DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

August 26, 1982

B.11

AUG 30 1982
BAQM

Mr. Robert Gillander
Regency Square Properties
Barnett Regency Tower
Suite 1200
Jacksonville, Florida 32211

Re: #5 Worthington Generator

Dear Mr. Gillander:

On August 25, 1982 I discovered that the #5 Worthington Generator at your facility is currently being installed and reassembled. Since the #5 unit is considered a new source, an air pollution Construction Permit is required prior to construction according to Chapter 17-2 Florida Administrative Code (FAC). In order to apply for the required permit, please submit the following information to this Agency on or before September 15, 1982:

(1) Completed permit application (application enclosed).

(2) Application fee payable to the Florida Department of Environmental Regulation (Please determine appropriate fee from attached fee schedule).

If I can be of further assistance in this matter, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj
Enclosures

cc: Robert Sholtes, Ph.D., P.E. (Sholtes & Koogler) - with enclosure
cc: Mr. Clair Fancy, DER - with enclosure

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee

To: Pace Locn:
To: Locn:
To: Locn:
From: Date:
Reply Optional [ ] Reply Required [ ] Info. Only [ ]
Date Due: Date Due:

TO: District/Subdistrict Managers
Suzanne Walker
Steve Smallwood

FROM: Bill Buzick

DATE: June 25, 1982

SUBJECT: Fee Schedule; General Permits

The attached are new rules and amendments adopted by the Secretary June 15 and filed with the Secretary of State June 18, 1982. They are effective July 8, 1982.

FEE SCHEDULE (17-4.05)

All applications filed on July 8 or subsequent to that date are to be charged the fees listed here. Applications which contain requests for construction and operation permits are to be charged fees for each type of permit (except for an application in which stormwater is considered as a part of some other type of permit). For example, a domestic wastewater treatment plant with disposal to injection well would pay both the fee for the plant and the fee for the injection well. Another example, an operation permit was issued in 1977 for several air sources in one permit; when it is renewed, the fees would be the total of each separate source although you may continue to issue one permit to the permittee. If there are any doubts as to the appropriate fee to charge because of a unique situation or for any reason, call Helen Setchfield. It is imperative that we implement the new fee system consistently because of the stringent audit reviews associated with the new Permit Fee Trust Fund.

GENERAL PERMITS (17-4.51 - 17-4.63)

Notices to use a general permit will not be processed and reviewed. Only collection/Distribution Systems have a notice form, I recognize it will be necessary to read the application to determine if it is a request to use a general permit. This should take no more than a few minutes. No written response should be given unless it is to tell the individual that he does not qualify. The basic information should be entered in the computer programs by the appropriate staff. They will be logged in PATS as exemptions, and in GPSI or MSIS as appropriate.

WLB/hs

Attachments

cc: Terry Cole
Steve Fox
Larry Lukin
Howard Rhodes
Don Mills
Fran Steverson
Mary Clark

~~(d) When the applicant is a person acting as a public officer employed by the State, a county, or a municipality, or other governmental unit of the State, only on work where the total estimated cost is less than $10,000.~~

~~(e) In any other situation~~ where professional engineering is not required by Chapter 471, F.S.

(4) Each application for a permit shall be accompanied by a processing fee, except for applications filed by departments of the executive branch established pursuant to Chapter 20, F.S., and water management districts established pursuant to Chapter 373, F.S. The check shall be made payable to the Department of Environmental Regulation. The processing fee is non-refundable except as provided for in Section 120.60, F.S, and in this section. Processing fees are as follows:

(a) Air Pollution Source Permits

1. Construction Permit for a source having potential emissions of more than 100 tons per year of any single pollutant $1000

2. Construction Permit for a source having potential emissions of more than 75 tons per year of any single pollutant $750

3. Construction Permit for a source having potential emissions of more than 50 tons per year of any single pollutant $500

4. Construction Permit for a source having potential emissions of more than 25 tons per year of any single pollutant $250

5. Construction Permit for a source having potential emissions of less than 25 tons per year of any single pollutant $100

6. Operation Permit for a source required to stack

Adopted 6/18/82
Effective 7/8/82

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

File Regency Square

December 18, 1981

Mr. Robert Gillander
Regency Square Properties
Barnett Regency Tower
Suite 1200
Jacksonville, Florida 32211

Re: Permit A016-45674

Dear Mr. Gillander:

As a result of the meeting with Sholtes & Koogler Inc. (Regency Square Properties consultants), the Department of Environmental Regulation representatives and this agency on December 8, 1981 in Tallahassee, Florida, the following actions were agreed upon:

1. Regency Square Properties will perform emission tests on Worthington Generators 1,2,3,4 and 6 for total hydrocarbons, nitrogen oxides and visible emissions.

2. Regency Square Properties will perform emission tests on one representative Caterpillar engine for total hydrocarbons and nitrogen oxides.

3. Prior to the emission tests, Regency Square Properties will have a pretest conference with Bio-Environmental Services representatives.

4. Regency Square Properties will have computer modelling performed to determine the ambient air concentrations of Nitrogen oxides while operating Worthington Generators 1,2, 3,4, and 6 at maximum load, 8760 hours per year. Emission data for the computer modelling will be taken from the test results obtained under item 1 and 2 above which must have been accepted by Bio-Environmental Services prior to the computer modelling.

5. Visible emission tests performed under item 1 will be considered in establishing visible emission limiting standards for Worthington Generators 1,2,3,4, and 6.

6. Visible emission limits for the Caterpillar engines will remain at 5% opacity.

7. Visible emission limits for the Worthington Generators while burning 100% diesel fuel will be 20% opacity.

8. All emission tests, test results, and computer modelling will be submitted to BES for review in determining revised operating permit conditions for permit A016-45674.

9. The #6 Worthington Generator will be treated as a replacement for the #5 Worthington Generator.

10. The #5 Worthington Generator is considered a new unit and is subject to all local, state, and federal reviews and permitting requirements prior to initiation of reassembly.

11. The current permit conditions for A016-45674 are effective until revised.

It is requested that all emission tests be performed on or before January 8, 1982.

If you have any questions concerning this matter please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: D. Dutton - DER
cc: C. Fancy - DER (Tallahassee)

(32) "Coating" - The application of a protective film to a surface.

(33) "Coating Application System" - Any operations and equipment which apply, convey, and dry a surface coating, including, but not limited to, spray booths, flow coaters, conveyors, flashoff areas, air dryers and ovens.

(34) "Coating Applicator" - An apparatus used to apply a surface coating to a surface.

(35) "Coating Line" - One or more apparatus or operations which include a coating applicator, flash-off area, and oven wherein a surface coating is applied, dried, and/or cured.

(36) "Coil Coating" - The coating of any flat metal sheet or strip that comes in rolls or coils.

(37) "Cold Cleaning" - The batch process of cleaning and removing soils from metal surfaces by brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

(38) "Cold Mixed Asphaltic Concrete Patching Material" - A mixture of asphalt cement, stone aggregate, and mineral filler blended together with a small amount of petroleum solvent (diluent). The diluent prevents the material from hardening after the heat of mixing has dissipated, thereby allowing stockpile storage of the material for use in pavement repairs when the use of hot asphaltic concrete is impractical.

