed by the Bureau of Air Quality Management. Public notice of the Department's Intent to Issue the construction permit was published in the Pensacola News Journal on November 11, 1982.

Copies of the preliminary determination have been available for public inspection at the Department's Northwest District Office in Pensacola and the Bureau of Air Quality Management Office in Tallahassee.

Comments on the proposed construction permit were received from Exxon Company, U.S.A.

Exxon Company, U.S.A. requested that several modifications be made to the permit wording. These modifications involve Specific Conditions 2, 8, 9 and 15 on pages 3, 4 and 5 of the draft permit.

The Department has considered their request and made the changes described below to the specific conditions of the permit.

Specific Condition No. 2 should read 2.4 lb/hr of NO_x emitted for the 1000 BHP gas engine instead of 10.5 lb/hr.

Specific Condition No. 8 was deleted since they will not be using water injection control on this equipment. All the other conditions were renumbered.

Specific Condition No. 9 was modified to reflect only the use of sweet residue gas as fuel. This specific condition will be changed to No. 8 for the final permit.

Specific Condition No. 15 was modified as follows: Temporary stack sampling facilities will include the eyebolt and angle bracket described in Chapter 17-2.700., FAC. This specific condition will be changed to No. 14 for the final permit.

The final action of the Department will be to issue the permit with the changes noted above.

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: Exxon Company U.S.A.
P. O. Box 60626
New Orleans, Louisiana 70160

PERMIT/CERTIFICATION NO. AC 57-61623

COUNTY: Santa Rosa

PROJECT: 3600 HP Gas Turbine and 1000 HP Gas Engine

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

For the installation of a 3600 HP gas Turbine-Bingham pump package to be located at the Exxon's complex (Jay Central Saltwater Disposal System) in Santa Rosa County, Florida. The UTM coordinates are 428.8 km East and 3425.6 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on pages 3 through 5, Specific Conditions.

Attachment:

Application to Construct Air Pollution Sources, DER Form 17-1.122(16), received on October 20, 1982.

PERMIT NO.: AC 57-61623
APPLICANT: Exxon Company U.S.A.

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:

[ ] 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 57-61623
APPLICANT: Exxon Company U.S.A.

SPECIFIC CONDITIONS:

1. The new source shall be constructed in accordance with the capacities and specifications stated in the application.

2. The maximum emission rates for the 3600 HP gas turbine and 1000 BHP gas engine shall not exceed the following emission limits:

SOURCE	POLLUTANT					
	NO_x		SO_2	PM	VOC	CO
3600 HP Gas Turbine	lb/hr	PPM	PPM	5% opacity	lb/hr	lb/hr
	13.93	99.17 at 15% O_2 on a dry basis	1.32 at 15% O_2 on a dry basis		0.85	4.45
1000 BHP Gas Engine	lb/hr		lb/hr	5% opacity	lb/hr	lb/hr
	2.4		1.67		8.7	3.1

3. The 3600 HP gas turbine shall be allowed to operate continuously (8736 hours per year).

4. The 1000 BHP gas engine shall be allowed to operate continuously (8736 hours per year).

5. The fuel used to fire the 3600 HP gas turbine shall be residue gas containing less than 1 grain of H_2S content per 100 SCF.

6. Before this construction permit expires, the 3600 HP gas turbine and the 1000 BHP gas engine will be tested for visible emission, sulfur dioxide, carbon monoxide and nitrogen oxides. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference methods in Appendix A of 40 CFR 60.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Method 9. Visible Emission
   e. Compliance with the sulfur dioxide emission limits from the gas turbine will be determined by reference method 20 or by calculations based on fuel analysis (ASTM D01072-70) for sulfur content.

SPECIFIC CONDITIONS:

f. Compliance with carbon monoxide emission limits will be determined by reference method 10.

g. Compliance with volatile organic compound emission limits will be assumed provided the CO allowable emission rate is achieved; specific VOC compliance testing is not required.

h. Compliance with the allowable emissions limits for nitrogen oxides shall be conducted using EPA reference method 20 subpart GG Section 60.335 NSPS for Gas Turbines.

During performance tests to determine compliance with the proposed standard, measured NO_x emission at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_{x\ obs}) \left(\frac{P_{ref}}{P_{obs}}\right)^{0.5} e^{19\ (H_{obs} - 0.00633)} \left(\frac{T_{AMB}}{288^{o}K}\right)^{1.53}$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

$NO_{x\ obs}$ = Measured NO_x emission at 15 percent oxygen, ppmv.

P_{ref} = Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

Test results will be the average of 3 valid runs. The Department will be notified 30 days in advance of the compliance test. The test will be conducted at permitted capacity $\pm$10%.

7. Compliance with the sulfur dioxide and nitrogen oxide emissions from the 1000 BHP gas engine will be determined by method 6 and 7 respectively.

8. Sulfur and nitrogen content of the fuel being fired in the gas turbine shall be determined and recorded as specified in the NSPS for Gas Turbines 40 CFR 60, Subpart GG, 60.334. The records of fuel (sweet residue gas) usage will be kept by the company, available for regulatory agency's inspection, for a two year period.

9. The applicant shall comply with all requirements of 40 CFR 60, Subpart GG, Standards of Performance for stationary gas turbines.

10. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating or spraying roads and construction sites used by contractors will be taken by the applicant.

11. The applicant shall report any delays in construction and completion of this unit to the Department's Northwest District office.

12. The applicant will demonstrate compliance with the conditions of the construction permit, and submit a complete application for an operating permit to the Department's Northwest District office prior to 90 days of the expiration date of the construction permit. The applicant may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

13. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility. These reports will give the data specified in 40 CFR 60.334.

14. Temporary stack sampling facilities will include the eyebolt and angle bracket described in Chapter 17-2.700., FAC.

15. The source shall comply with the provisions and requirements of the attached general conditions.

Expiration Date: August 30, 1983

Issued this 16 day of December, 1982.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

RECEIVED
DEC 15 1982
Office of the Secretary

TO: Victoria Tschinkel

FROM: Clair Fancy

DATE: December 13, 1982

SUBJ: Approval and Signature of Air Construction Permit

Attached please find one Air Construction Permit for which the applicant is Exxon Company, U.S.A. The proposed construction is a 3600 HP gas turbine and a 1000 HP gas engine to be located at the Jay Central Saltwater Disposal System in Santa Rosa County.

Day 90, after which the permit would be issued by default, is February 20, 1983.

The Bureau recommends your approval and signature.

CF/pa

Attachment

→ p 4/19

Check Sheet

Company Name: Exxon Corporation
Permit Number: AC 97-61623
PSD Number:
County: Santa Rosa
Permit Engineer:
Others involved:

Application:
- [x] Initial Application
- [ ] Incompleteness Letters
- [ ] Responses
- [ ] Final Application (if applicable)
- [ ] Waiver of Department Action
- [ ] Department Response

Intent:
- [x] Intent to Issue
- [x] Notice to Public
- [x] Technical Evaluation
- [ ] BACT Determination
- [x] Unsigned Permit

  Attachments:
  - [ ]
  - [ ]
  - [ ]

- [ ] Correspondence with:
  - [ ] EPA
  - [ ] Park Services
  - [ ] County
  - [ ] Other
- [x] Proof of Publication
- [ ] Petitions - (Related to extensions, hearings, etc.)

Final Determination:
- [x] Final Determination
- [x] Signed Permit
- [ ] BACT Determination

Post Permit Correspondence:
- [ ] Extensions
- [x] Amendments/Modifications
- [ ] Response from EPA
- [ ] Response from County
- [ ] Response from Park Services

I N T E R O F F I C E M E M O R A N D U M

Date: 28-Jul-1993 11:27am EST
From: Robert Kriegel PEN
KRIEGEL_R@A1@PNS1
Dept: Northwest District Office
Tel No: 904/436-8300
SUNCOM:

TO: Teresa Heron TAL (HERON_T @ A1 @ DER)
TO: Preston Lewis TAL (LEWIS_P @ A1 @ DER)

Subject: Completeness letters, Exxon/St Regis engines

Teresa, Preston: We'd appreciate any help/direction/guidance/anything else as soon as possible! Remember, we need to get this out by Friday - day 30 on the permit clocks. Thanks!

Bob K

To: Andy Allen
From: Bob Kriegel
Date: July 28, 1993

Re: Completeness letters for Exxon applications

We need to send completeness letters for the three Exxon/St Regis applications we have addressing at least the following. They need to be mailed before Friday. We need to discuss; I suggest we E Mail this to Heron/Lewis for their input.

One possible scenario - if all of these engines were combined into one "facility" application; and, discharges were reduced from the 5000HP engine sufficient to offset the increase from the 1000HP engine - would that eliminate the PSD requirement? Impact assessments would still be necessary.

1. AO57-234131 - application for seven Ingersoll Rand recompressor engines, one of which was previously permitted under DER permit AO57-153134 with a catalytic convertor for NOX control. The current application is after the fact for the other six engines; and, seeks approval to operate without the convertor for the previously permitted engine - which will increase NOX emissions from this engine by approximately 90 TPY.

- Please provide information reviewing the history of each of these engines. This should include the date of manufacture, installation, all modification, basis for emissions estimates, etc. In addition, please advise why these sources have not been previously permitted.

- Please review the operating record of the engine previously permitted by DER permit AO57-153134 for operation with a catalytic convertor. Specifically, please identify all periods of time in which this engine has been operated without an operable convertor, and any maintenance or malfunction problems with the convertor.

- Please identify the maximum hours of operation intended for each of these engines on a daily, weekly, and annual basis.

- Please provide information demonstrating that emissions from these sources will not cause or contribute to a violation of any ambient air quality standard or maximum allowable increase. Any modeling or air quality monitoring done for this purpose should use procedures reviewed and approved in advance by the department. In addition, please identify the basis for emissions calculations from these engines.

- This project will be retroactively subject to PSD requirements pursuant to FAC Rule 17-212.400(2)(g) if the catalytic converter is removed as a result of a relaxation of a permit limitation. If so, this application will be handled by the Division of Air Resource Management, DEP, Tallahassee. Please discuss the the applicability of FAC Rule 17-212.400, and review compliance with each of the respective sections of that rule.

2. AO57-234133 - after the fact application for two 5000HP Cooper-Bessemer gas fired compressor engines, one of which has been recently downgraded to a 2500HP

engine. Exxon proposes that this "downgrade" be used as a "trade off" for increased emissions resulting from removing the catylytic convertor on the Ingersoll Rand engine previously permitted.

Same as questions 1, 3, 4 above.

3. AO57-234135 - application for a natural gas 3600HP Centuar-Solar turbine previously permitted by DER permit AO57-153134. This engine was permitted by DARM using "offsets" created by installing a catalytic convertor on one of several then existing engines.

- Same as question 5, above.

I N T E R O F F I C E M E M O R A N D U M

Date: 26-Jul-1993 08:57am EST
From: Robert Kriegel PEN
KRIEGEL_R@A1@PNS1
Dept: Northwest District Office
Tel No: 904/436-8300
SUNCOM:

TO: Teresa Heron TAL (HERON_T @ A1 @ DER)
TO: Preston Lewis TAL (LEWIS_P @ A1 @ DER)

Subject: Review notes, Exxon\St Regis facility OP's

Teresa: We're reviewing an application from Exxon for their Jay facility and have until the end of this week to identify any incompleteness issues. Ric Prusa sent you some earlier correspondance and discussed the project with you some time ago. We need input from you on handling this application.

Bob K

To: Andy Allen
From: Bob Kriegel
Date: July 23, 1993

Re: Review of Exxon applications AO57-134131, an after the fact permit application for seven Ingersoll Rand recompressor engines; AO57-234133, an after the fact permit application for two Cooper-Bessemer gas fired compressor engines; and AO57-134135, for a 3600HP Centaur-Solar gas turbine all located at Exxon's St Regis facility near Jay, Florida.

Exxon applied for operating permits for compressor engines at their St Regis facility July 2, 1993. The first, AO57-234131, is for a group of seven natural gas 1000HP Ingersoll Rand recompressor engines - one of which was previously permitted under DER permit AO57-153134. These engines recompress residue gas from 120 psi to 550 psi prior to final gas treating. The second, AO57-234133, is an after the fact permit for two natural gas Cooper-Bessemer compressor engines neither of which have been previously permitted. One of these engines, the "A" unit is a 5000HP engine used to recompress residue gas from 120 to 550 psi prior to final gas treating. The other, the "B" unit is a "downsized" unit derated to 2500HP used for refrigeration and sales gas compression for gas plant service. The third, AO57-234135, is for a natural gas 3600HP Centuar-Solar turbine used as a back-up system for water disposal.

The Centuar-Solar gas turbine, and one of the seven Ingersoll recompressor engines were evaluated in a preconstruction and NSPS review done in Tallahassee in 1983. This evaluation concluded that operation of the gas turbine and a modified by installation of a catalytic converter recompressor would meet applicable standards. Anticipated emissions in tons/year were:

Source	NOX	SO2	PM	VOC	CO
3600HP gas turbine	61.0	0.4	NA	3.6	19.0
1000HP recompressor	10.5*	4.7	NA	38.1	13.57

* NOX emissions reduced 90% by use of a catalytic converter

These sources were initially permitted by AC57-61623, and subsequently by permits AO57-74343 (expired 10/1/88) and AO57-153134 (expires 9/1/93). The emission limits in the operating permits are:

Turbine NOX - 150ppm at 15% O2 (12 lbs/hr) (52.56 TPY)
Turbine CO - 4.45 lbs/hr (19.5 TPY)
engine NOX - 5 lbs/hr (21.9 TPY)

Evidently the remaining engines including both the unpermitted 6 Ingersoll Rand 1000HP engines and the two Cooper Bessemer engines (5000, and 2500 HP) have been in operation continuously since prior to the permitting of the 3600HP Solar turbine.

In essence these applications seeks permits for previously unpermitted sources that have been in operation, realigns the sources into three permits (Ingersoll Rand compressor engines, Cooper-Bessemer compressor engines, Solar turbine), and requests that the requirement for a catalytic converter on the one 1000HP Ingersoll Rand compressor be eliminated due to recurring maintenance problems.

Exxon represents that potential NOX emissions in 1983 totaled 1738.1 tons/yr, i.e.:

3600 HP Solar Turbine	45.7
2 5000 HP Cooper-Bessemer engines	1051.2
6 1000 HP Ingersoll Rand engines	630.7
1 1000 HP Ingersoll Rand engine with catalytic converter	10.5
TOTAL	1738.1 tons NOX/year

They also represent that the modified configuration which they request results in less potential (and significantly less actual due to production) emissions, i.e.:

3600 HP Solar Turbine	45.7
1 2500 HP Cooper-Bessemer engine	262.8
1 5000 HP Cooper-Bessemer engine	525.6
7 1000 HP Ingersoll Rand engines	735.8
TOTAL	1569 tons NOX/year

I did some "seat of the pants" preliminary screening modeling using TSCREEN and some assumed paramaters. The results indicate the turbine may potentially result in a 24 hour max of 104 ug/m; the total may be as high as 2965 ug/m. The ambient air quality standard is 100 ug/m - annual arithmatic mean. These levels of emissins have potential to result in ambient concentrations in excess of the AAQS.