(39) "Commence Construction" - As applied to the construction or modification of a facility, means that the owner has all preconstruction permits and approvals required under federal air pollution control laws and regulations which are part of the State Implementation Plan (SIP) or which are part of Chapter 17-2 to the extent that the provisions of this chapter specify conditions or requirements for obtaining a state construction permit for an air pollution source, and has:

(a) Begun, or caused to begin, a continuous program of actual on-site construction or physical modification of the facility, to be completed within a reasonable time; or

(b) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction or physical modification of the facility to be completed within a reasonable time; or

(c) Begun, or caused to begin, those on-site activities, other than preparatory activities, which mark the initiation of a change in the method of operation of the facility.

(40) "Complete" - In reference to an application for a permit, means that the application contains all of the information necessary for processing the application.

(41) "Condensate" - Hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(42) "Construction" - The act of performing on-site

fabrication, erection, installation or modification of a source or facility of a permanent nature, including, but not limited to installation of foundations or building supports, laying of underground pipe work or electrical conduit; and fabrication or installation of permanent storage structures, component parts of a source or facility, associated support equipment, or utility connections. Land clearing and other site preparation activities are not part of the construction activities.

(43) "Continuous Monitoring System" - All equipment, required under Section 17-2.710, used to calibrate, sample, condition (if applicable), and analyze air emissions, or used to provide a permanent record of emissions or process parameters.

(44) "Conveyorized Degreasing" - The continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.

(45) "Crude Oil" - A naturally occurring mixture which consists of hydrocarbons and/or sulfur, nitrogen and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(46) "Cutback Asphalt" - Asphalt cement which has been liquefied by blending with petroleum solvents (diluents). Upon exposure to atmospheric conditions the diluents evaporate, leaving the asphalt cement to perform its function.

(47) "Delivery Vessel" - Tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources of supply to stationary storage tanks of gasoline dispensing facilities.

(48) "Department" - The State of Florida Department of Environmental Regulation.

(49) "Dry Cleaning Facility" - A facility engaged in the cleaning of fabrics in an nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes but is not limited to: washer, dryer, filter and purification systems; waste disposal systems; holding tanks; pumps and attendant piping and valves.

(50) "Emission Limiting Standard" or "Emission Standard" or "Emission Limitation" or "Performance Standard" - Any restriction established in or pursuant to a regulation adopted by the Department on the quantity, rates, concentration or opacity of any pollutants which are released, allowed to escape or emitted, whether intentionally or unintentionally, into the atmosphere.

(51) "Emission Offset" or "Offset" - A compensating reduction in the emissions of an affected pollutant from a permitted source to provide an emission allowance for a new or modified source.

(52) "Emission Point" or "Discharge Point" - The point at which an air pollutant first enters the atmosphere.

(53) "Emulsified Asphalt" - An emulsion of asphalt cement and water which contains a small amount of an emulsifying agent; a heterogeneous system containing two normally immiscible

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

July 22, 1982

Mr. Martin Stein
Regency Square Properties
Barnett Regency Tower, Suite 1200
Jacksonville, Florida 32211

Dear Mr. Stein:

Duval County - AP
Regency Square Properties
5 Worthington & 9 Caterpillar Engines

Enclosed is Permit Number A016-51401 , dated July 22, 1982 , to operate the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.201, Florida Administrative Code (see reverse side). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

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 action for violation of the conditions and requirements thereof.

Sincerely,

Frank Watkins

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:vk

cc: Jacksonville BES
Mr. Robert S. Sholtes, P.E.

RULES OF THE ADMINISTRATION COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

PART II
FORMAL PROCEEDINGS

28-5.201 Initiation of Formal Proceedings.

(1) Initiation of formal proceedings shall be made by petition to the agency responsible for rendering final agency action. The term petition as used herein includes any application or other document which expresses a request for formal proceedings. Each petition should be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners, and an explanation of how his/her substantial interests will be affected by the agency determination;

(c) A statement of when and how petitioner received notice of the agency decision or intent to render a decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief;

(f) A demand for relief to which the petitioner deems himself entitled; and

(g) Other information which the petitioner contends is material.

****

A petition may be denied if the petitioner does not state adequately a material factual allegation, such as a substantial interest in the agency determination, or if the petition is untimely. (Section 28-5.201(3)(a), FAC).

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
SUBDISTRICT

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

APPLICANT:

Regency Square Properties
Suite 1200
Barnett Regency Tower
Jacksonville, Florida 32211

PERMIT/CERTIFICATION NO. A016-51401

COUNTY: Duval

PROJECT: Five(5) Worthington and Nine(9) Caterpillar Engines

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 operation of No.'s 1, 2, 3, 4, and 6 Worthington engines and nine(9) Caterpillar engines. These units are used to generate electricity and operate heating and cooling systems. Worthington engines are gas and oil fired simultaneously and the Caterpillar engines are gas fired exclusively.

Located at 9501 Arlington Expressway, Jacksonville, Florida 32216
UTM E-7447.300 N-3354.610

In accordance with the application received on December 30, 1981 and additional information received on April 29, 1982.

PERMIT NO.: A016-51401
APPLICANT: Regency Square Properties

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 personnei 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.: A016-51401
Applicant : Regency Square Properties

Specific Conditions:

1. Supporting documents are retained in the office file to which they were submitted and not attached as stated in the leading paragraph and General Condition No. 2. They are as follows:

   A. Plot plans and diagrams
   B. Permits AC16-40548 and A016-45674
   C. Emission tests received on April 29, 1982

2. The maximum allowable emission rate for each pollutant is as follows:

Pollutant	Emission Rate	Maximum Allowable Emission

SEE PAGE 4

3. Testing of emissions must be accomplished at 90% - 100% of the permitted rate. If, however, testing is performed at a rate less than 90% of the permitted rate, operation shall be limited to the testing rate until such time that testing is performed at 90% - 100% of the permitted rate.

4. Notify the Jacksonville Bio-Environmental Services Division (BESD) 14 days prior to source testing. Copies of the test report(s) shall be submitted to BESD within 30 days after completion of testing.

5. The following pollutant(s) shall be tested at intervals indicated from the date of June 1, 1982.

   Visible Emissions* - 12 months

   *Worthington Units 1, 2, 3, 4 and 6

6. Submit an annual operation report to BESD for this source on the form supplied for each calendar year on or before March 1.

7. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

Permit No.: A016-51401
Applicant : Regency Square Properties

Specific Conditions:

8. The maximum allowable emissions are as follows:

	NOx		HC	
Worthington Units	lbs/hr	T/yr	lbs/hr	T/yr
1, 2, 3, 4, 6	77.6	340	188.2	824
Caterpillar Units	1	4.4	2.6	11.4

Note: Emission limits based on test results of units firing at an average of 85% capacity.

9. Visible Emissions are limited as follows:

Worthington Unit #1	10%	Opacity
" " #2	5%	"
" " #3	5%	"
" " #4	15%	"
" " #6	10%	"
Caterpillar Units	5%	"

Worthington units fired on 100% oil are limited to 20% opacity.

10. Operation of each unit is limited to 8760 hours per year.

11. Annual reports of the following parameters shall be submitted to Jacksonville Bio-Environmental Services Division:
    (a) Natural Gas consumed per engine per calendar year
    (b) Diesel oil consumed per engine per calendar year
    (c) Kilowatt hours generated per engine per calendar year

    This report shall be submitted in conjunction with Specific Condition No. 6.

12. Maximum natural gas input is 45×10^3 cubic feet per hour for all units combined.

13. Permit No. A016-45674 is superceded by this permit and shall not be valid upon issuance of this permit.

Expiration Date: June 30, 1987 Issued this 22 day of July 1982

City of Jacksonville
Bio-Environmental Services

Donald C. Bayly, Division Chief

State of Florida
Department of Environmental Regulation

for Frank Watkins Jr.
Doug Dutton, Subdistrict Manager

DER FORM 17-1.22(63) (1/80)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC16-40548 DATE: 12/22/81

Company Name: Regency Square Properties County: Duval

Source Identification(s): No. 6 Worthington Engine

Actual costs of serving pollution control purpose: $ None

Operating Rates: _____ Design Capacity: 2200 KW

Expected Normal 1850 KW During Compliance Test 1850 KW

Date of Compliance Test: 11/17/81 (Attach detailed test report)

Test Results:	Pollutant	Actual Discharge	Allowed Discharge
	VE	10%	5%*

*This limit currently being negotiated.

Date plant placed in operation: September 1, 1981

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC16-40548 dated 8/14/81.

A. Applicant:

Martin Stein
Name of Person Signing (Type)

Signature of Owner or Authorized Representative and Title

Date: _____ Telephone: 904/725-9272

B. Professional Engineer:

Robert S. Sholtes, P.E.
Name of Person Signing (Type)

Signature of Professional Engineer

SHOLTES & KOOGLER ENVIRONMENTAL CONS.
Company Name

Florida Registration No. 7801

Date: December 22, 1981

(Seal)

1213 NW 6th Street
Gainesville, FL 32601
Mailing Address

904/377-5822
Telephone Number

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

December 18, 1981

Mr. Robert Gillander
Regency Square Properties
Barnett Regency Tower
Suite 1200
Jacksonville, Florida 32211

Re: Permit A016-45674

Dear Mr. Gillander:

As a result of the meeting with Sholtes & Koogler Inc. (Regency Square Properties consultants), the Department of Environmental Regulation representatives and this agency on December 8, 1981 in Tallahassee, Florida, the following actions were agreed upon:

1. Regency Square Properties will perform emission tests on Worthington Generators 1,2,3,4 and 6 for total hydrocarbons, nitrogen oxides and visible emissions.

2. Regency Square Properties will perform emission tests on one representative Caterpillar engine for total hydrocarbons and nitrogen oxides.

3. Prior to the emission tests, Regency Square Properties will have a pretest conference with Bio-Environmental Services representatives.

4. Regency Square Properties will have computer modelling performed to determine the ambient air concentrations of Nitrogen oxides while operating Worthington Generators 1,2, 3,4, and 6 at maximum load, 8760 hours per year. Emission data for the computer modelling will be taken from the test results obtained under item 1 and 2 above which must have been accepted by Bio-Environmental Services prior to the computer modelling.

5. Visible emission tests performed under item 1 will be considered in establishing visible emission limiting standards for Worthington Generators 1,2,3,4, and 6.

6. Visible emission limits for the Caterpillar engines will remain at 5% opacity.

7. Visible emission limits for the Worthington Generators while burning 100% diesel fuel will be 20% opacity.

8. All emission tests, test results, and computer modelling will be submitted to BES for review in determining revised operating permit conditions for permit A016-45674.

9. The #6 Worthington Generator will be treated as a replacement for the #5 Worthington Generator.

10. The #5 Worthington Generator is considered a new unit and is subject to all local, state, and federal reviews and permitting requirements prior to initiation of reassembly.

11. The current permit conditions for A016-45674 are effective until revised.

It is requested that all emission tests be performed on or before January 8, 1982.

If you have any questions concerning this matter please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: D. Dutton - DER
cc: C. Fancy - DER (Tallahassee)

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

November 2, 1981

Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Regency Square Properties

Dear Mr. Bock:

Receipt of the package of information regarding Regency Square Properties is acknowledged.

Review of the information and permit applications previously submitted has been concluded. The following comments are offered by the Bio-Environmental Services Division (BESD) staff:

A. In consideration as to which specific regulations are applicable, Regency Square Properties must be considered a major emitting facility, based upon its potential to pollute. The consulting firm of Sholtes and Koogler confirm, in various correspondece, that the potential is greater than 250 tons per year.

B. The increase in emissions of a major emitting facility triggers the application of additional rules/regulations if, as in this case for NO_x, the actual emissions increase by 40 tons per year.

The actual emissions are based upon the average rate which the source actually operated over a two year period. The consulting firm of Sholtes and Koogler has attempted to establish a baseline of 257.1 tons per year, using only a period of one year and using projected emissions arrived at as if the facility had been operated at a level much greater than that at which the facility actually operated. Hence, two errors enter into the consultant's approach for establishing a base for emission; first, not utilizing a two year period, and second, not using actual emissions. A reference is made by the consultant to a test made on August 10, 1981, which establishes that each Caterpillar engine, while operated at 100 percent capacity, emitted NO_x at a rate of 2.54 pounds per hour. This agency has no record of receiving notification of such a test. However,

Mr. Carl Bock

Regency Square Properties

in view of the past controversy regarding NO_x emission rates, such notification would have seemed in order. In any case, this agency would request a copy of the test in order to utilize such in evaluating a permit application. However, since the Department of Environmental Regulation is now processing the permit, such a request to forward the test to DER would be appropriate.

In conclusion, it is felt that in view of the data available to this agency, the facility permit A016-45674, with its associated permit conditions, is in order and should be strictly enforced. To do otherwise would induce a great deal of uncertainty as to whether PSD and NAAQS were being complied with. It is further recommended that if the applicant wishes to expand the parameters of the permit, then the applicant should perform a PSD determination, while operating under the existing permit (A016-45674) and associated conditions.

If this agency can be of further assistance in this matter, please advise.

Very truly yours,

Robert Steven Pace, P. E.
Air Pollution Engineer

RSP/am

cc: Doug Dutton, DER
cc: R. C. Gillander, Jr., Regency Square
cc: Robert S. Sholtes, Sholtes & Koogler

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

14/12 Bill, Please handle. CJD

SKEC 258-81-01

October 8, 1981

Mr. Clair Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Duval County - AP
Regency Square Properties
Permit No. A016-45674

Dear Mr. Fancy:

Regency Square Properties operates a Total Energy Plant at the Regency Square Shopping Center in Jacksonville, Florida. The purpose of this plant is to generate all of the electric power and to provide the heating and air conditioning required by the Regency Square Shopping Center. To generate these engergy requirements Regency Square Properties operates six gas/oil fired engines driving electric generators, seven gas fired engines driving electric generators and two gas fired engines driving air conditioning compressors. Pertinent information regarding the engines is included in Table 1.

On September 1, 1981, the Jacksonville Office of the Florida Department of Environmental Regulation issued the subject air pollution source operating permit to Regency Square Properties. Some of the specific conditions attached to the operating permit are unacceptable to Regency Square Properties. The purpose of this letter is to establish a base air pollutant emission rate for the subject facility that can be used for evaluating the necessity and/or the timing of preparing a PSD Application. The purpose of the PSD Application would be to request the use of 100 percent of the engine operating capacity.

In establishing the emission base I will review the history of the Regency Square Properties Total Energy Plant (TEP). Prior to January 6, 1975, the TEP consisted of nine gas fired Caterpillar engines, each rated at 750 horsepower. Seven of these engines drove 500 kw generators and two drove air conditioning compressors. On October 8, 1975 Regency Square Properties received an FDER Construction Permit to install four Worthington engines of varying sizes; each associated with an electric power generator. These engines can be fired with either diesel fuel or natural gas. In 1973, a fifth Worthington engine/generator was installed.