I understand there have been previous meetings and discussions with Exxon on the handling of these applications. It seems to me we have:

- enforcement and compliance issues concerning the unpermitted operation of the various sources

- issues related to how and where these applications should be handled. Emissions will significantly exceed PSD significant emission rates for at least CO (100 tons), NOX (40 tons), and SO2(40 tons), but these are not "new" sources or emissions.

RE: Exxon/St Regis Facility

In response to your E-mail and confirming previous conversations with R. Prusa and Andy Allen ,I am providing the following comments:

1. Permit AC-57-61623
   3600 HP Gas Turbine and 1000 HP Recompressor Engine

This permit was issued for the 3600 HP Gas Turbine under F. A. C. 17-212.300.,Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements. NOx emission offsets were credited as a result of adding a catalytic converter to an existing 1000 HP recompressor engine that reduced emissions by 90% and avoided review of that application under the PSD regulations.
This project should be retroactively subject to PSD regulations in accordance with F.A. C. Rule 17-212.400(2)(g)., **Relaxations of Restrictions on Pollutant Emitting Capacity.**, if they elect to remove the catalytic converter. This section reads: " If a previously permitted facility or modification becomes a facility or modification which would be subject to the NSR requirements of this section if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the NSR requirements of this section shall apply to the facility or modification as though construction had not yet commenced on it ".

2. The applicant needs to account for all emissions. We understand that their proposal would result in:
a) Seven Ingersoll Rand compressor engines - one permit.
b) Two Cooper-Bessemer compressor engines- second permit
c) One Solar Turbine - third permit

3. If the screening modeling potentially showed an excedance of the AAQS, an air quality analysis should be required.

4. It appears PSD regulations are not applicable to the existing reciprocating engines; however, we need to know when where they installed and has any modifications (in the past or planned) taken place for these engines. What are the contemporaneous emission changes?. Are the emissions reported based on stack testing, manufacturer'guarantee , AP-42, etc..?

5. Compliance and enforcement issues should be addressed to J. Pennington or Bill Leffler. A copy of your E-mail will be forwarded to them.

6. If PSD regulations are applicable, this application(s) should be handled at Tallahassee in accordance with the Bureau policy.

To file
ASA
6/23 -
RP & I met with Exxon on 6/22. Exxon to document updated request
RECEIVED 6/23

JUN 21 1993
Northwest Florida DER

EXXON COMPANY, U.S.A.
POST OFFICE BOX 61707 • NEW ORLEANS, LOUISIANA 70161-1707

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

rdw
6/22

June 17, 1993

St. Regis Facility
Santa Rosa County

Mr. Ed Middleswart
Program Administrator
Air Resources Management
160 Governmental Center
Pensacola, Florida 32501-5794

Post-it™ brand fax transmittal memo 7671 | # of pages ▸

To Theresa Heron	From Rick Pinsa
Co. DEP/DARM/BAR TLH	Co. NW Dist.
Dept.	Phone # SC 695-8364
Fax # (904)-922-6979	Fax #

Dear Mr. Middleswart:

The Exxon Company, U.S.A., St. Regis Facility currently holds FDER Permit No. A057-153134 for the operation of a 3600 Hp Solar Turbine and a 1000 Hp Ingersoll Rand recompressor engine with catalytic converter for NOx. Permit No. A057-153134 is due for renewal July 1, 1993, having been initially issued October 18, 1983 and renewed September 2, 1988. On the occasion of the initial issuance in 1983, Exxon needed to add the Solar Turbine to other existing facilities to accommodate production needs. In order to avoid complex permitting requirements, it was agreed that one of the existing 1000 Hp recompressor engines, the #1 Ingersoll Rand, would be equipped with a catalytic converter with a nominal converter efficiency of 90% to reduce that engine's NOx emissions by a magnitude in excess of the new emission created by the addition of the Solar Turbine (3600 Hp); the trade-off being somewhat as follows:

#1 Ingersoll Rand Engine w/o Converter (24 lb NOx/1000 Hp-hr)	24 lb NOx/hr.
#1 Ingersoll Rand Engine with Converter	2.4 lb NOx/hr.
	21.6 lb/hr reduction
Solar Turbine (2.9 lb NOx/1000 Hp-hr)	10.4 lb NOx/hr.

In recent years the production at this plant and in this field has been in decline. As an illustration of this fact, the following annual production history is quoted:

1983	55.87×10^6 cubic feet/day hydrocarbon gas
1992	20.1×10^6 cubic feet/day hydrocarbon gas

With this markedly reduced rate of activity, Exxon has found correspondingly less need for all of the equipment in place during 1983. At the time of installation of the 3600 Hp Solar Turbine in 1983, the following equipment was on line and basically operating continuously.

RECYCLED

		EMISSIONS, TON/YR. (NOx)	EMISSIONS TON/YR. (NOx)
1	3600 Hp Solar Turbine	1.1	45.7
1	2500 Hp Cooper-Bessemer Engine (B)	220.8	262.8
1	5000 Hp Cooper-Bessemer Engine (A)	466.7	525.6
7	1000 Hp Ingersoll Rand Recompressor Engines	484.2	735.8
	1993 TOTALS:	1172.8	1569.9

These data, based on AP-42 factors, indicate that the current plant configuration (with the #1 Ingersoll abandoning the catalytic converter) has less NOx potential emission than the 1983 configuration by 168.2 tons per year. Actual emission estimates, based on AP-42 factors and actual operating hours, indicate an even more favorable posture.

At this time, Exxon would like to realign the existing air emission permit while at the same time initiating an effort to obtain permits for sources not previously included in the FDER permit system. Specifically, at this time Exxon would like to permit the seven Ingersoll Rand compressor engines as a group in one permit, the two Cooper-Bessemer compressor engines in a second permit and the Solar turbine in a third permit.

As we explained in our March 29, 1993 letter, the catalytic converter has been repaired and replaced on several occasions and following a November 1992 inspection, it was discovered to be damaged again. This strategy allows the abandonment of the catalytic converter on the No. 1 engine while maintaining these sources under enforceable permits in a configuration that assures potential emissions less in total than existed in 1983,the time period of the original permitting activity for the Solar turbine.

We would appreciate the opportunity to meet with you and your appropriate staff members to discuss our proposal before we submit the permit applications. Please contact Karen Holden at (504) 561-4391 to make arrangements for a meeting at your office. We appreciate your time and consideration.

Sincerely,

K. E. Killian, Supervisor
Regulatory Compliance - Inshore

KCH:sj (KCH118)

QTY	UNIT	POTENTIAL NOx EMISSIONS TON/YR.
1	3600 Hp Solar Turbine	45.7
2	5000 Hp Cooper-Bessemer Engines (A+B)	1051.2
6	1000 Hp Ingersoll Rand Recompressor Engines	630.7
1	1000 Hp Ingersoll Rand Recompressor Engine with catalytic converter	10.5
	1983 Total Potential:	1738.1 ton/yr.

This equipment currently serves the following purposes:

SOLAR TURBINE: This turbine is used to drive a produced water disposal pump. This is a back-up system which is seldom used.

"B" COOPER-BESSEMER: This engine is strictly for gas plant service. It drives a two stage refrigeration compressor and a one stage sales gas compressor.

"A" COOPER-BESSEMER: This engine is used to compress residue gas from 120 psi up to 550 psi at which point it enters final gas treating.

INGERSOLL RAND COMPRESSORS (7 EA): These engines are used to compress residue gas from 120 psi up to 550 psi at which point it enters final gas treating. Under normal operating conditions, only four of the seven engines are required.

Since 1983, production has dramatically dropped and the equipment less heavily utilized. Additionally, one of the 5000 Hp Cooper Engines has been irrevocably downgraded to 2500 Hp. The 1993 situation relative to NOx is as follows:

QTY	UNIT	ACTUAL 1993 EMISSIONS, TON/YR. (NOx)	POTENTIAL EMISSIONS TON/YR. (NOx)
1	3600 Hp Solar Turbine	1.1	45.7
1	2500 Hp Cooper-Bessemer Engine (B)	220.8	262.8
1	5000 Hp Cooper-Bessemer Engine (A)	466.7	525.6
7	1000 Hp Ingersoll Rand Recompressor Engines	484.2	735.8
	1993 TOTALS:	1172.8	1569.9

Exxon — St. Regis Facility

	Current	Proposed
7 Ingersoll-Rand Compressor Engines	1 engine w/ cat. converter AO57-153134	AO new, all engines removal of catalytic converter
1 Solar Turbine	AO57-153134	AO renewal
2 Cooper Bessemer* Engines	N.A.	AO, new, both engines

*1 engine was reduced from 5000 HP to 2500 HP thus cutting its emissions in half.

From AC57-61623 Technical Evaluation

The Solar turbine was projected to emit 61.0 TPY NO_x and was permitted with the installation of a catalytic converter on one Ingersoll-Rand compressor engine reducing its emissions from 105 TPY to 10.5 TPY. Thus for Exxon to remove the catalytic converter there would be an increase of 94.5 TPY NO_x.

The seven compressor engines were never permitted as a group, which Exxon now proposes to do. The 7 engines emit 484.2 TPY NO_x (Exxon letter 6-17-93).

Further two Cooper-Bessemer engines are to be permitted. Both these engines were 5000 HP each but now one has been retrofitted to 2500 HP. This reduces NO_x emissions by an estimated 2628 TPY potential emissions. But total NO_x emissions are 687.5 TPY for both engines (Exxon letter 6-17-93).

Do not operate more than 4 L00.5 TPY

P 408 530 376

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. C. A. Woolley	
Street and No. P. O. Box 60626	
P.O., State and ZIP Code New Orleans, LA	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 9/29/83	

PS Form 3800, Feb. 1982

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered..... ¢
   - ☐ Show to whom, date and address of delivery.... ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered..... ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. C. A. Woolley
P. O. Box 60626
New Orleans, LA 70160

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P408530376	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY OCT 3 1983 POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

NEW ORLEANS, LA OCT 3 USPO

☆GPO : 1979-300-459

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

September 26, 1983

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. C. A. Woolley
Exxon Company
Post Office Box 60626
New Orleans, Louisiana

Dear Mr. Woolley:

The department is in receipt of your request for a modification of your construction permit, No. AC 57-61623. This request is acceptable and the conditions are changed as follows:

Specific Condition No. 2

2. The maximum emission rates for the 3600 HP gas turbine and 1000 BHP gas engine shall not exceed the following emission limits:

FROM:

SOURCE	POLLUTANT					
	NO_x		SO_2	PM	VOC	CO
3600 HP Gas Turbine	lb/hr	PPM	PPM	5% opacity	lb/hr	lb/hr
	13.93	99.17	1.32 at 15% O_2 on a dry basis		0.85	4.45
1000 BHP Gas Engine	lb/hr		lb/hr	5% opacity	lb/hr	lb/hr
	2.4		1.67		8.7	3.1

TO:

2. The maximum emission rates for the 3600 HP gas turbine and 1000 BHP gas engine shall not exceed the following emission limits:

SOURCE	POLLUTANT					
	NO_x		SO_2	PM	VOC	CO
3600 HP Gas Turbine	lb/hr	PPM	Per Cond. No. 5	5% opacity	lb/hr	lb/hr
	12.00	150 at 15% O_2 on a dry basis			0.85	4.45
1000 BHP Gas Engine	lb/hr 5.00			5% opacity		

Specific Condition No. 6

FROM:

Before this construction permit expires, the 3600 HP gas turbine and the 1000 BHP gas engine will be tested for visible emission, sulfur dioxide, carbon monoxide and nitrogen oxides. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference methods in Appendix A of 40 CFR 60.

a. Method 1. Sample and Velocity Traverses
b. Method 2. Volumetric Flow Rate
c. Method 3. Gas Analysis
d. Method 9. Visible Emission
e. Compliance with the sulfur dioxide emission limits from the gas turbine will be determined by reference method 20 or by calculations based on fuel analysis (ASTM D01072-70) for sulfur content.
f. Compliance with carbon monoxide emission limits will be determined by reference method 10.
g. Compliance with volatile organic compound emission limits will be assumed provided the CO allowable emission rate is achieved; specific VOC compliance testing is not required.
h. Compliance with the allowable emissions limits for nitrogen oxides shall be conducted using EPA reference method 20 subpart GG Section 60.335 NSPS for Gas Turbines.

During performance tests to determine compliance with the proposed standard, measured NO_x emission at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_x \text{ obs}) \left(\frac{P_{ref}}{P_{obs}}\right)^{0.5} e^{19 (H_{obs} - 0.00633)} \left(\frac{T_{AMB}}{288^{\circ}K}\right)^{1.53}$$

where:

NO_X = Emissions of NO_X at 15 percent oxygen and ISO standard ambient conditions.

$NO_{X_{obs}}$ = Measured NO_X emission at 15 percent oxygen, ppmv.

P_{ref} =Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

Test results will be the average of 3 valid runs. The Department will be notified 30 days in advance of the compliance test. The test will be conducted at permitted capacity $\pm$10%.

TO:

Before this construction permit expires, the 3600 HP gas turbine will be tested for visible emission, sulfur dioxide, carbon monoxide and nitrogen oxides. The 1000 BHP gas engine will be tested for visible emission and nitrogen oxides. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference methods in Appendix A of 40 CFR 60.

a. Method 1. Sample and Velocity Traverses
b. Method 2. Volumetric Flow Rate
c. Method 3. Gas Analysis
d. Method 9. Visible Emission
e. Compliance with the sulfur dioxide emission limits from the gas turbine will be determined by reference method 20 or by calculations based on fuel analysis (ASTM D01072-70) for sulfur content.
f. Compliance with carbon monoxide emission limits will be determined by reference method 10.
g. Compliance with volatile organic compound emission limits will be assumed provided the CO allowable emission rate is achieved; specific VOC compliance testing is not required.

h. Compliance with the allowable emissions limits for nitrogen oxides shall be conducted using EPA reference method 20 subpart GG Section 60.335 NSPS for Gas Turbines.

During performance tests to determine compliance with the proposed standard, measured NO_x emission at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_{x_{obs}}) \left(\frac{Pref.}{P_{obs}}\right)^{0.5} e^{19(H_{obs} - 0.00633)} \left(\frac{288^oK}{T_{AMB}}\right)^{1.53}$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

NO_x = Measured NO_x emission at 15 percent oxygen, ppmv.
obs

P_{ref} =Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperature of ambient air at test.

Test results will be the average of 3 valid runs. The Department will be notified 30 days in advance of the compliance test. The test will be conducted at permitted capacity $\pm$10%.