On August 14, 1981 Regency Square Properties received FDER Construction Permit AC16-40548 to install a sixth Worthington engine to drive a sixth generator. This engine, as with the previous five, can be fired with either diesel fuel or natural gas. The size of all the engines permitted by Regency Square Properties, the generating capacity of the generators driven by the engines, the engine fuel and the date the engines were permitted are summarized in Table 1.

In evaluating air pollutants emitted from the 15 engines, it was determined that nitrogen oxides emissions will be critical. Because of this the remainder of this letter deals only with the nitrogen oxides emissions.

To establish a base nitrogen oxides emission rate from the 15 engines I used a 100 percent operating factor for the nine Caterpillar engines since they were in existence prior to January, 1975 and since the hours of operation were not limited, subsequent to January, 1975, by a Federally enforceable permit condition. For the Worthington engines I used actual emissions that existed during the 1980 period. The actual emissions were based on a test conducted by Dr. Sholtes of our firm on August 10, 1981. Calendar year 1980 emissions were used for the Worthington engines since these emissions represent, the maximum current actual use of these engines.

Caterpillar Engines. Based actual 1980 data, the Caterpillar engines operated a total of 5,610 engine hours and consumed 49.75 million cubic feet of gas. At a heat content of 1,045 Btu per cubic foot, the average heat input to a Caterpillar engine was 9.27 million Btu per engine hour. Since the Caterpillar engines normally operate at 85 percent of rated capacity, the 9.27 million Btu per hour heat input was assumed to be the heat input at 85 percent capacity. At 100 percent rated capacity the heat input to each Catepillar engine would 10.9 million Btu per hour.

Based on the tests conducted by SKEC on August 10, 1981, the average nitrogen oxides emission rate from each Caterpillar engine operating at 100 percent rated capacity is 2.54 pounds per hour. If it is assumed that all nine Caterpillar engines operate at 100 percent capacity for 8,760 hours per year the annual nitrogen oxides emission rate from all nine engines will be 100.3 tons per year. This emission rate was assumed to be the base nitrogen oxide rate for the Caterpillar engines.

Worthington Engines. In 1980 the Worthington engines operated a total of 17,769 engine hours and consumed 96,464 gallons of diesel fuel and 240.77 million cubic feet of natural gas. It is assumed that during these hours of operation the Worthington engines operated at 85 percent of their rated load.

The emission measurements conducted by SKEC in August, 1981 showed an average nitrogen oxides emission rate from each Worthington engine of 18.7 pounds per hour at 100 percent rated capacity while being fired with natural gas. No emission measurements were conducted with the engines operating on diesel fuel.

Based on operating records it was determined that during 95 percent of 1980 operating hours the Worthington engines operated on natural gas and during the remaining time they operated on diesel fuel. Using these figures it was calculated that the Worthington engines operated 16,880 hours per year on natural gas. At an emission rate of 18.7 pounds of nitrogen oxides per engine hour at 100 percent rate capacity, or 15.9 pounds per hour at 85 percent rated capacity, it was calculated that the Worthington engines emitted 134.2 tons per year of nitrogen oxides during 1980.

During the 889 engine hours the Worthington engines operated on diesel fuel in 1981, 96,464 gallons of diesel fuel were consumed. In AP-42, Section 3.3.3-Gasoline and Diesel Industrial Engines, Table 3.3.3-1, an emission factor of 469 pounds of nitrogen oxides per 1,000 gallons of diesel fuel is stated (see attached). Using this emission factor, the fuel oil consumed during calendar year 1980 resulted in an annual nitrogen oxide emission of 22.6 tons. The total 1980 nitrogen oxide emission rate from the Worthington engines, resulting from both the combustion of natural gas and diesel fuel, was 156.8 tons per year.

The total nitrogen oxide emission rate from the Regency Square Properties TEP for the 1980 base period was 257.1 tons per year for the Caterpillar and Worthington engines. If the de minimus nitrogen oxide emission rate permitted by Federal PSD Regulations of less than 40 tons per year is added to this base emission rate it is determined that a nitrogen oxide emission rate from the TEP not exceeding 297 tons a year is permissible without triggering a Federal PSD review. I would appreciate your opinion on this base emission rate.

If there are any questions regarding the information contained herein, or if we can provide you with additional information to expedite your review of this matter, please contact me.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

John B. Koogler, Ph.D., P.E.

JBK:sc
Attachment

cc: Mr. Robert C. Gillander

TABLE 1

SUMMARY OF EQUIPMENT AT REGENCY SQUARE PROPERTIES
TOTAL ENERGY PLANT
JACKSONVILLE, FLORIDA

Unit	Engine Manufacturer	HP Rating	KW Rating	Fuel	Date Permitted
1	Worthington	2,000	1,250	gas/diesel	10-08-75
2	Worthington	2,000	1,350		10-08-75
3	Worthington	2,000	1,350		10-08-75
4	Worthington	2,700	1,750		10-08-75
5	Worthington	3,800	2,750		1978
6	Worthington	3,000	2,200		08-14-81
7 - 13	Caterpillar	750 each	500 each	gas	Pre- 1/75
14- 15	Caterpillar	750 each	(1)	gas	Pre- 1/75

(1) These engines drive air conditioning compressors.

COMPILATION

OF

AIR POLLUTANT EMISSION FACTORS

Second Edition

(Third Printing with Supplements 1-5)

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina
February 1976

3.3.3 Gasoline and Diesel Industrial Engines

by David S. Kircher

3.3.3-1 General – This engine category covers a wide variety of industrial applications of both gasoline and diesel internal combustion power plants, such as fork lift trucks, mobile refriggration units, generators, pumps, and portable well-drilling equipment. The rated power of these engines covers a rather substantial range–from less than 15 kW to 186 kW (20 to 250 hp) for gasoline engines and from 34 kW to 447 kW (45 to 600 hp) for diesel engines. Understandably, substantial differences in both annual usage (hours per year) and engine duty cycles also exist. It was necessary, therefore, to make reasonable assumptions concerning usage in order to formulate emission factors.[1]

3.3.3-2 Emissions – Once reasonable usage and duty cycles for this category were ascertained, emission values from each of the test engines [1] were aggregated (on the basis of nationwide engine population statistics) to arrive at the factors presented in Table 3.3.3-1. Because of their aggregate nature, data contained in this table must be applied to a population of industrial engines rather than to an individual power plant.

The best method for calculating emissions is on the basis of "brake specific" emission factors (g/kWh or lb/hphr). Emissions are calculated by taking the product of the brake specific emission factor, the usage in hours (that is, hours per year or hours per day), the power available (rated power), and the load factor (the power actually used divided by the power available).