Specific Condition No. 7

FROM:

Compliance with the sulfur dioxide and nitrogen oxide emissions from the 1000 BHP gas engine will be determined by method 6 and 7 respectively.

TO:

Compliance with the nitrogen oxide emissions from the 1000 BHP gas engine will be determined by EPA method 7.

Attachment:

Mr. B. W. Evans' modification request letter dated August 30, 1983.

This letter and attachment must be attached to your permit AC 57-61623, and shall become a part of that permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/thm

cc: B. W. Evans, District Manager, Exxon Company
Northwest District

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee	
To: _____	Loctn.: _____
To: _____	Loctn.: _____
To: _____	Loctn.: _____
From: _____	Date: _____
Reply Optional [ ]	Reply Required [ ] Info. Only [ ]
Date Due: _____	Date Due: _____

TO: Clair Fancy

THRU: Bill Thomas BT

FROM: Teresa M. Heron T.H.

DATE: September 23, 1983

SUBJ: Exxon Company's permit No. AC 57-61623
3600 HP Gas Turbine - 1000 BHP Gas Engine

I agree with Jack Preece's recommendation and Exxon's request to amend permit No. AC 57-61623.

In my opinion, condition No. 6 should also be modified to exclude the 1000 BHP gas engine from the test requirements for sulfur dioxide and carbon monoxide.

Regarding the ISO adjustment equation the correct equation is as follows:

$$NO_x = (NO_{x_{OBS}}) \left(\frac{Pref.}{P_{OBS}}\right)^{0.5} e^{19(H_{OBS} - 0.00633)} \left(\frac{288°K}{Tamb.}\right)^{1.53}$$

The equation as it appears in the final permit was published in the Federal Register of September 10, 1979. Please see attached EPA's letter.

TH/ks

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

APR 28 1983

DER
MAY 02 1983
BAQM

Ms. Teresa M. Heron
Department of Environmental Regulation
State of Florida
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Ms. Heron:

As you requested in our phone conversation of April 26, 1983, I am sending you this letter to confirm the correct ISO adjustment equation for the new source performance standard for stationary gas turbines. The equation as it appears in the Federal Register of September 10, 1979, (44 FR 52800) is incorrect. The correct equation is as follows:

$$NO_X = (NO_{X_{OBS}}) \left(\frac{Pref.}{P_{OBS}}\right)^{0.5} e^{19(H_{OBS} - 0.00633)} \left(\frac{288°K}{Tamb.}\right)^{1.53}$$

Also, as we discussed, the allowance for fuel NO_X in the standard must be based on the amount of bound nitrogen actually present in the fuel being burned in the gas turbine. There is no bound nitrogen in natural gas (the primary fuel for the Kissimee Utility gas turbine) and only a negligible amount in most #2 distillate (the emergency fuel). Thus, for most (if not all) of this gas turbine operating time, a fuel NO_X allowance will be inappropriate and allowable NO_X emissions will be 79 ppmv. However, the permit does require the fuel nitrogen to be measured (p.4 of 5), so the allowance for it can be applied when appropriate. It should be noted that the plant must file a report whenever the plant burns fuel with a nitrogen level giving a higher fuel NO_X allowance than that provided during compliance tests.

You commented that the proposed standards allowed only the gas turbine heat rate to be used in determining allowable NO_X emissions, but that this limitation does not appear in the promulgated standards (Part 60, Subpart GG). The limitation is defined in Part 60, Subpart GG as follows:

1. The standard is defined by the formula in 60.332(a)(1), when y = manufacturer heat rate ... for the affected facility.

2. The affected facility is, per 60.330, all stationary gas turbines.

3. And, in 30.331(a) "Stationary gas turbine" means any ... gas turbine portion of a combined cycle steam/electric generating system .... portability.

If you have any further questions, please contact me at (919) 541-5596, or call Doug Bell at (919) 541-5578.

Sincerely yours,

Eric A. Noble
Industrial Studies Branch
Emission Standards and
Engineering Division

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due: _____	Date Due: _____	

9/19
Bill -
Have Whoeva reviewed this to check into this. Have them call Preece early on so he knows what we are doing. Only CAPS can amend CAPS permits.
Clair

DER
SEP 15 1983
BAQM

TO : Clair Fancy

THRU : Thomas W. Moody

FROM : Jack Preece

DATE : September 13, 1983

SUBJECT: Amend AC57-61623

The subject permit was issued through CAPS December 16, 1982. Exxon Company, USA by letter August 30, 1983 has requested various conditions be amended. A copy of that request is attached.

I am processing their application for an operation permit. Without an amendment to the construction permit, I would be forced to recommend denial of an operation permit. However, I believe their requests are reasonable and therefore I do recommend amendments to AC57-61623. I have attached a draft letter which contains the amendments I recommend. If these amendments are granted I shall be able to issue an operation permit since they have shown compliance.

I did not include their requested increase in CO limit from the Turbine since they had shown compliance with the 4.45 lb/hr standard and they had not justified any change. I also did not recommend omitting the 5% opacity from the Gas Engine. I did however recommend omitting the CO standard from the Gas Engine because it is required to operate at a high CO level in order to obtain good efficiency of NO_x conversion in the catalytic converter. The efficiency of the catalytic converter has been shown to decrease with time, therefore their requested limit of 5 pounds/hour seems reasonable, and a net decrease in NO_x is still achieved.

JP/jps
Attachments

DRAFT

September 13, 1983

Mr. C. A. Woolley
Exxon Company
Post Office Box 60626
New Orleans, Louisiana 70160

RE: Amendment of AC57-61623

Dear Mr. Woolley:

In accordance with a request from Mr. B. W. Evans dated August 30, 1983, the subject permit is amended by this letter.

Specific Condition 2. shall read:

2. The maximum emission rates for the 3600 gas turbine and 1000 BHP gas engine shall not exceed the following emission limits:

SOURCE	POLLUTANT					
	NO_x		SO_2	PM	VOC	CO
	lb/hr	ppm			lb/hr	lb/hr
3600 HP Gas Turbine	12.0	150	Per Cond. 5	5% Opacity	0.85 See Cond. 6g	4.45
1000 BHP Gas Engine	5.0		Omit	5% Opacity	Omit	Omit

To correct a typographical error the equation in Condition 6 ~~Number 6~~ shall read:

$$NO_x - (NO_x obs)\left(\frac{Pref}{Pobs}\right)^{0.5} e^{19(H\ obs - 0.00633)\left(\frac{Tamb}{288^{o}K}\right)^{-1.53}}$$

DRAFT

Condition 7 shall read:

7. Compliance with the nitrogen oxide emissions from the 1000 BHP gas engine will be determined by EPA Method 7.

This letter shall be attached to and made a part of permit AC57-61623.

Sincerely,

Victoria J. Tschinkel
Secretary, Department
of Environmental Regulation

VJT/jp

28074

EXXON COMPANY, U.S.A.
POST OFFICE BOX 12159 • PENSACOLA, FLORIDA 32590

PRODUCTION DEPARTMENT
PENSACOLA DISTRICT

B.W. EVANS
DISTRICT MANAGER

RECEIVED
AUG 31 1983
NORTHWEST FLORIDA
DER

August 30, 1983

Permit AC57-61623
3600 HP Gas-Fired Turbine
Jay Central SWD System
St. Regis Treating Facility
Santa Rosa County, Florida

Mr. R. V. Kriegel
Florida Department of Environmental Regulation
160 Governmental Center
Pensacola, Florida 32501

Dear Mr. Kriegel:

This letter supersedes previous correspondence dated August 19, 1983 which transmitted a Certificate of Completion of Construction for a 3600 HP gas-fired turbine. This turbine was recently installed in the Jay Central Saltwater Disposal System at the St. Regis Treating Facility. It is requested that the Certificate of Completion be approved and that the Construction Permit Limits be amended as listed in the tables below so that an Operating Permit can be issued. These new limits are within the New Source Performance Standards (NSPS) and satisfy our proposed transaction of offsetting new turbine NOx emissions. Emission test reports and a $200 permit fee for the 3600 HP gas-fired turbine and the 1000 HP gas-fired engine equipped with catalytic converter were enclosed with the previous letter.

Emission test results for the 3600 HP gas-fired turbine are summarized in the following table.

Pollutant	Original Estimated Permit Limits	Measured Emissions	Amended Construction Permit Limits
NOx	13.93 lb/hr	9.4 lb/hr	12 lb/hr
	99.17 ppm	133.5 ppm	150 ppm
SO_2	1 grain H_2S/ 100 scf fuel	1 grain H_2S/ 100 scf fuel	1 grain H_2S/ 100 scf fuel
CO	4.45 lb/hr	3.3 lb/hr	5 lb/hr
Opacity	5 percent	0 percent	5 percent

Emission test results for the 1000 HP gas-fired engine are summarized in the following table.

Pollutant	Original Estimated Permit Limits*	Measured Emissions	Requested New Operating Permit Limits
NOx	2.4 lb/hr***	0.75 lb/hr***	5 lb/hr
SO_2	1.67 lb/hr	0.55 lb/hr	Omit
Opacity	5 percent	0 percent	Omit
CO	3.1 lb/hr	6.17 lb/hr	Omit
Catalyst NOx Conversion Efficiency**	90 percent (proposed)	95.5 percent	80 percent

*Permit limits were estimated by Exxon using EPA AP-42.

**A conversion efficiency of 80 percent will offset amended permit limits of NOx emissions from the 3600 HP turbine by reducing NOx emissions from the 1000 HP engine, and yield a net 30 ton/year reduction in NOx emissions at the St. Regis plant site.

***These are flowrates of NOx after the converter.

The measured NOx emissions from the 3600 BHP turbine are lower than our original estimates. While the concentration of NOx in the exhaust gases is higher than the permit level estimated by our office, it is still below the 150 ppm level allowed by NSPS. Measured concentrations of SO_2 emissions corresponded to permit limits and are far below the NSPS restriction of 150 ppm. CO and opacity are well within permit limits. The requested amendments to the Construction Permit Limits are within the NSPS and represent prudent operation of this machinery.

As previously stated, the catalytic converter is installed on the 1000 HP engine and is functioning properly. As discussed in a meeting between Jack Preece of your office, Jerry Fugate of our Office, and Dr. Sholtes of Sholtes & Koogler Environmental Consultants, an operating range of greater than 0.4 percent was established as a minimum for CO entering the catalytic converter to attain required NOx reduction of 90 percent. This CO level is below the normal operating CO levels of the engine. The engine is also equipped with an automatic CO controller which will maintain a CO level of greater than 0.4 percent. As shown, we request lowering the permitted conversion efficiency of the catalytic converter to 80 percent which will raise the permitted NOx limit to 5 lb/hr (21.9 tons/year). This will accomplish an 80 ton/year NOx reduction from the 1000 HP engine's previous 105 ton/year emission (EPA AP-42). Therefore, the new turbine NOx emission of 12 lb/hr (52 tons/year) will be offset yielding a net 30 ton/year NOx reduction at the St. Regis site. Additionally, we are requesting that all other pollutant limits be dropped from the 1000 HP engine since we have not modified the operation of this engine and it is currently operating under the "grandfather clause" of the NSPS.

Exxon has complied with all requirements of Permit AC57-61623 and NSPS and hereby requests the Construction Permit be amended as discussed earlier and the issuance of an operating permit for the 3600 HP gas-fired turbine at our St. Regis Treating Facility. If there are any questions, please contact Ed Smith at 474-6537.

Yours very truly,

EXXON COMPANY, U.S.A.

B. W. Evans
District Manager

JDF/EJS:lf

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

July 5, 1983

New Source Performance Standard
as Applies to the Jay Central
Saltwater Disposal Facility

Mr. Steve Smallwood
Bureau Chief
Florida Department of Environmental Regulation
Twin Tower Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

DER
JUL 11 1983
BAQM

Dear Mr. Smallwood:

The following information is furnished to satisfy the reporting requirements of 40 CFR 60.7 as modified by Mr. Tommie A. Gibbs' letter of December 8, 1980.

During the second quarter of 1983 there were no monthly composite samples of Jay Saltwater Disposal turbine fuel gas that exceeded 0.1 WT% total sulfur. We trust that this information is sufficient for your reporting standards.

Yours very truly,

EXXON CORPORATION

By for D. J. Lewallen, Section Head
Revenue & Regulatory Accounting
Southeastern Division
Exxon Company, U.S.A.
(a division of Exxon Corporation)

RWW:csh

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

March 28, 1983

DER

JCSWDS NSPS Requirements
Permit AC 57-61623
Santa Rosa County, Florida

APR 04 1983

BAQM

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

The attached information is furnished to satisfy notification requirements of 40 CFR Part 60 of New Source Performance Standards for Permit AC 57-61623.

Very truly yours,

Exxon Corporation

By for _____
D. J. Lewallen, Section Head
Revenue and Regulatory Accounting
Southeastern Division
Exxon Company, U.S.A.
(a division of Exxon Corporation)

LJC/er
Attachment

Jerry Fugate will coordinate directly with Jack Preece on actual testing date

BT 4/4/83

Applicable Standard:
(Check One)

___ Petroleum Liquids Storage Vessels
X Stationary Gas Turbines
___ _____

Location of Affected Equipment:

Field: Jay/LEC
County: Santa Rosa
State: Florida

Description and identification of Affected Equipment:
3600 HP Gas Turbine

Person to contact for inspection arrangements:
Operations Supt. J. C. Collis
Telephone (904) 477-8240 ext 224

	Action for which notice is given or report furnished (Check appropriate notice(s)).	Date
___	Prior notice of modification on anticipated date shown:	/ /
	Description of physical or operational change: Installation of 3600 HP Gas Turbine	
	Description of present and proposed emission control system: Catalytic Convertor to be installed on 1000 HP Reciprocating Recompressor	
___	Actual date construction commenced.	/ /
___	Anticipated date of initial startup.	/ /
X	Actual date of initial startup.	3 /10/83
X	Anticipated date of performance testing.	4 /13/83
___	Anticipated date of evaluation of continuous monitoring system.	/ /
___	Report on performance testing is enclosed.	/ /
___	Report on evaluation of continuous monitoring system is enclosed.	/ /
___	Equipment has been taken out of service on date shown. All required reporting or testing will stop.	/ /
X	Previously furnished notice for performance testing was inaccurate. Correction is shown above.	/ /

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

January 14, 1983

JCSWDS NSPS Requirements
Permit AC 57-61623
Santa Rosa County, Florida

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

The attached information is furnished to satisfy notification requirements of 40 CFR Part 60 of New Source Performance Standards for Permit AC 57-61623.