Table 3.3.3-1. EMISSION FACTORS FOR GASOLINE- AND DIESEL-POWERED INDUSTRIAL EQUIPMENT
EMISSION FACTOR RATING: C

Pollutant[a]	Engine category[b]	
	Gasoline	Diesel
Carbon monoxide		
g/hr	5700.	197.
lb/hr	12.6	0.434
g/kWh	267.	4.06
g/hphr	199.	3.03
kg/10^3 liter	472.	12.2
lb/10^3 gal	3940.	102.
Exhaust hydrocarbons		
g/hr	191.	72.8
lb/hr	0.421	0.160
g/kWh	8.95	1.50
g/hphr	6.68	1.12
kg/10^3 liter	15.8	4.49
lb/10^3 gal	132.	37.5
Evaporative hydrocarbons		
g/hr	62.0	–
lb/hr	0.137	–
Crankcase hydrocarbons		
g/hr	38.3	–
lb/hr	0.084	–

Table 3.3.3-1. (continued). EMISSION FACTORS FOR GASOLINE- AND DIESEL-POWERED INDUSTRIAL EQUIPMENT
EMISSION FACTOR RATING: C

Pollutant[a]	Engine category[b]	
	Gasoline	Diesel
Nitrogen oxides		
g/hr	148.	910.
lb/hr	0.326	2.01
g/kWh	6.92	18.8
g/hphr	5.16	14.0
kg/10^3 liter	12.2	56.2
lb/10^3 gal	102.	469.
Aldehydes		
g/hr	6.33	13.7
lb/hr	0.014	0.030
g/kWh	0.30	0.28
g/hphr	0.22	0.21
kg/10^3 liter	0.522	0.84
lb/10^3 gal	4.36	7.04
Sulfur oxides		
g/hr	7.67	60.5
lb/hr	0.017	0.133
g/kWh	0.359	1.25
g/hphr	0.268	0.931
kg/10^3 liter	0.636	3.74
lb/10^3 gal	5.31	31.2
Particulate		
g/hr	9.33	65.0
lb/hr	0.021	0.143
g/kWh	0.439	1.34
g/hphr	0.327	1.00
kg/10^3 liter	0.775	4.01
lb/10^3 gal	6.47	33.5

[a]References 1 and 2.

[b]As discussed in the text, the engines used to determine the results in this table cover a wide range of uses and power. The listed values do not, however, necessarily apply to some very large stationary diesel engines.

References for Section 3.3.3

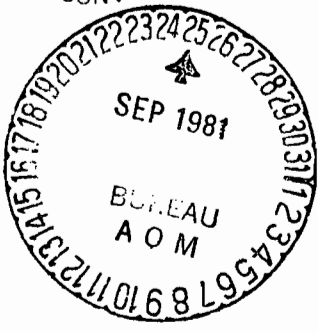
1. Hare, C. T. and K. J. Springer. Exhaust Emissions from Uncontrolled Vehicles and Related Equipment Using Internal Combustion Engines. Final Report. Part 5: Heavy-Duty Farm, Construction, and Industrial Engines. Southwest Research Institute. San Antonio, Texas. Prepared for Environmental Protection Agency, Research Triangle Park, N.C., under Contract No. EHS 70-108. October 1973. 105 p.

2. Hare, C. T. Letter to C. C. Masser of the Environmental Protection Agency concerning fuel-based emission rates for farm, construction, and industrial engines. San Antonio, Tex. January 14, 1974.

Bill

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

September 24, 1981



Mr. Frank Watkins, P. E.
Sub-District Engineer
Department of Environmental Regulation
3426 Bills Road
Jacksonville, Florida 32207

RE: Permit #AO16-45674

Dear Mr. Watkins:

Bio-Environmental Services has reviewed Dr. Robert S. Sholtes' letter to you dated September 9, 1981, concerning the referenced permit. The following comments are provided:

A) The Worthington Generators are dual fuel units (Natural Gas & Diesel fuel) deriving only approximately 3% of their BTU input from diesel fuel. It is felt that 5% opacity is regularly attainable. A V.E. test conducted while the units were being fired by oil, is enclosed, which indeed supports the 5% opacity requirement.

B) The constraints on operating hours and fuel consumption were included in the permit provisos to allow the continued legal operation of the Regency Square generators without the source applying for a PSD review and permit.

Dr. Sholtes has now suggested that the use of AP-42 emissions is unrealistic for permitting of the facility. However, it must be noted, Dr. Sholtes used this same publication in developing the Construction Permit application for the number six Worthington. Hence, these emission figures were used as the basis for limiting fuel consumption and hours of operation to preclude the source from being subject to PSD.

If indeed the use of AP-42 emission figures is unrealistic, then the source should be required to immediately test all (Worthingtons and Caterpillars) units to establish their emission rate. Once established, the source could then proceed with PSD review and application.

Further, in light of the arguments offered, the Department of Environmental Regulation (DER) should revisit the application for the number six Worthington, as the consultant used AP-42 to establish this source's emission rate. DER may find such a Construction Permit application is now incomplete.

/Continued . . . .

It seems evident that should the source wish to change any of the permit provisos at this time, the source should first provide sufficient technical documentation regarding emissions, and compliance with PSD prior to the Department of Environmental Regulation's approval of the requested changes.

Once the emission rates are clearly defined to the satisfaction of all parties, and compliance with PSD established, Bio-Environmental Services Division (BESD) would not object to permit modifications, and would work with the source to arrive at such.

Due to the nature of the request for modification of the permit provisos, the BESD would appreciate being kept advised on any developments on this subject.

Very truly yours,

Robert Steven Pace

R. Steven Pace, P.E.
Air Pollution Engineer

RSP/sg

enclosure

cc: C. Fancy, C.A.P. DER w/enclosure ✓
C. Bock C.A.P. DER w/enclosure
Robert C. Gillander, Jr. - Regency Square
Silvia Alderman, DER

SK/Cole
Any problem with this? D.

REGENCY SQUARE

Paul Woodyard

September 14, 1981

Office of General Counsel
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Permit No. AO16-45674

Gentlemen:

This is to request an extension of time to petition for hearing pursuant to Florida Administrative Code Rule 17-1.29, in reference to operating permit No. AO16-45674, issued to Regency Square Shopping Center Total Energy Plant on September 1, 1981. The request is for a three-week extension of time to determine if a resolution on the permit restrictions can be made without a formal petition. Ms. Silvia Alterman has been informed of the situation and concurs with our request.

Please inform me of your decision.

Sincerely,

Robert C. Gillander, Jr.
Vice President, Management

RCG;jm

cc: Silvia Alterman
John Cole, DER, St. Johns River District

SUITE 1200, BARNETT REGENCY TOWER / JACKSONVILLE, FLORIDA 32211 / TELEPHONE 904 - 725-9272

CONSOLIDATED CITY OF JACKSONVILLE, FLORIDA

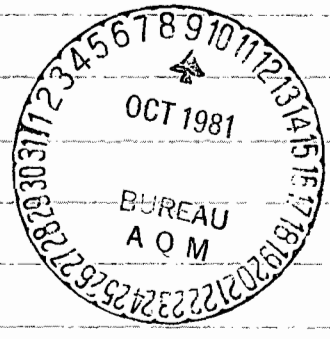
OFFICE MEMO

DATE 10/6/81

- TO Carl Bock - BAQM
- FROM Steve Pace
- SUBJECT Regency Square Permit/Permit Conditions

Attached Correspondance is for your information

RES



☐ REPLY REQUESTED

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 258-81-01

September 9, 1981

Mr. Frank Watkins, P.E.
Sub-District Engineer
St. Johns River Sub-District
Department of Environmental
Regulation
3426 Bills Road
Jacksonville, FL 32207

Subject: Permit No. A016-45674

Dear Mr. Watkins:

Through this letter I would like to advise you that there are some difficulties with the provisions on the above referenced permit issued to Regency Square Properties in Jacksonville.

As I write this letter, none of the parties involved are available since this is a holiday; however, in reviewing the provisions, I am confident that after consultation with Regency Square Properties, we will find it necessary to either negotiate changes in these provisions or issue objections through formal channels.

Our problems will deal with the following items:

1. The opacity limitation of 5 percent; a limit I feel is unattainable when operating with diesel fuel.

2. Provision No. 6 lists maximum allowable emissions for particulates, sulfur dioxide, nitrogen dioxides, carbon monoxide and hydrocarbons. These maximum allowable emissions are based upon estimates tied to fuel consumption and are derived from the EPA Publication AP-42. Their approach to real-life emissions is unknown by ourselves and FDER; and therefore, cannot in my opinion form the basis of permit limitations.