Yours very truly,

Exxon Corporation

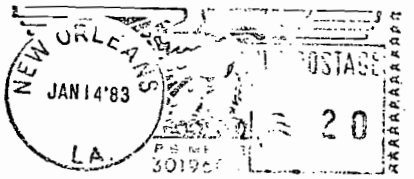
By D. J. Lewallen

D. J. Lewallen, Section Head
Revenue & Regulatory Accounting
Southeastern Division
Exxon Company, U.S.A.
(a division of Exxon Corporation)

JDF/er
Attachment

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

110-0033A



Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Bill -
I sent copy to Northwest district Ed P.
1-18-83
Teresa
FYI / file

Applicable Standard:
(Check One)

____ Petroleum Liquids Storage Vessels
_X_ Stationary Gas Turbines
____ _____

Location of Affected Equipment:

Field: Jay/LEC
County: Santa Rosa
State: Florida

Description and identification of Affected Equipment:
3600 HP Gas Turbine

Person to contact for inspection arrangements:
Operations Supt. J. C. Collis
Telephone (904) 477-8240 ext 224

	Action for which notice is given or report furnished (Check appropriate notice(s)).	Date
____	Prior notice of modification on anticipated date shown:	/ /
	Description of physical or operational change: Installation of 3600 HP Gas Turbine	
	Description of present and proposed emission control system: Catalytic Convertor to be installed on 1000 HP Reciprocating Recompressor	
_X_	Actual date construction commenced.	12 /13/82
_X_	Anticipated date of initial startup.	2 /15/83
____	Actual date of initial startup.	/ /
_X_	Anticipated date of performance testing.	3 / 9/83
____	Anticipated date of evaluation of continuous monitoring system.	/ /
____	Report on performance testing is enclosed.	/ /
____	Report on evaluation of continuous monitoring system is enclosed.	/ /
____	Equipment has been taken out of service on date shown. All required reporting or testing will stop.	/ /
____	Previously furnished notice was inaccurate. Correction is shown above.	/ /

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

December 7, 1982

Mr. W. A. Thomas
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

In reviewing the technical evaluation and preliminary determination for permit AC57-61623 received by our office on November 22, 1982, we recommend that four modifications be made to the permit wording. These involve Specific Conditions 2, 8, 9, and 15 on pages 3, 4, and 5 of the document.

Specific Condition 2 on page 3 should read 2.4 lb/hr of NOx emitted for the 1000 BHP gas engine instead of 10.5 lb/hr. Condition 8 should not apply because we are not injecting water into the turbine and current operating permits for JCSWD turbines do not require continuous fuel metering. Condition 9 implies that oil will be used as fuel for the turbine; however, sweet residue gas will be used. Our last recommended modification is to Condition 15. Condition 15 should read "Temporary stack sampling facilities will include the eyebolt and angle bracket described in Chapter 17-2.700 FAC."

Please consider these recommendations and feel free to contact Jerry D. Fugate of our Pensacola office at (904)477-8240 if there should be any questions or comments.

Yours very truly,

EXXON COMPANY, U.S.A.

M. E. Foster
Operations Manager

JDF:lf

FEDERAL EXPRESS

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SEE BACK OF FORM SET FOR COMPLETE PREPARATION INSTRUCTIONS.

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DATE: 12/7/82

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COMPANY: EXXON COMPANY-USA
DEPARTMENT/FLOOR NO.:
STREET ADDRESS: 6900 BAYOU BLVD
CITY: PENSACOLA STATE: FL
ZIP (ACCURATE ZIP CODE REQUIRED FOR CORRECT INVOICING): 32503

TO (Recipient's Name): Mr. W.A. Thomas
If Hold For Pick-Up or Saturday Delivery, Recipient's Phone Number
COMPANY: State of Fla/Dept of Environmental Regulat
DEPARTMENT/FLOOR NO.:
STREET ADDRESS (P.O. BOX NUMBERS ARE NOT DELIVERABLE): 2600 Blair Stone Road
CITY: Tallahassee STATE: FL
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AIRBILL NO. 320039484

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EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 · NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

December 7, 1982

DER
DEC 09 1982
BAQM

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

Attached is an affidavit from the Pensacola News-Journal certifying that public notice of your Agency's intent to issue a permit to Exxon Company, U.S.A. for construction of a 3600 HP turbine was given in the Thursday, November 11, 1982 legal notice section of that publication. The turbine will be constructed in Jay, Florida at our St. Regis Facility under the proposed permit AC57-61623.

We certainly appreciate your Agency's time and effort in processing our application and look forward to working with you in the future. Should further assistance be required, please contact E. J. Smith of our Pensacola District Office at 904/477-8240.

Yours very truly,

EXXON COMPANY, U.S.A.

M. E. Foster
Operations Manager

JDF:lf
Attachment

The Pensacola Journal

PUBLISHED DAILY EXCEPT SUNDAY

PENSACOLA, ESCAMBIA COUNTY, FLORIDA

State of Florida,
County of Escambia.

Before the undersigned authority personally appeared

Mary Elizabeth Rost,

who on oath says that she is Legal Advertising Supervisor of The Pensacola Journal, a daily (except Sunday) newspaper published at Pensacola in Escambia County, Florida; that the attached copy of advertisement, being a Notice in the matter of Proposed Agency Action

in the Court,

was published in said newspaper in the issues of November 11, 1982.

Affiant further say that the said The Pensacola Journal is a newspaper published at Pensacola, in said Escambia County, Florida, and that the said newspaper has heretofore been continuously published in said Escambia County, Florida, each day except Sunday, and has been entered as second class mail matter at the post office in Pensacola, in said Escambia County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Mary Elizabeth Rost

Sworn to and subscribed before me this 17th day of November, A.D., 19 82.

NOTARY PUBLIC.

STATE OF

MY COMMISSION EXPIRES OCT. 16, 1983

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Exxon Company, U.S.A. for the installation of a 3600 HP gas turbine at the Jay Central Saltwater Disposal Facility in Santa Rosa County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation, and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER
Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER N.W. District Office
160 Governmental Center
Pensacola, Florida 32501

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

LEGAL NO. 23973 1-T
NOVEMBER 11, 1982

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

November 12, 1982

Mr. C. A. Woolley
Operations Manager
Exxon Company, U.S.A.
Post Office Box 60626
New Orleans, Louisiana 70160

Dear Mr. Woolley:

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit for the installation of a gas fired turbine at the Jay Central Saltwater Disposal Facility in Santa Rosa County, Florida.

Please submit, in writing, any comments which you wish to have considered concerning the Department's proposed action to Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

cc: Clifford W. Henry, Exxon Company, U.S.A.
Jack Preece, DER Northwest District

Technical Evaluation
and Preliminary Determination

Exxon Company U. S. A.
Jay Central Saltwater Disposal Facility
Santa Rosa County, Florida
St. Regis Facility

1000 HP Gas Engine
3600 HP Gas Turbine
Permit Number AC 57-61623

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

November 2, 1982

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NOTICE OF PROPOSED AGENCY ACTION

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DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER N.W. District Office
160 Governmental Center
Pensacola, Florida 32501

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

I. SYNOPSIS OF APPLICATION

A. Name and Address of Applicant

Exxon Company, U. S. A.
P. O. Box 60626
New Orleans, Louisiana 70160

B. Source Location

The proposed source is located 3.4 miles north of SR 4 near Jay, in Santa Rosa County, Florida. The UTM coordinates are 428.8 Km East and 3425.6 Km North.

C. Project Description

The applicant proposes to install and operate a 3600 HP gas turbine and 65 KBD pump. This installation will increase the JCSWDS (Jay Central Saltwater Disposal System) pump disposal capacity from 95 KBWD to 160 KBWD (thousand barrels water daily). The turbine will be fired with sweet fuel gas from the Jay Gas Plant which contains less than 1 grain of hydrogen sulfide (H_2S) per 100 SCF.

Exxon Company expects to decrease NO_x emissions from this new installation, by adding a catalytic converter to an existing 1000 BHP gas fired reciprocating compressor at the St. Regis facility.

II. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 Florida Administrative Code. Specifically, Exxon's gas turbine is a minor stationary source, 17-2.100(100), FAC, located in an area currently designated as attainment in accordance with section 17-2.420, FAC for all criteria pollutants.

The proposed project will be a minor modification for nitrogen oxides (NO_x), hydrocarbons (VOC), carbon monoxide (CO) and sulfur dioxide (SO_2). Emissions of NO_x will be reduced by adding a catalytic converter to an existing gas engine, thereby exempting the proposed project from provisions of Section 17-2.500 FAC, Prevention of Significant Deterioration.

The source is also subject to the provisions of the federal New Source Performance Standard (NSPS) for gas turbines, 40 CFR 60, Subpart GG. This NSPS has been adopted by reference in Section 17-2.660, FAC.

III. SOURCE IMPACT ANALYSIS

A. Emissions Limitations

The operation of the proposed 3600 HP gas turbine, will produce emissions of particulate matter (PM), sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC).

Table 1 summarizes potential to emit of all pollutants regulated under the Act which are affected by the proposed source. As the table shows, a net reduction of NO_x emissions is expected due to the installation of a catalytic converter, with a guaranteed 90% NO_x removal to an existing Ingersoll-Rand 1000 BHP gas-fired reciprocating compressor at the St. Regis facility. (Supplement V, of the application).

The emission limiting standards selected as permitted emissions, which were made a condition of the permit are listed in Table 2. The permitted emissions are in compliance with New Source Performance Standard (NSPS) requirements of 40 CFR 60, Subpart GG.

B. Air Quality Impact

No ambient monitoring or modeling is required to provide reasonable assurance that ambient air standards will not be violated.

TABLE 1

SUMMARY OF EMISSIONS

(tons per year)

SOURCE	POLLUTANT				
	NO_x	SO_2	PM	VOC	CO
3600 HP Gas Turbine[1]					
Proposed	61.0	0.4	NA	3.6	19.0
1000 HP Gas Engine[2]					
Existing	105	4.7	NA	38.1	13.57
Proposed	10.5	4.7	NA	38.1	13.57
Total Net Increase or Decrease[3]	-33.5	0.4	0	3.6	19.0
PSD Significance Levels[4]	40	40	25	40	100

(1) Emissions estimated by applicant as stated in the permit application

(2) Emissions estimated by applicant based on existing data and proposed 90% NO_x emission removal for this source.

(3) The overall NO_x emission from the Exxon's complex is decreased by the modification (catalytic converter with a guaranteed 90% NO_x emission removal) to the 1000 BHP gas engine.

(4) 40 CFR 52.21.

TABLE 2

ALLOWABLE EMISSION LIMITS
3600 HP Gas Turbine
1000 HP Gas Engine

Pollutant	Standard[(a)]	Gas Turbine[(b)]	Gas Engine[(c)]	Basis
NO_X[(a)]	$0.0150(\frac{14.4}{Y})+ F$	99.17 PPM at 15% oxygen on a dry basis and 13.93 lb/hr	2.4 lb/hr	NSPS Estimated by applicant
SO_2	0.8% S by weight 0.015% by volume at 15% oxygen on a dry basis	1.32 PPM at 15% oxygen on a dry basis	1.67	NSPS Estimated by applicant
PM		5% Opacity	5% Opacity	Estimated by applicant
VOC		17.43 PPM and 0.85 lb/hr	8.7 lb/hr	Estimated by applicant
CO		52.18 PPM and 4.45 lb/hr	3.1 lb/hr	Estimated by applicant

(a) The NSPS NO_X emission rate for the gas turbine is determined by the following formula:

$STD = 0.0150 (\frac{14.4}{Y}) + F$ where:

STD = allowable NO_X emissions (percent by volume at 15% oxygen and on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour. The efficiency factor must be based on the gas turbine efficiency itself, not the overall efficiency of the gas turbine combined with other equipment.

F = NO_X emission allowance for fuel-bound nitrogen as follows:

Fuel-bound nitrogen (Percent by weight)	F (NO_X percent by volume)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	0.004+0.0067(N-0.1)
$N > 0.25$	0.005

where: N = the nitrogen content of the fuel (percent by weight)

(b) Emission rates based on continuous firing of sweet fuel gas as estimated by the applicant and vendor supplied data.
The stringent allowable emission limits are based on the applicant request to maintain the facility NO_X emissions under the significant levels set in the PSD regulations.

(c) Gas Engine (serial number 48 GKR 398) emission rate are based on EPA AP-42 factors and existing fuel data. Actual run-time of this compressor is 90%.

IV. CONCLUSION

Based on review of the data submitted by Exxon Company for the installation and operation of a 3600 HP gas turbine and a catalytic converter to reduce NO_x emission from a 1000 BHP gas-fired reciprocating compressor, the FDER concludes that compliance with all applicable state air quality regulations will be achieved provided certain specific conditions are met.

The impact of the emissions from the 3600 HP gas turbine will not cause or contribute to a violation of any ambient air quality standard.

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: Exxon Company U.S.A.
P. O. Box 60626
New Orleans, Louisiana 70160

PERMIT/CERTIFICATION
NO. AC 57-61623

COUNTY: Santa Rosa

PROJECT: 1000 HP Gas Engine and 3600 HP Gas Turbine

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

For the installation of a 3600 HP gas Turbine-Bingham pump package to be located at the Exxon's complex (Jay Central Saltwater Disposal System) in Santa Rosa County, Florida. The UTM coordinates are 428.8 km East and 3425.6 km North.

The construction shall be in accordance with the attached permit application, plans and documents except as otherwise noted on pages 3 through 5, Specific Conditions.

Attachment:

Application to Construct Air Pollution Sources, DER Form 17-1.122(16), received on October 20, 1982.

PERMIT NO.: AC 57-61623
APPLICANT: Exxon Company U.S.A.

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:

[ ] 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 57-61623
APPLICANT: Exxon Company U.S.A.

SPECIFIC CONDITIONS:

1. The new source shall be constructed in accordance with the capacities and specifications stated in the application.

2. The maximum emission rates for the 3600 HP gas turbine and 1000 BHP gas engine shall not exceed the following emission limits:

SOURCE	POLLUTANT					
	NO_x		SO_2	PM	VOC	CO
3600 HP Gas Turbine	lb/hr	PPM	PPM	5% opacity	lb/hr	lb/hr
	13.93	99.17 at 15% O_2 on a dry basis	1.32 at 15% O_2 on a dry basis		0.85	4.45
1000 BHP Gas Engine	lb/hr		lb/hr	5% opacity	lb/hr	lb/hr
	10.5		1.67		8.7	3.1

3. The 3600 HP gas turbine shall be allowed to operate continuously (8736 hours per year).

4. The 1000 BHP gas engine shall be allowed to operate continuously (8736 hours per year).

5. The fuel used to fire the 3600 HP gas engine shall be residue gas containing less than 1 grain of H_2S content per 100 SCF.

6. Before this construction permit expires, the 3600 HP gas turbine and the 1000 BHP gas engine will be tested for particulate matter, sulfur dioxide, VE, carbon monoxide and nitrogen oxides. Except as provided under 40 CFR 60.8(b), the performance tests shall be in accordance with the provisions of the following reference methods in Appendix A of 40 CFR 60.

   a. Method 1. Sample and Velocity Traverses
   b. Method 2. Volumetric Flow Rate
   c. Method 3. Gas Analysis
   d. Compliance with the opacity limitation will be determined by reference method 9.
   e. Compliance with the sulfur dioxide emission limits from the gas turbine will be determined by reference method 20 or by calculations based on fuel analysis (ASTM D2880-77 and 01072-70) for sulfur content.

SPECIFIC CONDITIONS:

f. Compliance with carbon monoxide emission limits will be determined by reference method 10.

g. Compliance with volatile organic compound emission limits will be assumed provided the CO allowable emission rate is achieved; specific VOC compliance testing is not required.

h. Compliance with the allowable emissions limits for nitrogen oxides shall be conducted using EPA reference method 20 subpart GG Section 60.335 NSPS for Gas Turbines.

During performance tests to determine compliance with the proposed standard, measured NO_x emission at 15 percent oxygen will be adjusted to ISO ambient atmospheric conditions by the following correction factor:

$$NO_x = (NO_{x\ obs}) \left(\frac{P_{ref}}{P_{obs}}\right)^{0.5} e^{19\ (H_{obs} - 0.00633\ (\frac{TAMB}{288^oK})^{1.53}}$$

where:

NO_x = Emissions of NO_x at 15 percent oxygen and ISO standard ambient conditions.

$NO_{x\ obs}$ = Measured NO_x emission at 15 percent oxygen, ppmv.

P_{ref} =Reference combustor inlet absolute pressure at 101.3 kilopascals (1 atmosphere) ambient pressure.

P_{obs} = Measured combustor inlet absolute pressure at test ambient pressure.

H_{obs} = Specific humidity of ambient air at test.

e = Transcendental constant (2.718).

T_{AMB} = Temperatures of ambient air at test.

Test results will be the average of 3 valid runs. The Department will be notified 30 days in advance of the compliance test. The test will be conducted at permitted capacity ±10%.

7. Compliance with the sulfur dioxide and nitrogen oxide emissions from the 1000 BHP gas engine will be detrmined by method 6 and 7 respectively.

8. A continuous monitoring system shall be installed to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine.

9. Sulfur and nitrogen content of the fuel being fired in the gas turbine shall be determined and recorded as specified in the NSPS for Gas Turbines 40 CFR 60, Subpart GG, 60.334. The records of fuel oil usage will be kept by the company, available for regulatory agency's inspection, for a two year period.

10. The applicant shall comply with all requirements of 40 CFR 60, Subpart GG, Standards of Performance for stationary gas turbines.

11. Reasonable precautions to prevent fugitive particulate emissions during construction such as coating or spraying roads and construction sites used by contractors will be taken by the applicant.

12. The applicant shall report any delays in construction and completion of this unit to the Department's Northwest District office.

13. The applicant will demonstrate compliance with the conditions of the construction permit, and submit a complete application for an operating permit to the Department's Northwest District office prior to 90 days of the expiration date of the construction permit. The applicant may continue to operate in compliance with all terms of the construction permit until its expiration date or issuance of an operating permit.

14. Upon obtaining an operating permit, the applicant will be required to submit periodic test reports on the actual operation and emissions of the facility. These reports will give the data specified in 40 CFR 60.334.

15. Stack sampling facilities will include the eyebolt and angle described in Chapter 17-2.700, FAC.

16. The source shall comply with the provisions and requirement of the attached general conditions.

Expiration Date: August 30, 1983

Issued this _____ day of _____, 19____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

EXXON COMPANY, U.S.A.
POST OFFICE BOX 12159 · PENSACOLA, FLORIDA 32590

PRODUCTION DEPARTMENT
PENSACOLA DISTRICT

November 9, 1982

Mr. R. V. Kriegel
Department of Environmental Regulation
Northwest District
160 Governmental Center
Pensacola, Florida 32501

Dear Mr. Kriegel:

A $500.00 check is attached to cover permit fees for the Jay Central Saltwater Disposal System (Turbine Construction). As per the telecon between Mr. W. A. Thomas, D.E.R. in Tallahassee, and Mr. E. J. Smith, Sr. Supervising Engineer, Exxon Co., U.S.A., Pensacola, Florida, this fee will satisfy D.E.R. requirements.

Upon receipt of this fee we would appreciate your assistance by contacting Mr. W. A. Thomas to inform him of this payment thereby allowing processing of the permit.

Yours very truly,

EXXON COMPANY, U.S.A.

E. J. Smith

E. J. Smith
Sr. Supervising Engineer

EJS:lf
Attachment

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION) Suite 601 Patty Adams Env. Pgm - Bur AQM	INITIAL	
	DATE	
2.	INITIAL	
	DATE	
3.	INITIAL	
	DATE	
4.	INITIAL	
	DATE	

REMARKS:

57-61623

INFORMATION
- REVIEW & RETURN
- REVIEW & FILE
- INITIAL & FORWARD

DISPOSITION
- REVIEW & RESPOND
- PREPARE RESPONSE
- FOR MY SIGNATURE
- FOR YOUR SIGNATURE
- LET'S DISCUSS
- SET UP MEETING
- INVESTIGATE & REPT
- INITIAL & FORWARD
- DISTRIBUTE
- CONCURRENCE
- FOR PROCESSING
- INITIAL & RETURN

Pensacola - N.W. Dist.

FROM: Evelyn Luechk, Clerk IV

DATE 11-10-82

PHONE 695-8380

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT

160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

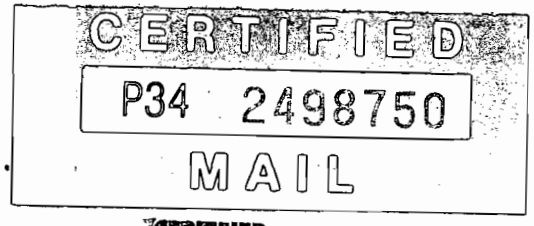
TEMPORARY RECEIPT

November 9, 1982

Received from Mr. E. J. Smith Exxon Company's Check No. 57423 in the amount of five hundred dollars ($500.00) to cover permit fees for the Jay Central Saltwater Disposal System (Turbine Construction).

A permanent receipt will be mailed to Mr. Smith.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501



CERTIFIED
RETURN RECEIPT REQUESTED

Protecting Florida and Your Quality of Life

Ms. Patty Adams
Env. Pgm.-Bur. AQM, Suite 601
Dept. of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32301

PAYABLE THROUGH FIRST CITY NATIONAL BANK, HOUSTON, TEXAS

IN PAYMENT OF: Fee for permit for the Jay Central Saltwater Disposal System, Turbine Construction

LC 786 UNIT 57423

PAY TO THE ORDER OF: Fla. Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida

DATE: November 9, 1982

OFFICE: Pensacola District

$ 500.00 DOLLARS WITHOUT EXCHANGE

VALUE RECEIVED
TO EXXON COMPANY, U.S.A. (a division of Exxon Corporation)
TREASURY DEPARTMENT - HOUSTON, TEXAS

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 33632

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Exxon Company U.S.A. Date November 16, 1982

Address P.O. Box 61629 New Orleans, LA 70160 Dollars $ 500.00

Applicant Name & Address Same as above.

Source of Revenue

Revenue Code 0101 Application Number AC 57-61623

By Patricia G. Adams

No. 0157764

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO: Mr. C. A. Woolley	
STREET AND NO.: P.O. Box 60626	
P.O., STATE AND ZIP CODE: New Orleans LA 70160	
POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$
POSTMARK OR DATE: 11/9/82	

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered..... ¢
   - ☐ Show to whom, date and address of delivery..... ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered..... ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$ 1.1

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. C. A. Woolley
Post Office Box 60626
New Orleans, LA 70160

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157764	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY: NOV 1[illegible]

POSTMARK: NEW ORLEANS, LA NOV 15 1982 USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆GPO : 1979-300-459

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

November 9, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. C. A. Woolley
Operations Manager
Exxon Company, U.S.A.
Post Office Box 60626
New Orleans, Louisiana 70160

Dear Mr. Woolley:

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached notice. This notice should be published, one time only, in the legal ad section of the Pensacola News or the Pensacola Journal.

The Department, in accordance with Rule 17-1.62, is required to have proof that the public notice was given. Therefore, please have the newspaper prepare an affidavit of publication to submit to the Department.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

Attachment

NOTICE OF PROPOSED AGENCY ACTION

The Department of Environmental Regulation gives notice of its intent to issue a permit to Exxon Company, U.S.A for the installation of a 3600 HP gas turbine at the Jay Central Saltwater Disposal Facility in Santa Rosa County, Florida. A determination of Best Available Control Technology (BACT) was not required.

A person who is substantially affected by the Department's proposed permitting decision may request a hearing in accordance with Section 120.57, Florida Statutes, and Chapters 17-1 and 28-5, Florida Administrative Code. The request for hearing must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

The application, technical evaluation, and departmental intent are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following locations:

DER, Bureau of Air Quality Mgmt.
2600 Blair Stone Road
Tallahassee, Florida 32301

DER N.W. District Office
160 Governmental Center
Pensacola, Florida 32501

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office within thirty (30) days of this notice.

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

October 25, 1982

Mr. C. A. Woolley
Operations Manager
Exxon Company, U. S. A.
P. O. Box 60626
New Orleans, Louisiana 70160

Dear Mr. Woolley:

This is to acknowledge receipt of your application to install a gas-fired turbine at the Jay Central Saltwater Disposal Facility in Santa Rosa County, Florida. Your receipt for the processing fee of $100.00 is attached. The permit processing number assigned to this application is AC 57-61623.

If we may be of further assistance, please feel free to call at (904)488-1344.

Sincerely,

Patty Adams

Patty Adams
Bureau of Air Quality
Management

PA/ks

Attachment

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 33628

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Exxon Company U.S.A. Date October 20 1982

Address P.O. Box 60626 New Orleans LA 70160 Dollars $ 100.00

Applicant Name & Address Same as above

Source of Revenue

Revenue Code 0101 Application Number AC 57-61623

By Patricia G. Adams

FORM NO. 173-0063B

SETTLEMENT OF ACCOUNT

THE ATTACHED CHECK IS IN FULL PAYMENT FOR THE ITEMS SHOWN BELOW AND CONSTITUTES RECEIPT

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION
SOUTHEASTERN DIVISION

DESCRIPTION

Fla. Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Fla.

10-18-82 $100.00

Fee for permit for the expansion of the Jay Central Saltwater Disposal System

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

14-2
650

CHECK NUMBER 28565

NEW ORLEANS, LOUISIANA October 18, 1982

PAY EXXON COMPANY, U.S.A. [redacted] $ 100.00

TO THE ORDER OF FLA. DEPT. OF ENVIRONMENTAL REGULATION

SOUTHEASTERN DIVISION

THE FIRST NATIONAL BANK OF COMMERCE
IN NEW ORLEANS, LOUISIANA

[redacted]

EXXON COMPANY, U.S.A.
POST OFFICE BOX 60626 • NEW ORLEANS, LOUISIANA 70160

PRODUCTION DEPARTMENT
SOUTHEASTERN DIVISION

C.A. WOOLLEY
OPERATIONS MANAGER

October 15, 1982

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

Attached for your review and approval is a construction permit application for the installation of a 3600 HP gas-fired turbine. This will expand disposal pump capacity of Jay Central Saltwater Disposal System (JCSWDS) to 160+ KBD. Processing of the application in an expedient manner will help ensure that we can start the turbine on February 1, 1983 as projected. We realize that the turbine is subject to the New Source Performance Standards and will comply with these regulations. However, we request the help of the DER to obtain approval to begin construction before the issuance of the construction permit.

On October 11, 1982, a meeting was held with Mr. Jack Preece of the local DER at the Northwest District Office. At this meeting, we were informed that a construction permit would be necessary for the 3600 BHP turbine driven pump package installation which is the only new emission point associated with the JCSWDS expansion.

The gas-fired turbine is expected to emit 61 tons of NOx per year. However, we will offset this increase by adding a catalytic converter to a 1000 BHP gas-fired reciprocating compressor, which is capable of producing 105 STY of NOx, using EPA AP-42 factors. Only a catalytic converter having an efficiency of 90% for NOx abatement will be installed. The following table indicates that a net reduction of 33.5 STY of NOx will occur from the installation of the catalytic converter.

	STY (Short Tons Yearly)		
Component	Gas Turbine Emissions[1]	Emission Reductions Using Catalytic Converter on Gas Engine	Net Decrease
NOx	61.0	(94.5)	(33.5)
CO	19.0	-	-
VOC	3.6	-	-
SO_2	-	-	-

[1]Estimates of emissions are vendor supplied and are based on a fuel analysis contained in Supplement II of the application. No measurable sulfur component is contained in the fuel gas.

As the catalytic converter will impose a net decrease of 33.5 STY of NOx, it is Exxon's interpretation that we are not subject to PSD review and request that the construction permit application be approved so that we may begin construction as soon as possible.

We look forward to working with your office and should there be any questions, please contact E. J. Smith at our Pensacola District Office, 904/477-8240, extension 237.

Yours very truly,

EXXON COMPANY, U.S.A.

C. A. Woolley
Operations Manager

JDF:lf
Attachment

SUPPLEMENT I

The JCSWDS (Jay Central Saltwater Disposal System) continuously collects, cleans, and disposes of sour water which is produced with the oil from the Jay/LEC Field. JCSWDS also recovers vapors flashed from the water as it is processed. Currently, the system will handle 95 KBWD (thousand barrels water daily) at a discharge pressure of 1700 psig. However, forecasts indicate that produced water volumes will reach 160 KBWD by January 1983 and reach 250+ KBD in 1984. Because of these increasing water volumes, we are requesting a construction permit to install a 3600 HP gas turbine and 65 KBD pump. This will increase our disposal capacity to 160+ KBD. Expansion of the system's capacity from 160 KBD to 250+ KBD will be initiated in a separate project when forecasted water trends develop.

In a meeting with Mr. Jack Preece of the Department of Environmental Regulation on October 11, 1982, it was determined that a construction permit for auxiliary equipment was not needed because no new point sources for emission are being added from its installation.

When operating normally, the 3600 HP gas turbine, a Solar "Centaur" is expected to emit:

	STY (Short Tons/Year)		
Component	Turbine Before Trade*	Reduction with Converter on Recip.	Net Decrease
NOx	61.0	94.5	33.5
CO	19.0	-	-
VOC	3.6	-	-
SO2	-	-	-

*Based on vendor data supplied from fuel analysis in Supplement II

Only trace amounts of SO_2 will be emitted because the fuel gas which will be used has no measurable sulfur component, as it is a product of the Jay Gas Plant. The NOx component of the exhaust emissions does exceed the allowable 40 tons per year increase while all other emissions are well below the allowable increase limits for those components. However, a catalytic converter will be installed on an existing Ingersoll-Rand 1000 BHP gas-fired reciprocating compressor at the St. Regis Facility. NOx emissions from the gas engine, using an EPA AP-42 factor for gas-fired reciprocating engines, are estimated to be 105 STY (short tons yearly). Only catalytic converters with a guaranteed removal of 90% NOx are being considered (see representative vendor data contained in Supplement III). This installation will result in a net reduction of 33.5 STY of NOx as shown above.