3. Provision No. 7 limits the hours of operation to a value reflecting operational experience for calendar year 1980. This situation has been addressed with FDER staff in Tallahassee. It is unrealistic to limit the operation of these units based on 1980 experience for all ensuing years.

4. Provision No. 9 of the permit limits the fuel consumption to values again based on calendar year 1980 experience. The anticipated fuel usage for calendar year 1981 has been estimated and forwarded to FDER in Tallahassee. As is the case in the above item, this limitation of fuel consumption to that value experienced in 1980 is unrealistic and an unacceptable permit provision. It has been suggested in correspondence with Mr. Carl J. Bock that an estimated fuel limitation for calendar year 1981 be used pending the completion of a PSD study which presumably would allow full utilization of all engines and all capacity in the future. The permit limitations on fuel consumption, operating hours, etc., for calendar year 1981 based on calendar year 1980 utilization is simply a restriction with which Regency Properties is unable to comply.

You may expect to hear from myself or Regency Properties in the very near future relative to these concerns.

Sincerely,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

Robert S. Sholtes, Ph.D., P.E.

RSS:sc

cc: Mr. Bob Gillander

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

August 14, 1981

Mr. Martin Stein
Suite 1200
Barnett Regency Tower
Jacksonville, Florida 32211

Dear Mr. Stein:

Enclosed is Permit Number AC 16-40548, dated August 14, 1981 to Regency Square Properties 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,

Steve Smallwood, P.E.
Chief
Bureau of Air Quality Management

SS:caa

DER Form 17-1.122(65)

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 16-40548

DATE OF ISSUANCE

August 14, 1981

DATE OF EXPIRATION

October 15, 1981

Terry Cole for
VICTORIA TSCHINKEL
SECRETARY

Final Determination

Regency Square Properties

Permit Number Ac-40548

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

August 13, 1981

Regency Square Properties

Final Determination

Regency Square Properties application for a modification to its existing power plant located in Jacksonville, Florida, has been reviewed by the Department. The modification consists of the addition of another generator set to supplement the existing units. Public notice of the Department's Intent to Issue was published in the Florida Times Union on July 13, 1981. Copies of the preliminary determination were available for public inpsection at the Department of Environmental Regulation, St. Johns River Subdistrict Office and at the Bureau of Air Quality Management.

No comments were received as a result of the public comment period.

The final action by the Department should be to issue the permit.

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

APPLICANT: Regency Square Properties
9501 Arlington Expressway
Jacksonville, Florida 32211

PERMIT/CERTIFICATION NO. AC 16-40548

COUNTY: Duval

PROJECT: Regency Square Dual Fired Engine and Generating Set No. 6

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:

Construction of a modification to an existing power generating facility consisting of the addition of a generating set rated at 2,200 kw as a backup unit.

PERMIT NO.: AC 16-40548
APPLICANT: Regency Square Properties

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 16-40548
APPLICANT: Regency Square Properties

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr	Tons/year
Particulate	1.13	1.62
SO_2	1.07	1.59
NO_x	128.6	517.0
CO	17.8	67.0
HC	47.7	204.8

2. Total combined operation of all engines, six (6) Worthingtons and nine (9) Caterpillars, shall not exceed 23,379 hours.

3. The opacity shall not exceed 5%.

4. Compliance to the emission limitations shall be determined by a limitation on fuel consumption and by visible emission test as per EPA Reference Method 9, 40 CFR Part 60. The total consumption of natural gas by the facility shall not exceed 290.5×10^6 ft^3 per year and the total consumption of number 2 diesel fuel shall not exceed 100,000 gallons per year.

5. Quarterly reports of the following parameters shall be reported in writing to the Department's designee, the Jacksonville Bio-Environmental Services (BES):

   (a) Natural gas consumed in that quarter
   (b) Diesel oil consumed in that quarter
   (c) Total fuel consumed from date of issuance of operating permit.
   (d) Kilowatt hours generated in that quarter

6. The quarterly reports shall be submitted every three months beginning from the date of issuance of the operating permit.

7. A visible emission test shall be performed to establish compliance with the opacity limitations prior to application for an operating permit.

8. A thirty day notice prior to emission testing shall be provided by the applicant to the Department's designee, Bio-Environmental Services.

PERMIT NO.: AC 16-40548
APPLICANT: Regency Square Properties

Specific Conditions (Cont'd)

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

Expiration Date: October 15, 1981

Issued this 14 day of August, 19 81.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Terry Cole
Signature

The Florida Times-Union  Jacksonville Journal

FLORIDA PUBLISHING COMPANY

Publishers

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }
COUNTY OF DUVAL }

Before the undersigned authority personally appeared _____

John R. Mayo who on oath says that he is

Retail Advertising Manager of The Florida Times-Union, and

Jacksonville Journal, daily newspapers published at Jacksonville in Duval County,

Florida; that the attached copy of advertisement, being a _____

Legal Notice

in the matter of Construction Permit to Regency Square Property

for a Dual Fuel Fire Engine Generators.

in the _____ Court,

was published in The Florida Times - Union

in the issues of July 13, 1981

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a construction permit to Regency Square Properties for the construction of a generating set consisting of a dual fuel fired engine and generator at 2,200 kw to be located at Regency Square 9501 Arlington Expressway, Jacksonville, in Duval Co., Florida. A determination of Best Available Control Technology was not required. Copies of the applications, technical evaluation, and Departmental intent are available for inspection at the following offices:
St. Johns River Subdistrict
3426 Bills Road
Jacksonville, Florida 32206
DER Bureau of Air Qual. Mgt.
2600 Blair Stone Road
Tallahassee, Florida 32301
Comments on this action shall be submitted in writing to Mr. John Svec of the Tallahassee office, within 30 days of this notice.

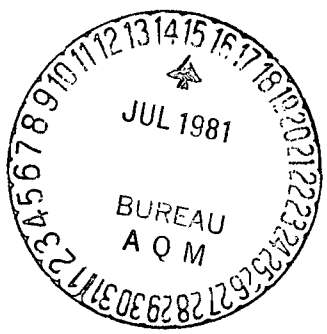
Affiant further says that the said The Florida Times-Union and Jacksonville Journal are each newspapers published at Jacksonville, in said Duval County, Florida, and that the said newspapers have each heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, and Jacksonville Journal each day except Sundays, and each has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval 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 said newspaper.

Sworn to and subscribed before me this 13th day of July A.D. 19 81

Notary Public, State of Florida at Large

My Commission Expires

Notary Public, State of Florida at Large
My Commission Expires July 9, 1982
Bonded By American Fire & Casualty Company



DA 444

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

M E M O R A N D U M

TO: Martin Stein
Ed Balducci
Robert Sholtes
Johnny Cole

FROM: Clair Fancy

DATE: July 13, 1981

SUBJ: Proposed Department Action - Regency Square's Application to Construct Air Pollution Source.

Attached is one copy of the Application, Technical Evaluation and Preliminary Determination and proposed permit to construct dual fired generating set at Regency Square Shopping Mall, 9501 Arlington Expressway in Jacksonville, Duval County, Florida.

Please submit any comments which you wish to have considered concerning this action in writing, to John Svec of the Bureau of Air Quality Management.