The preceeding discussion indicates our plans to expand the JCSWD System for increasing water volumes. It also shows that we are in compliance with all rules and regulations governing new construction and are not subject to PSD review.

SUPPLEMENT II

GAS TURBINE ENGINE FUEL

Component	Mole %
Nitrogen	2.84
Carbon Dioxide	0.02
Methane	93.13
Ethane	3.83
Propane	0.14
Iso-Butane	0.0
Normal Butane	0.01
Iso-Pentane	0.01
Normal Pentane	0.01
Hexanes+	0.01

Specific Gravity: 0.5875

Btu Value at 14.735 psia and saturated: 997.094

Vendor supplied emission data, based on the above fuel analysis, indicates that 61 STY (short tons yearly) of NOx will be associated with the running of the gas turbine. This 61 STY increase will be offset by the addition of a catalytic converter to a 1000 brake horsepower gas-fired reciprocating engine, based on EPA AP-42 factors, which normally emits 105 STY. Catalytic converters being considered have an efficiency of 90%. Therefore, a net reduction of 33.5 STY will result from the addition of the catalytic converter.

New System Controls Stationary Gas Engine Emissions

Emission Control Systems, Inc. of Emeryville, Calif., has developed an emission control product line for naturally aspirated gas engines. It is designed to control NO_X, HC and CO emissions from stationary engines, primarily in the range of 300 hp and up.

Radmil Smojver, president of the firm, explained to us that this system uses a two-stage design concept and a precious metal catalyst to achieve emission reductions from engine exhaust. The emission control unit is permanently installed in the engine exhaust stream and is designed specifically for long-life service and minimum maintenance.

The first stage of the system reduces the NO_X content of the exhaust stream and the second stage, after introduction of additional air through a venturi system to mix with the exhaust stream, reduces the HC and CO content of the engine exhaust. The final product then becomes N_2, H_2O and CO_2 with a small residue of exhaust concentration of the original NO_X, HC and CO.

Smojver reports that field test results have shown a 90% reduction of these constituents by use of the exhaust emission control catalyst system. These tests on one of the first field installed systems were made on a Superior 8G825 naturally aspirated gas engine driving a compressor for Wellhead Enterprise, Enid, Okla. Results of the test are summarized below.

To provide heavy-duty, long-life operation, a unitary honeycomb ceramic support section for the precious metal catalyst is included in both stages. Stainless steel housings for the catalyst section deliver virtually unlimited life potential. Smojver states that three to five years of operation is possible before regeneration or replacement of the precious metals catalyst is required.

The system is also designed for minimum back pressure due to the honeycomb configuration of the ceramic support section and straight through flow of the exhaust stream. This minimizes buildup of particulates and extends operating life of the catalyst. Less than 7.5" (190.5 mm) water column back pressure is achieved with the system, which also provides exhaust sound attenuation of about 15 dB(A), according to Smojver.

For turbocharged gas engines and diesel engines, the company is developing a system that will offer selective reduction of NO_X below the legislated required levels for stationary engines. This system needs the addition of ammonia injection in the exhaust stream before the catalyst section is effective, and so is somewhat more complicated and costly than the system for naturally aspirated gas engines.

Both are designed for custom application to medium and higher horsepower stationary engine systems, for compression and power generation primarily. Smojver estimates that the installation will cost up to 10% of the total installed cost of the engine system, so it does represent a substantial initial investment. But the design seeks to deliver the very long operating life that is needed in stationary applications.

In tests so far, backfiring of engines has not affected the unit as it is structurally designed to withstand backfiring. The ceramic honeycomb section is structurally surrounded to maintain its integrity and strength in adverse engine operating conditions. Other types of engine malfunctions may temporarily block or deactivate the catalyst, such as oil coating, for example. But the catalyst can usually be cleaned with soaking in a recommended cleaning solution.

This system is also well suited for retrofit in the field, such as in California, where "trade-offs" are possible in exhaust emissions from one source to another.

— *Bruce Wadman* —

Recent Field Test Results

Run No.	Sample Points	Ambient Temp.	Barometric Pressure	RPM	Load (HP)	NOx (PPM)	HC (PPM)	CO	Temperature
1	A	94°F	32.4	705	200	750	68	2.55%	995°F
1	B	"	"	"	"	120	62	2.41%	—
1	C	"	"	"	"	120	58	2.1%	852°F
1	D	90°F	"	"	"	75	30	150PPM	1210°F
2	A	90°F	"	695	210	780	60	2.61%	956°F
2	B	"	"	"	"	38	60	2.2%	989°F
2	C	"	"	"	"	38	55	2.15%	—
2	D	"	"	"	"	45	25	120PPM	1240°F
3	A	26°C	"	700	200	545	—	—	987°F
3	*	"	"	"	"	12	—	—	1005°F

A — Before first catalyst
B — After first catalyst
C — Before second catalyst
D — After second catalyst
* — At exhaust

Source: Emission Control Systems, Inc.
Phone: 415-658-9400

Test results showing emission concentration on a Superior 8G825 natural gas engine compressor set installed at Wellhead Enterprise, Enid, Okla. The purpose of the test was to measure NO_X, HC and CO concentration on various points in the exhaust stream for this naturally-aspirated eight-cylinder gas engine, and the engine exhaust line was equipped with the two-stage Emission Control System, Inc. catalytic converter. Concentration was taken at various points to determine a total uncontrolled and controlled condition as well as to determine the total effectiveness of the catalytic system. EPA test procedures were not followed, as they would not have given the total results desired. Test results indicate reduction in NO_X concentration across the system of 90% of the incoming NO_X levels. The hydrocarbon reduction, due to its low concentration, indicates 56 to 59% reduction. The carbon monoxide reduction is indicated at 95%, adjusted for air intake dilution of the incoming levels.

MODULAR
PRODUCTION EQUIPMENT

JERSEY VILLAGE BANK
15000 N.W. FREEWAY
HOUSTON, TEXAS 77040
TELEPHONE (713) 462-8607

September 8, 1982

Exxon, U.S.A.
P.O. Box 12159
Pensacola, Florida 32590

Attn: Mr. Jerry Fugate

Subject: Emission Control Systems, Inc.
Our Ref. No. H5-82201

Gentlemen:

On behalf of Emission Control Systems, Inc., Modular Production Equipment is pleased to quote as enclosed for abatement control of NO_x, CO, and HC from stationary internal combustion engines. Two methods are available for control which is referred to as selective and non-selective systems. However, the enclosed information is directed toward non-selective systems.

Emission Control Systems, Inc., manufactured dry catalyst assembly is suitable for all rich burn engines. This catalyst assembly can be designed to provide reduction of emitted pollutants to meet necessary area regulations for up to 90% reduction of all uncontrolled engine operation.

Included in the attached is current literature, typical installation photos, and installation list with contacts.

Services available include field installation, field testing and report preparation. All of these service costs depend on location and number of units at each location.

We look forward to working with you on this project and should you have any questions please do not hesitate to call on us.

Yours truly,

R. A. Campbell

RAC/gg

Enclosure

EXXON USA

PRICING, DELIVERY, TERMS & CONDITIONS:

PRICE:

I. Catalytic Converter Unit pricing for 1-R Model KVGR engine is as follows:

Engine Mdl.	Design RPM	Torque	NOx Red.	Mdl. No.	Price
48KVGR	330	full	90%	46N	$20,843.00

DELIVERY:

Two (2) to Four (4) weeks after receipt of purchase order.

II. Electric or pneumatic high temperature sensors for local mounting to be connected to customer furnished shutdown panel, included in the above price.

III. Installation and Other Services available:

A. Field installation of the above systems can be furnished at a cost of approximately $6,500 per engine in Florida. This charge will include all material for support sub-assemblies. The customer will supply a cherry picker or similar lifting device with operator and swamper for one (1) day per engine. All other installation labor will be supplied by Mechanical Equipment Inc.

B. To substantiate reduction guarantee Pre/Post converter emission testing of unit will be supplied at a charge of $2,000. Approximately one (1) day per engine is required to perform this test. Testing will be done by Emission Control Systems van and technician approximately 45-60 days after unit startup. (Outside cost for same services would be evaluated at $3500 per unit).

IV. Air/Fuel Ratio Controller:

Complete automatic Air Feul Ratio controller sensing CO through CO analyzer and converting either to an electric or pneumatic controller to adjust fuel mixture as described in the A/F section of this quotation.

Price.....$10,434.00 each

PRICING, DELIVERY, TERMS & CONDITIONS:

ALL PRICES ARE FIRM FOR 30 DAYS AND ARE F.O.B. - Novato, California.

GUARANTEE:

Emission Control Systems Inc. will reduce emitted pollutants by a guaranteed 90% of standard uncontrolled engine operation for a period of 12 months after startup. This limited guarantee is made provided that there is no radical change in engine operation from original set-up and the engine is maintained under the conditions specified by the manufacturer.

AC 57-61623

DER

OCT 20 1982

BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Gas-Fired Turbine [X] New[1] [ ] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: EXXON COMPANY, U.S.A. (a div. of Exxon Corp.) COUNTY: Santa Rosa

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) Jay Central Saltwater Disposal Facility Gas Turbine

SOURCE LOCATION: Street 3.4 miles North of S.R. 4 City Jay

UTM: East 428.8 North 3425.6

Latitude 30 ° 52 ' 45 "N Longitude 87 ° 10 ' 45 "W

APPLICANT NAME AND TITLE: C.A. Woolley, Operations Mgr. Southeastern Div., Exxon Co., USA

APPLICANT ADDRESS: P.O. Box 60626, New Orleans, Louisiana 70160

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Exxon Company, U.S.A.

I certify that the statements made in this application for a construction permit permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: C. A. Woolley

Name and Title (Please Type)

Date: 10/15/82 Telephone No. (504)561-3231

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

(Affix Seal)

CLIFFORD W. HENRY CERTIFICATE NO. 27701 STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER

Signed: Clifford W Henry

Clifford W. Henry

Name (Please Type)

Exxon Company, U.S.A.

Company Name (Please Type)

P. O. Box 60626, New Orleans, LA 70160

Mailing Address (Please Type)

Florida Registration No. 27701 Date: 10/15/82 Telephone No. (504) 561-4404

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Supplement I

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction 12/82 Completion of Construction 2/83

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

1. Centaur gas turbine-Bingham pump package & auxiliary equipment ($5MM total)
2. Catalytic converter, fuel analyzer & controller ($40M*)
3. 150 HP vapor recovery compressor ($250M*)

*included in total

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit A057-17938 issued June 1, 1979

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. 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? No
   a. If yes, has "offset" been applied? No
   b. If yes, has "Lowest Achievable Emission Rate" been applied? No
   c. If yes, list non-attainment pollutants.
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirements apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? Yes
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

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:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1) Not Applicable

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: See Supplement II for Fuel Analysis

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Nitrogen Oxides	13.93	61	N/A	N/A	N/A		
Carbon Monoxide	4.45	19.5	N/A	N/A	N/A		
Hydrocarbons	0.85	3.72	N/A	N/A	N/A		
Smoke Opacity	Less than 5%		20% Opacity	N/A	N/A		
See Supplement IV, Point (A) for relation of emissions to flow diagram.							

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]

[1] See Section V, Item 2.

[2] 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)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Sweet Fuel Gas	0.0378 MMScf/Hr	.0378 MMScf/Hr	37.8 MMBtu/Hr

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: Specific Gravity = 0.59 based on air Typical Percent Nitrogen: _____

Heat Capacity: 22393 BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): None

F. If applicable, indicate the percent of fuel used for space heating. Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 40 ft. Stack Diameter: 5.53 ft.

Gas Flow Rate: 116524 ACFM Gas Exit Temperature: 835 °F.

Water Vapor Content: 8.3 % Velocity: 71.7 FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (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 $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (^oF)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner [ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the 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 – 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 Supplement II
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). See Supplement II
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.). See Supplement III
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). See Supplement III
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 Supplement IV
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 Supplement V
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 Supplement VI

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

Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?
[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

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

*Explain method of determining D 3 above.

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: ^{o}F

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

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.

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 process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

*Explain method of determining efficiency.

**Energy to be 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: h. Maintenance Cost:

*Explain method of determining efficiency above.

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:

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 and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(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.

SECTION VII – PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

1. _____ no sites _____ TSP _____ ( ) SO^2* _____ 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

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

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

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

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.

*Specify 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.

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.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

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

CERTIFICATE

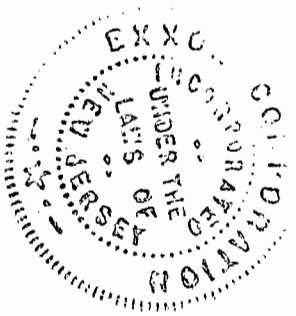
This is to certify that the attached copy of Incumbent Power of Attorney (IPA-3B-73) is a true and reproduced copy of a certified copy of the original executed, attested, sealed and acknowledged Incumbent Power of Attorney instrument which is on file in the Secretary's Department of Exxon Company, U.S.A. (a division of Exxon Corporation) in Houston, Texas; that on October 18, 1982, C. A. WOOLLEY was the Division Operations Manager of Exxon Company, U.S.A.; and that said Incumbent Power of Attorney was in effect on said date.

Executed this 18th day of October, 1982.

EXXON CORPORATION

BY D. J. Lewallen

D. J. LEWALLEN
Assistant Secretary



IPA-3B-73
Incumbent Power of Attorney

KNOW ALL MEN BY THESE PRESENTS:

THAT EXXON CORPORATION, a New Jersey corporation, having an office in Houston, Texas, acting by and through M. A. Wright, as Chairman and Chief Executive of Exxon Company, U.S.A., a division of Exxon Corporation (hereinafter called "Company"), and as Executive Vice President of Exxon Corporation, does hereby nominate, constitute and appoint each incumbent of each of the following positions in said Company:

Production Department	Division Operations Managers; and Division Joint Interest Managers

as Agent and Attorney-in-Fact of Exxon Corporation for purposes of executing and delivering instruments and documents as more particularly described below, and does hereby grant, delegate and invest each of said incumbents with power and authority to execute and deliver for, in the name and on behalf of Exxon Corporation, and in connection with the business and affairs of said Company, instruments and documents relating to the exploration for or the production of oil, gas, hydrocarbons or sulphur, including, but not by way of limitation, instruments pledging the credit of Exxon Corporation, bonds of indemnity, other indemnities, guaranties, affidavits, permits, licenses, applications for permits or licenses, other governmental documents, bids, bid invitations, collective bargaining agreements, other contracts, purchase orders, leases (including, but not limited to, oil, gas and/or mineral leases), releases, discharges of mortgages or deeds of trust, assignments, transfers of leasehold estates and/or other interests in real and/or personal property, including mineral interests, and any other instrument or document as may be required or desired in the conduct of the

business of said Company, whether similar or dissimilar to the foregoing, EXCEPT the following:

1. Any mortgage, assignment, conveyance or release to any third party of any oil, gas and/or mineral lease or any other interest in oil, gas and/or other minerals which is severed from the surface and which is owned by or leased to Exxon Corporation; provided, however, that this exception shall not apply to assignments, conveyances, releases or other instruments which are:
   a) pursuant to farmout agreements or exploration agreements executed prior to the production of minerals;
   b) for the purpose of pooling, unitizing or joint operating; or
   c) for the purpose of releasing or effectuating releases of oil, gas and mineral leases which have expired by their terms (including partial releases affecting lands as to which such leases have expired by their terms or the terms of agreements made with lessors);
2. Any mortgage, assignment, conveyance, or release of other real property;
3. Any instrument authorizing, permitting or evidencing the borrowing of money from any person or entity; or
4. Any instrument delegating the power and authority conferred herein to execute and deliver instruments.

Each incumbent of each said position in said Company may exercise the power and authority herein granted, delegated and invested, in any particular and appropriate transaction or matter, either as an Attorney-in-Fact of Exxon Corporation or as an official of said Company. Any action taken as authorized under this Incumbent Power of Attorney shall be an act of Exxon Corporation and binding upon it.

Certificates of incumbency and evidencing authority relating to particular transactions or matters may be issued by the Secretary or any Assistant Secretary of Exxon Corporation and may be relied upon by third parties dealing with Exxon Corporation or with said Company. Such Certificates shall certify that, on the dates set out therein, the individual named therein was an incumbent of one of said positions in said Company; that the execution and delivery by such person of particular instruments or documents was authorized by this Incumbent Power of Attorney; and that this Incumbent Power of Attorney was in effect at the time of such execution and delivery.

APPROVED AND EXECUTED this 1st day of January, 1973.

EXXON CORPORATION

By _____
Chairman and Chief Executive of
Exxon Company, U.S.A. and
Executive Vice President of
Exxon Corporation

ATTEST:

_____
Assistant Secretary

STATE OF CALIFORNIA

COUNTY OF ORANGE

On this 1st day of January, in the year 1973, before me, a Notary Public of said State, duly commissioned and sworn, personally appeared M. A. Wright, known to me to be Chairman and Chief Executive of Exxon Company, U.S.A. (a division of Exxon Corporation) and an Executive Vice President of Exxon Corporation that executed the within instrument, and acknowledged to me that such corporation executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

_____
Notary Public in and for said State

OFFICIAL SEAL
WILLIAM J. ZANONE
Notary Public California

EXXON COMPANY, U.S.A.
POST OFFICE BOX 12159 · PENSACOLA, FLORIDA 32590

PRODUCTION DEPARTMENT
PENSACOLA DISTRICT

October 29, 1982

Construction Permit Application
3600 HP Gas Fired Turbine Installation

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

Per your request, all emissions from the gas turbine have been converted into PPM. The following table will indicate the concentrations of all pollutants emitted in the turbine exhaust. Concentrations correspond to the emission rates previously submitted.

Gas Turbine Emissions

Component	Short Tons Emitted Yearly	PPM
NOx[1]	61.0	99.17
CO [1]	19.0	52.18
VOC[1]	3.6	17.43
SO_2[2]	0.4	1.32
Particulates	NA	NA

[1]Vendor supplied data
[2]Calculations of SO_2 PPM attached

The NOx emissions will be offset by adding a catalytic converter to a 1000 HP Ingersoll-Rand gas-fired recompressor having serial number 48GKR398. Estimated emissions from this engine were requested and are contained in the following table.

Gas-Fired Compressor Emissions

Component	Short Tons Yearly	lb/hr
NOx	105.0	24.0
SO_2	4.7	1.67
HC	38.1	8.7
Particulates	NA	NA

Emission rates for NOx, CO, HC, and particulates were obtained from EPA AP-42 factors, while the SO_2 emission rate was calculated from existing fuel data. These rates are based on continuous operation of the compressor. However, actual run-time of the compressor is 90 percent. All calculations are attached.

EXXON COMPANY, U.S.A.

We again thank you for your assistance.

Yours very truly,

EXXON COMPANY, U.S.A.

E. J. Smith

E. J. Smith
Senior Supervisor

JPH/JDF:lf
Attachment

c - Ms. T. Herron, DER
Mr. F. E. Garrot
Mr. G. T. Mize

TURBINE EMISSION CALCULATIONS

DATA

Fuel Rate: 907,200 Scf/D or 2,381 lb mole/D

Fuel Composition: 93% methane (C_1), 4% ethane (C_2), 3% nitrogen (N_2), 1 grain H_2S/100 Scf

Air Requirement: 1.15 X stoichiometric amount - 20.8% O_2

CALCULATIONS

Reaction Balance: (Fuel) + 1.15 X (Air) = Combustion Products

Fuel: 2381 lb mole/D X 0.93 = 2214 lb mole/D C_1

2381 lb mole/D X 0.04 = 95 lb mole/D C_2

2381 lb mole/D X 0.03 = 71 lb mole/D N_2

$2214\ CH_4 + 95\ C_2H_6 + 71\ N_2 + 1.15\ (aO_2 + bN_2) = cCO_2 + dH_2O + eO_2 + fN_2$

c = 2214 + 95 X 2 = 2404 lb mole Carbon Balance

d = (2214 X 4 + 95 X 6) ÷ 2 = 4713 Hydrogen Balance

e = a X 0.15 = 15% Excess Oxygen

a = 2404 + 4713 ÷ 2 = 4761 Oxygen Balance

e = 714

b = a ÷ 0.208 X 0.792 = 18128 Nitrogen Balance

f = b X 1.15 + 71 = 20918 Nitrogen Balance

Mass In: CH_4 = 2214 lb mole or 35,424 lbs

C_2H_6 = 95 lb mole or 2,850 lbs

N_2 = 20,918 lb mole or 585,704 lbs

O_2 = 5,475 lb mole or 175,200 lbs
28,702 lb mole 799,178 lbs

Mass Out: CO_2 = 2404 lb mole or 105,776 lbs

H_2O = 4713 lb mole or 84,834 lbs

O_2 = 714 lb mole or 22,848 lbs

N_2 = 20,918 lb mole or 585,704 lbs
28,858 lb mole 799,162 lbs

Mass In = Mass Out

SO_2 Emissions:

$$\frac{1 \text{ gr } H_2S}{100 \text{ Scf}} \times 907{,}200 \frac{\text{Scf}}{D} \times \frac{\text{lb}}{7000 \text{ gr}} \times \frac{\text{lb mole } H_2S}{34 \text{ lb}} \times \frac{\text{lb mole } SO_2}{\text{lb mole } H_2S}$$

$$= 0.0381 \text{ lb mole } SO_2/D$$

$$= 2.44 \text{ lbs } SO_2/D$$

PPM Concentration:

PPM (Volume Basis) = (lb moles SO_2 out/total lb mole out) X 10^6

= (0.0381/28,858) X 10^6

= 1.32

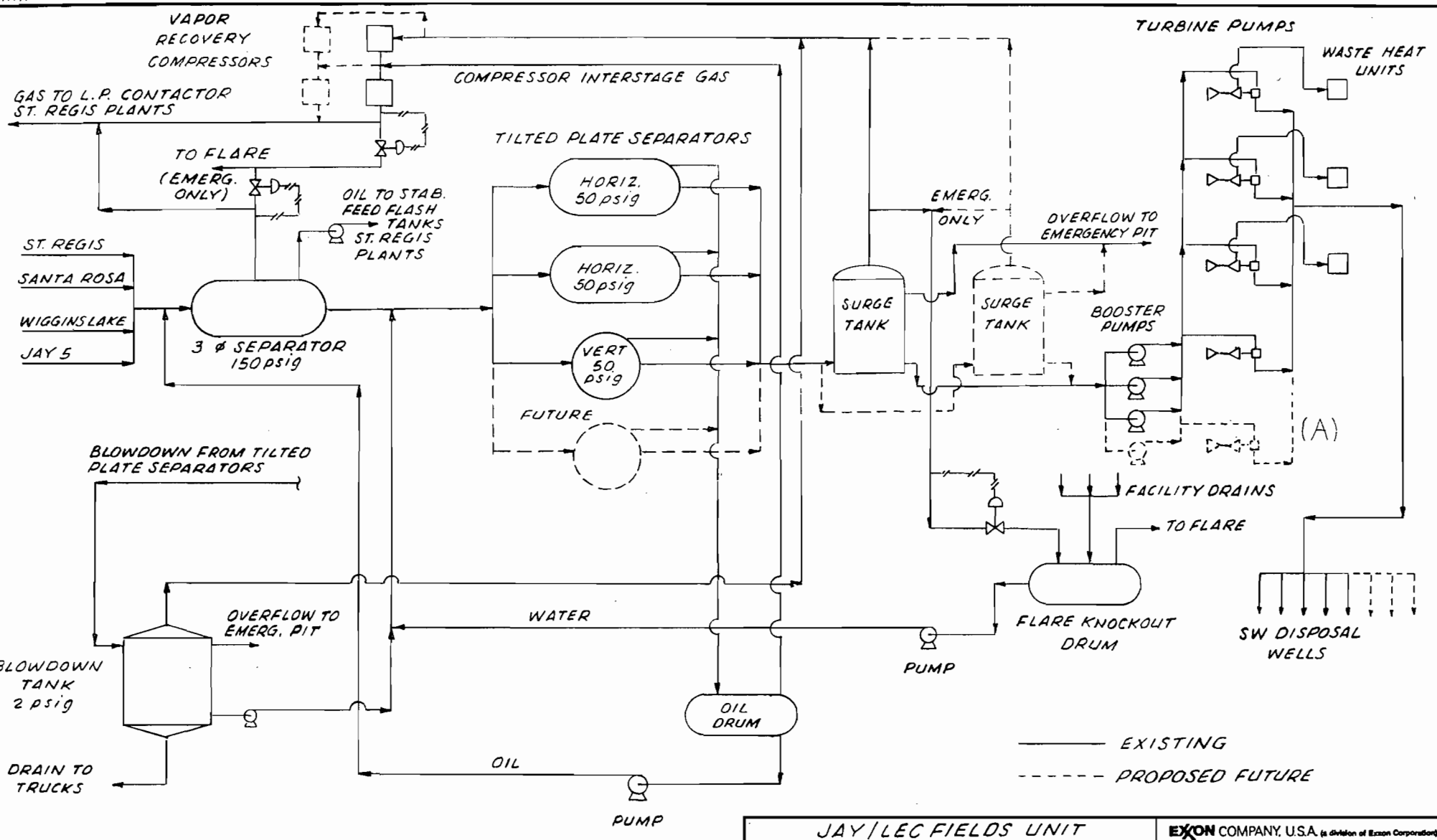
PPM (Mass Basis) = (lbs SO_2 out/total lbs out) X 10^6