CF:dav

Technical Evaluation and Preliminary Determination

Regency Square Incorporated

Permit Number AC 16-40548

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

July 7, 1981

I. PROJECT DESCRIPTION

A. Applicant:

Regency Square
Suite 1200 Barnett Regency Tower
Jacksonville, Florida 32211

B. Project and Location

The applicant proposes to construct a dual fired (natural gas and diesel oil) Worthington engine to supplement the existing generating facility.

The facility is located at 9501 Arlington Expressway, Jacksonville, Florida. The UTM coordinates are 404.47 km East and 3,356.1 km North.

C. Project Description

The applicant proposes to modify its existing electric generating facility at the Regency Square shopping mall in Jacksonville by the addition of another Worthington engine and generator as a backup to the existing five units. The existing units are currently permitted under AO 16-2575. The existing operating permit includes the fuel usage and emissions of nine Caterpillar engines, but does not identify the engines specifically. Two of the engines are used to service the air conditioning system for the mall while the other seven engines which are equipped with 500 kw generators are on a stand by mode for emergency power generation. The total fuel consumption by the Caterpillar engines represents 20% of the total natural gas consumption. The Worthington engines burn number 2 diesel oil 10% of the time.

II. RULE APPLICABILITY

The proposed project is located in the area of influence of the Duval County particulate nonattainment area. Duval County is also nonattainment for ozone. The project is classified as a modification pursuant to 17-2, Florida Administrative Code. There are to be no projected increases in fuel usage and no net increase in emissions above the presently permitted emissions. Therefore, no PSD analysis or BACT determination will be necessary.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The pollutants emitted by this source are particulate, sulfur dioxide, carbon monoxide, nitrogen oxides, and hydrocarbons. The total emissions from the facility are as follows.

Pollutant	lb/hr	Tons/year
Particulate*	1.13	1.62
SO_2	1.07	1.59
NO_x	128.6	517.0
CO	17.8	67.0
HC	47.7	204.8

*for diesel oil only,

B. Air Quality Impacts

As there will be no increase in fuel consumption over the previous year, the construction and operation of this facility will not have any impact on ambient air quality standards.

IV. CONCLUSIONS

The emission limitations stated above are based on the applicant's estimated fuel consumption to be approximately that consumed the previous calendar year. This fuel consumption will be stated as a permit condition.

The total number of engine operating hours for the facility is 23,379 per year for all engines.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2 F.A.C.

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

APPLICANT: Regency Square Properties
9501 Arlington Expressway
Jacksonville, Florida 32211

PERMIT/CERTIFICATION NO. AC 16-40548

COUNTY: Duval

PROJECT: Regency Square Dual Fired Engine and Generating Set No. 6

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:

Construction of a modification to an existing power generating facility consisting of the addition of a generating set rated at 2,200 kw as a backup unit.

PERMIT NO.: AC 16-40548
APPLICANT: Regency Square Properties

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 16-40548
APPLICANT: Regency Square Properties

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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.

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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.

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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.

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[ ] 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 16-40548
APPLICANT: Regency Square Properties

SPECIFIC CONDITIONS:

1. Maximum allowable emissions from the facility will be:

Pollutant	lb/hr	Tons/year
Particulate	1.13	1.62
SO_2	1.07	1.59
NO_x	128.6	517.0
CO	17.8	67.0
HC	47.7	204.8

2. Total combined operation of all engines, six (6) Worthingtons and nine (9) Caterpillars, shall not exceed 23,379 hours.

3. The opacity shall not exceed 5%.

4. Compliance to the emission limitations shall be determined by a limitation on fuel consumption and by visible emission test as per EPA Reference Method 9, 40 CFR Part 60. The total consumption of natural gas by the facility shall not exceed 290.5×10^6 ft. per year and the total consumption of number 2 diesel fuel shall not exceed 100,000 gallons per year.

5. Quarterly reports of the following parameters shall be reported in writing to the Department's designee, the Jacksonville Bio-Environmental Services (BES):

   (a) Natural gas consumed in that quarter
   (b) Diesel oil consumed in that quarter
   (c) Total fuel consumed from date of issuance of operating permit.
   (d) Kilowatt hours generated in that quarter

6. The quarterly reports shall be submitted every three months beginning from the date of issuance of the operating permit.

7. A visible emission test shall be performed to establish compliance with the opacity limitations prior to application for an operating permit.

8. A thirty day notice prior to emission testing shall be provided by the applicant to the Departments designee, Bio-Environmental Services.

PERMIT NO.: AC 16-40548
APPLICANT: Regency Square Properties

Specific Conditions (Cont'd)

9. Following approval of test results and prior to 90 days before the expiration of this permit a complete application for an operating permit shall be submitted to the DER, St. Johns River Subdistrict Office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an operating permit.

Expiration Date: October 15, 1981

Issued this _____ day of August, 19 81

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PERMIT NO.: AC 16-40548
APPLICANT: Regency Square Properties

Specific Conditions (Cont'd)

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Expiration Date: October 15, 1981

Issued this _____ day of August, 19 81.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a construction permit to Regency Square Properties for the construction of a generating set consisting of a dual fuel fired engine and generator at 2,200 kw to be located at Regency Square 9501 Arlington Expressway, Jacksonville, in Duval Co., Florida. A determination of Best Available Control Technology was not required. Copies of the applications, technical evaluation, and Departmental Intent are available for inspection at the following offices:

St. Johns River Subdistrict	DER Bureau of Air Qual. Mgt.
3426 Bills Road	2600 Blair Stone Road
Jacksonville, Florida 32206	Tallahassee, Florida 32301

Comments on this action shall be submitted in writing to Mr. John Svec of the Tallahassee office, within 30 days of this notice.

To appear in:

Jacksonville Times Union
on: 7/10/81

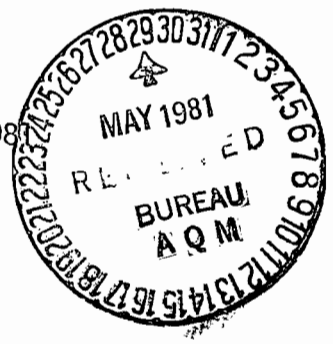
Day 35: 7/15/81

to Purchasing: 7/1/81

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 258-81-01

May 26, 1981



Mr. Carl J. Bock
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Reference: Permit Application for Modification
Regency Square Properties
Engine No. 6

Dear Mr. Bock:

After careful consideration of the options available, it is the decision of Regency Square Properties that we pursue the above subject in the following context.

It is our desire that the permit be processed as currently submitted with the anticipation that such revised permit, when issued, will contain a limitation on fuel utilization. The second portion of our request is to advise that as soon as possible, we will be conducting a PSD study on this installation with the objective of obtaining PSD clearance to operate the installation without limitations such as those mentioned above. In the interim, it is considered advantageous from a practical point-of-view that the permit be obtained even though a limitation be assigned thereto. I would anticipate that the PSD study would be complete sometime this summer and submitted through the proper channels.

As discussed with you on several occasions, the fuel utilization reflects electrical and air conditioning loads experienced by the Regency Square Complex. The permit application reflects the fuel utilization experience for calendar year 1980 which will not necessarily be the same in 1981. I have asked Mr. Gillander of Regency Square Poperties to provide their estimate of 1981 fuel consumption. These figures are reflected in his letter dated May 22, 1981 to me, a copy of which is attached hereto. We are suggesting that these estimated fuel consumption figures be used as the permit condition discussed above.

In order that this request be satisfactorily authentic for your purposes, I am asking Mr. Gillander to endorse this correspondence below.

If you have any questions or need further data, please let me know.