= (2.44/799,162) X 10^6

= 3.05

JPH:lf
10/29/82

SUPPLEMENT IV



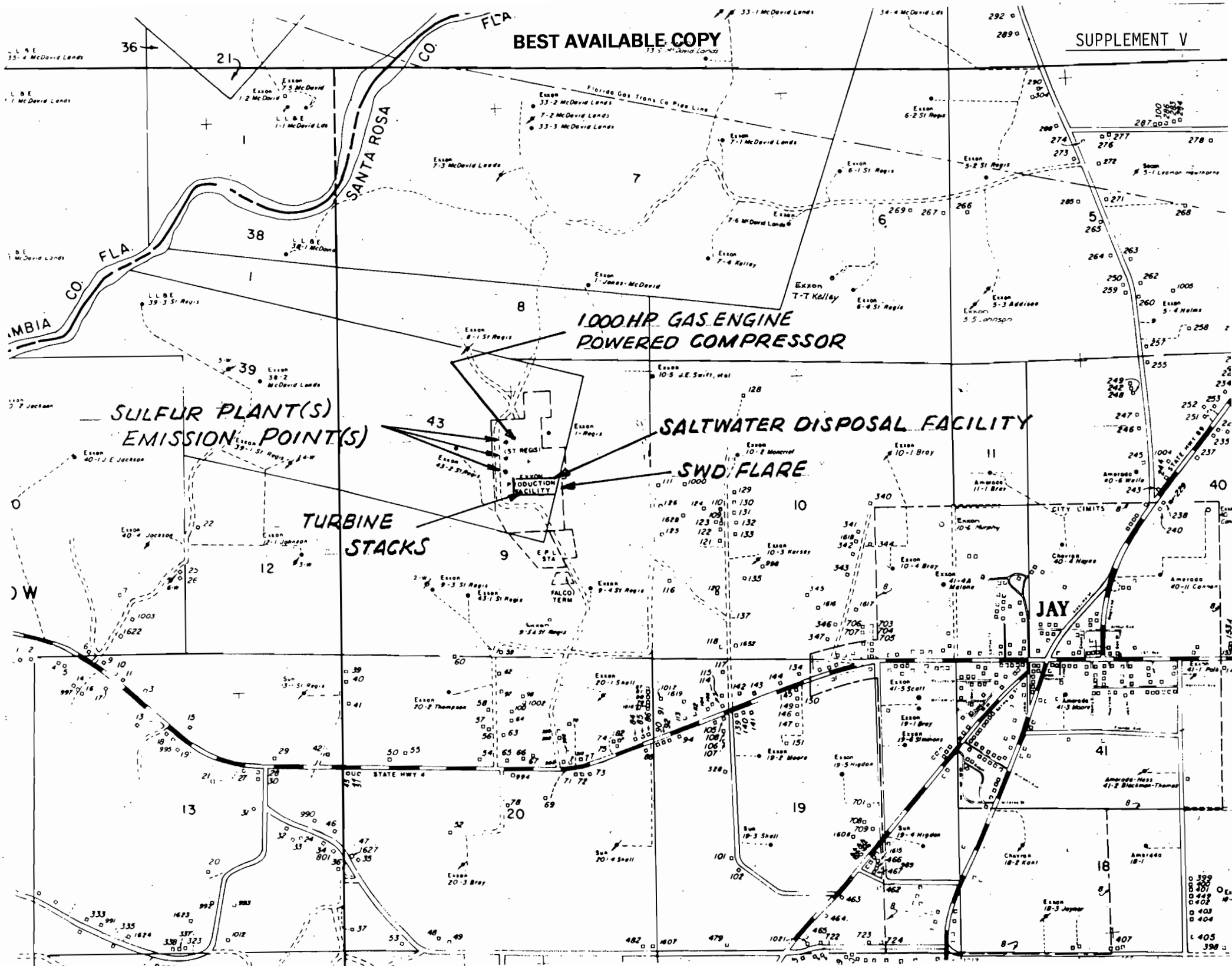
SCHEMATIC DIAGRAM

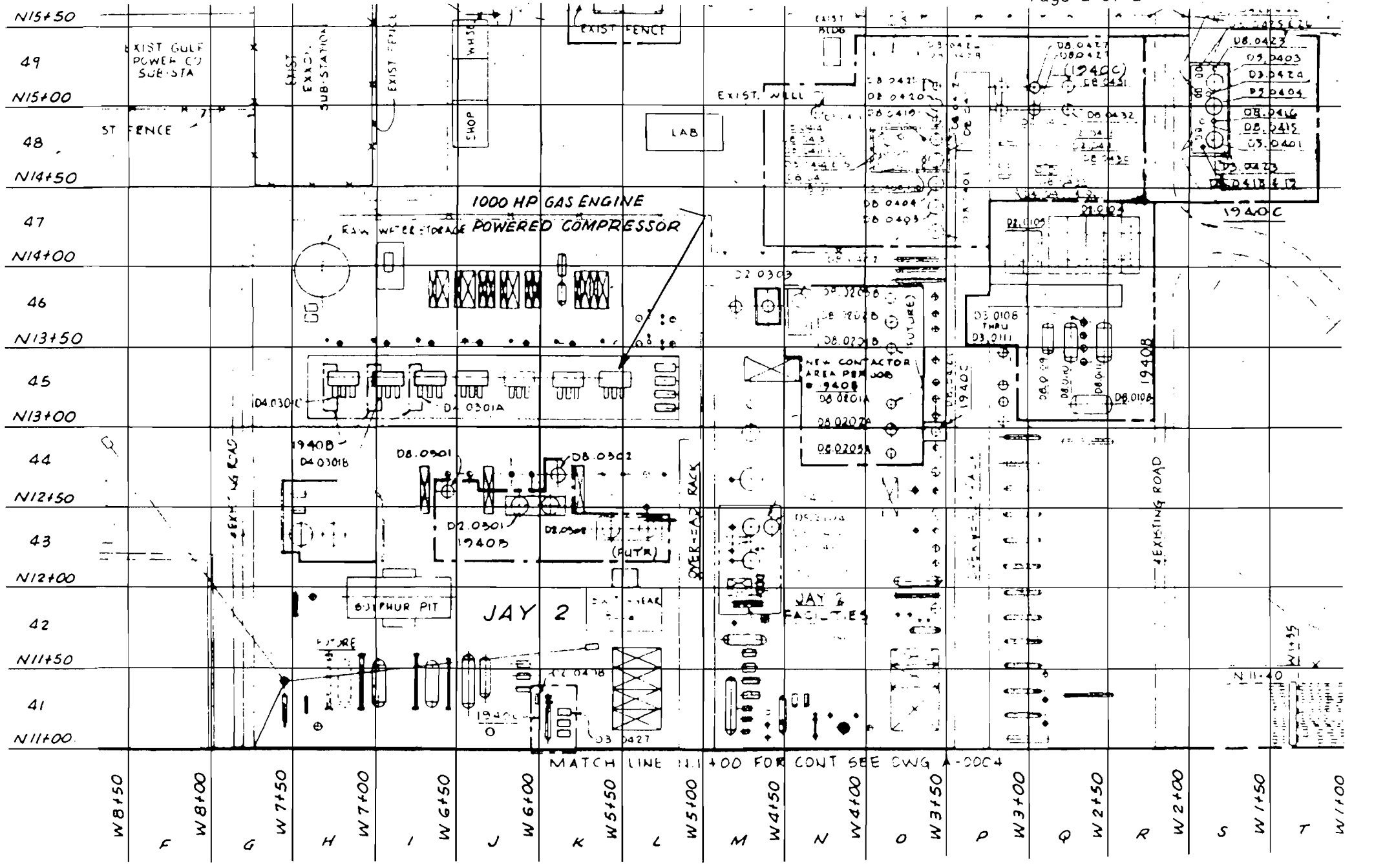
JAY/LEC FIELDS UNIT
JAY CENTRAL SALTWATER DISPOSAL
ST. REGIS FACILITY ~ SANTA ROSA CO., FLA.

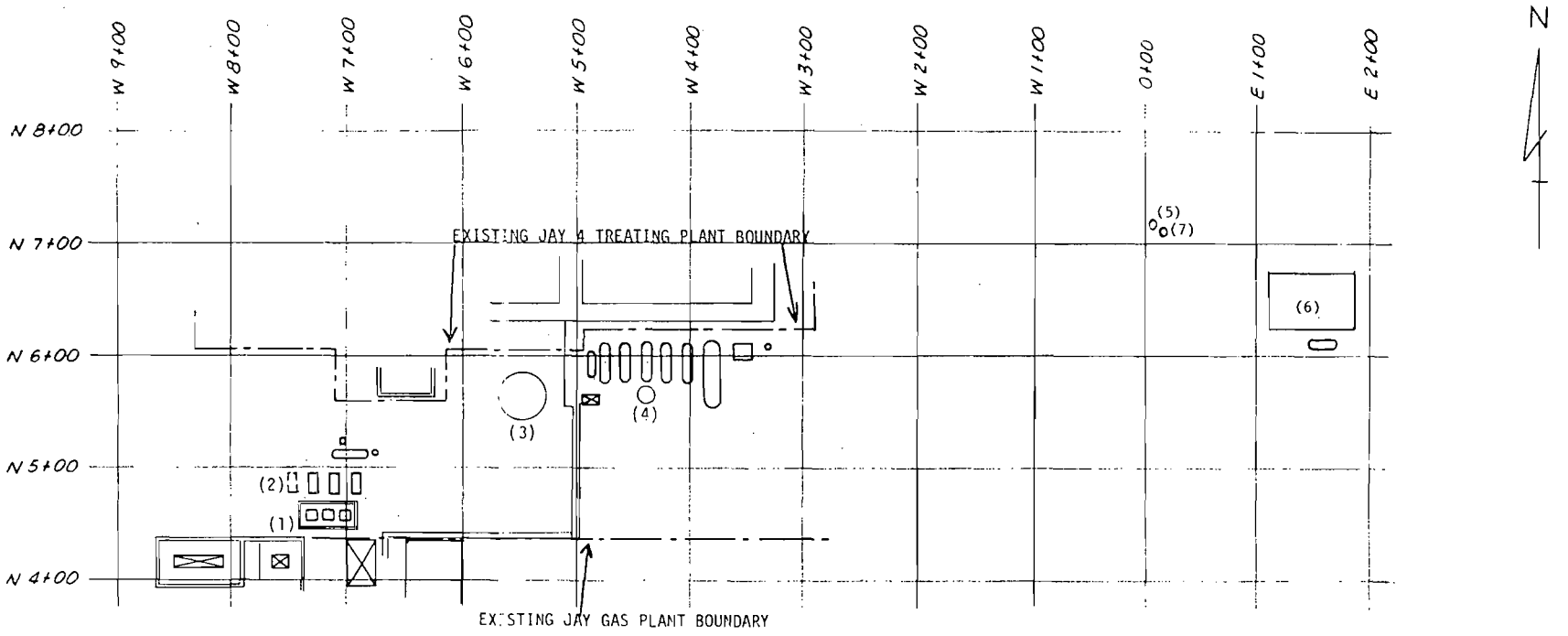
EXXON COMPANY, U.S.A. (a division of Exxon Corporation)
PRODUCTION DEPARTMENT
PENSACOLA DISTRICT

DRAWN Hitchcock	ENGR. SECTION GAS II	REVISED 8-20-82	DATE 6-3-82	JOB NO.	FILE NO. PDB-261
CHECKED DaW	APPROVED		SCALE NONE		

SUPPLEMENT V







(1) Waste heat units with turbine exhaust stacks (A)
(2) Turbine/Pump units
(3) 10,000 BBL storage tank
(4) Oil and gas removal facilities
(5) Flare (B)
(6) Concrete emergency pit and flare knockout drum.
(7) Existing Jay 4 flare (C)

PLOT PLAN

SCALE 1"=100'

REQUIRED SUPPLEMENT 4

JAY FIELD CENTRAL SW DISPOSAL FACILITY ST. REGIS PLANT SANTA ROSA CO., FLA.	EXXON COMPANY, U.S.A. (a division of Exxon Corporation) PRODUCTION DEPARTMENT PENSACOLA DISTRICT	
DRAWN Hitchcock CHECKED C.W.H.	ENGR. SECTION C.W.H. REVISED 6-16-81 APPROVED E.A.N.	DATE 12-20-77 SCALE 1"=100'
JOB NO.	FILE NO. PD8-200	

#1 RECOMPRESSOR EMISSIONS

Serial Number 48GKR398

Component	AP-42(lb/10^3 HP-Hr)	lb/hr	STY
NOx	24.0	24.0	105.0
SO_2	NA	1.67	4.7
HC	8.7	8.7	38.1
CO	3.1	3.1	13.6
Particulates	NA	NA	NA

Calculations for SO_2 Emissions

Fuel Consumption: 250kScf/D = 656.7 lb mole/D

Sulfur Content: 0.060 mole %

H_2S Content: 0.0016 mole %

(a) $0.060 \text{ mole \% S} \times \frac{656.7 \text{ lb mole}}{\text{Day}} \times \frac{1 \text{ lb mole } SO_2}{1 \text{ lb mole SO}} \times \frac{64.06 \text{ lb}}{1 \text{ lb mole } SO_2} = 25.25 \frac{\text{lb}}{\text{Day}}$

= 1.05 lb/hr = 4.61 STY of SO_2

(b) $0.0016 \text{ mole \% } H_2S \times 656.7 \times \frac{1 \text{ lb mole } SO_2}{1 \text{ lb mole } H_2S} \times \frac{64.06 \text{ lb}}{1 \text{ lb mole } SO_2} = 0.67 \frac{\text{lb}}{\text{Day}}$

= .028 lb/hr = 0.12 STY of SO_2

(c) Total SO_2 Emitted = 1.09 lb/hr = 4.73 STY

JDF:lf
10/29/82

EXXON COMPANY, U.S.A.
POST OFFICE BOX 12159 · PENSACOLA, FLORIDA 32590

PRODUCTION DEPARTMENT
PENSACOLA DISTRICT

October 21, 1982

Construction Permit Application
3600 HP Gas Fired Turbine
Installation

Mr. W. A. Thomas
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

As per our telecon this morning the anticipated emissions associated with the captioned construction permit application should include 0.4 STY (short tons yearly) of sulfur dioxide (SO_2). The turbine will be fueled by residue gas from the Jay Gas Plant which contains less than (1) grain of hydrogen sulfide (H_2S) per 100 SCF. With this sales gas/fuel gas specification we expect the 3600 BHP gas fired turbine to emit approximately 0.4 STY of SO_2.

Your assistance in correcting this omission to our original construction permit application would be appreciated.

Sincerely,

EXXON COMPANY, U.S.A.

E. J. Smith

E. J. Smith
Senior Supervisor
Gas Engineering

EJS:lf

IPA-3B-73
Incumbent Power of Attorney

KNOW ALL MEN BY THESE PRESENTS:

THAT EXXON CORPORATION, a New Jersey corporation, having an office in Houston, Texas, acting by and through M. A. Wright, as Chairman and Chief Executive of Exxon Company, U.S.A., a division of Exxon Corporation (hereinafter called "Company"), and as Executive Vice President of Exxon Corporation, does hereby nominate, constitute and appoint each incumbent of each of the following positions in said Company:

Production Department	Division Operations Managers; and Division Joint Interest Managers

as Agent and Attorney-in-Fact of Exxon Corporation for purposes of executing and delivering instruments and documents as more particularly described below, and does hereby grant, delegate and invest each of said incumbents with power and authority to execute and deliver for, in the name and on behalf of Exxon Corporation, and in connection with the business and affairs of said Company, instruments and documents relating to the exploration for or the production of oil, gas, hydrocarbons or sulphur, including, but not by way of limitation, instruments pledging the credit of Exxon Corporation, bonds of indemnity, other indemnities, guaranties, affidavits, permits, licenses, applications for permits or licenses, other governmental documents, bids, bid invitations, collective bargaining agreements, other contracts, purchase orders, leases (including, but not limited to, oil, gas and/or mineral leases), releases, discharges of mortgages or deeds of trust, assignments, transfers of leasehold estates and/or other interests in real and/or personal property, including mineral interests, and any other instrument or document as may be required or desired in the conduct of the

business of said Company, whether similar or dissimilar to the foregoing, EXCEPT the following:

1. Any mortgage, assignment, conveyance or release to any third party of any oil, gas and/or mineral lease or any other interest in oil, gas and/or other minerals which is severed from the surface and which is owned by or leased to Exxon Corporation; provided, however, that this exception shall not apply to assignments, conveyances, releases or other instruments which are:
   a) pursuant to farmout agreements or exploration agreements executed prior to the production of minerals;
   b) for the purpose of pooling, unitizing or joint operating; or
   c) for the purpose of releasing or effectuating releases of oil, gas and mineral leases which have expired by their terms (including partial releases affecting lands as to which such leases have expired by their terms or the terms of agreements made with lessors);
2. Any mortgage, assignment, conveyance, or release of other real property;
3. Any instrument authorizing, permitting or evidencing the borrowing of money from any person or entity; or
4. Any instrument delegating the power and authority conferred herein to execute and deliver instruments.

Each incumbent of each said position in said Company may exercise the power and authority herein granted, delegated and invested, in any particular and appropriate transaction or matter, either as an Attorney-in-Fact of Exxon Corporation or as an official of said Company. Any action taken as authorized under this Incumbent Power of Attorney shall be an act of Exxon Corporation and binding upon it.

Certificates of incumbency and evidencing authority relating to particular transactions or matters may be issued by the Secretary or any Assistant Secretary of Exxon Corporation and may be relied upon by third parties dealing with Exxon Corporation or with said Company. Such Certificates shall certify that, on the dates set out therein, the individual named therein was an incumbent of one of said positions in said Company; that the execution and delivery by such person of particular instruments or documents was authorized by this Incumbent Power of Attorney; and that this Incumbent Power of Attorney was in effect at the time of such execution and delivery.

APPROVED AND EXECUTED this 1st day of January, 1973.

EXXON CORPORATION

By _____
Chairman and Chief Executive of
Exxon Company, U.S.A. and
Executive Vice President of
Exxon Corporation

ATTEST:

_____
Assistant Secretary

STATE OF CALIFORNIA

COUNTY OF ORANGE

On this 1st day of January, in the year 1973, before me, a Notary Public of said State, duly commissioned and sworn, personally appeared M. A. Wright, known to me to be Chairman and Chief Executive of Exxon Company, U.S.A. (a division of Exxon Corporation) and an Executive Vice President of Exxon Corporation that executed the within instrument, and acknowledged to me that such corporation executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

_____
Notary Public in and for said State

OFFICIAL SEAL
WILLIAM J. ZANONE
Notary Public - California
Principal Office in
Los Angeles County
My Commission Expires Nov. 29, 1975