Sincerely,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

Robert S. Sholtes, Ph.D., P.E.

RSS:sc
Enclosure

Mr. Robert C. Gillander, Jr.
General Manager, Regency Square
Properties

WAIVER OF 90-DAY TIME LIMIT
UNDER SECTION 120.60(2), F. S.

Re: Permit Application to Operate/Construct Air Pollution Sources

Permit No. A016-2575

Applicant's Name: Regency Square Properties

The undersigned has read Section 120.60(2), Florida Statutes and fully understands the applicant's rights under that section. With regard to the above-referenced permit application, the applicant hereby with full knowledge and understanding of its rights under Section 120.60(2), F.S., waives the right under Section 120.60(2), F.S., to have the application approved or denied by the State of Florida, Department of Environmental Regulation, within the 90-day time period prescribed in Section 120.60(2), F.S. Said waiver is made freely and voluntarily by the applicant in its self interest without any pressure or coercion by anyone employed by the State of Florida, Department of Environmental Regulation.

This waiver shall expire on the 15th day of August, 1981. The undersigned is authorized to make this waiver on behalf of the applicant.

Robert C. Gillander, Jr.
General Manager
Regency Square Properties
Suite 1200, Barnett Regency Tower
Jacksonville, FL 32211

Dated: May 13, 1981

SWORN TO AND SUBSCRIBED before me
this 13 day of May, 1981.

NOTARY PUBLIC STATE OF FLORIDA AT LARGE

Kay P. Patterson
Notary Public, State of Florida at Large

My Commission Expires: May 22, 1984

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 258-81-01

April 14, 1981

Mr. John Sevec
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Regency Square Properties
Duval County
Modification of Permit A016-2575

Dear Mr. Sevec:

This letter was prepared in response to a letter by Mr. Balducci of the Duval County Bio-Environmental Services Division suggesting that a PSD review might be required for the modification of the subject Air Pollution Operating Permit.

The action which has triggered the modification to the Regency Square Air Pollution Source Operating Permit is the proposed installation of a sixth electric power generating unit at the Regency Square Complex in Jacksonville, Florida. It is my understanding that this matter has been discussed with you at some length by my partner, Dr. Sholtes.

Under present conditions Regency Square has an air pollution operating permit for the operation of five electric power generating units which are summarized in the following table. The total generating capacity of these five units is 8,450 kilowatts.

PERMITTED ELECTRIC POWER GENERATING UNITS
REGENCY SQUARE PROPERTIES
JACKSONVILLE, FLORIDA

UNIT	RATING (kw)
1	1,250
2	1,350
3	1,350
4	1,750
5	2,750
TOTAL	8,450

In mid-April, 1981 it is anticipated that the electric power generating requirements at Regency Square will be as follows:

10 hours per day - 7,500 kilowatts
8 hours per day - 1,750 kilowatts
6 hours per day - 2,250 kilowatts.

It can be concluded from the data presented above that the existing generating capacity of the five units presently permitted at Regency Square can handle, with an adequate margin of safety, the maximum generating capacity that is anticipated with the opening of the expanded Regency Square shopping area in April, 1981. The purpose of the sixth generating unit, rated at 2,200 kilowatts, is to provide better reliability in the generating capacity of the power system.

Existing Florida PSD Regulations apply only to sulfur dioxide and particulate matter. State BACT requirements apply to all regulated pollutants but, policywise, are applied only to sources with emission rates exceeding five pounds per hour and 15 tons per year. The emission rates of all air pollutants emitted from the electric power generators at Regency Square are summarized in the revised Air Pollution Operating Permit Application submitted for this source. With the exception of nitrogen oxides, the pollutant emission rates are low enough to preclude the requirement for a State BACT review. The State PSD Requirements apply only to sulfur dioxide and particulate matter and the emission rates of these pollutants are low enough to preclude a PSD review. The only possible State BACT or PSD requirement for the proposed generating unit would be a BACT review for nitrogen oxides from the unit.

It is our position that the addition of the new engine and generating unit will not trigger a Federal PSD review. The existing Federal PSD Regulation [40 CFR 52.21(2)(i)] defines a major modification to be "any physical change in or change in method of operation of a major stationary source that would result in a significant net increase of any pollutant subject to regulation under the Act". This definition goes on to state [40 CFR 52.21(iii)(f)] that a physical change or change in method of operation shall not include "an increase in the hours of operation or in the production rate, unless such change would be prohibited under any Federally enforceable permit condition. . ."

It has been determined previously that conditions set forth in State Operating Permits are not Federally enforceable. Hence, the power generators at Regency Square could be operated at a power generating capacity of 8,450 kilowatts plus the capacity of the seven stand-by gasoline powered generators (3,500 kilowatts) without triggering Federal PSD Review.

Since the maximum projected power generating requirement, as of April 1981, will be only 7,500 kilowatts, it is apparent that the addition of the proposed sixth power generating unti will not result in a net increase of any air pollutant. For this reason it is our position that a Federal PSD review will not be required for the proposed action.

If you have any questions regarding this matter, please feel free to contact me.

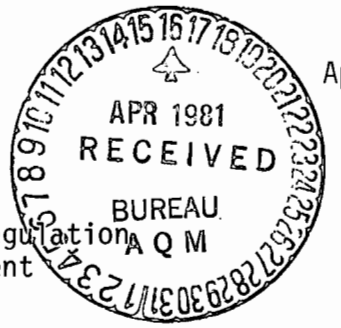
Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

John B. Koogler, Ph.D., P.E.

JBK:sc

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822



April 8, 1981

Mr. John Sevec
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Reference: Permit Application to Modify Existing Permit A016-2575

Dear Mr. Sevec:

Through this letter we wish to amend the above permit application reflecting additional data requested by Mr. Balducci of the Jacksonville Bio-Environmental Services Division as well as respond to his conclusion that a Federal PSD Study is required.

I shall address several issues raised by Mr. Balducci by making reference to his listing of deficient areas.

We inadvertantly omitted the projected start and completion of construction dates. These dates are reflected on the attached substitute page two which I would ask that you insert into the application.

Skipping to subject "e" Mr. Balducci requests manufacturers emission data for this engine. We are unable to furnish these data since this engine as well as the other Worthington engines at this installation were not purchased directly from the manufacturer and in fact are second hand or used equipment which have been installed at other locations and only recently purchased by the Regency Square properties and transported to Jacksonville.

In Section "b" of Mr. Balducci's letter he suggest that our emission factors are not consistent with those found in AP-42, Section 3.3.2. We take issue with that conclusion and will explain herein. The factors used by myself in preparing this application derive from a February, 1976 issue of AP-42 (copies appended hereto) and, I believe, recognize the fact that emissions from gas fired stationary engines are related to load factor. The emission data provided by Mr. Balducci and dated April, 1976 reflect pipeline compressors operating at rated load. This notation is adequately stated in the footnotes to Table 3.3.2-1 of the April, 1976 publication. The installation at Regency Square consists of multiple

generating units, not pipeline service compressors which for the most part deals with full load operation on a continous basis. The engines at Regency Square respond to a continuously fluctuating load situation as reflected by the electrical needs of the Regency Square Complex. These engines are rarely operated at rated load on a continuous basis. In my derivation of emissions I have made an engineering judgement of an "average" operating condition and reflect the emissions which would be derived therefrom recognizing that these average conditions are at a partial load situation. For purposes of discussion however, I am including with this amendment, computations which are based upon the table suggested by Mr. Balducci. In addition, I take issue with the AP-42 emission factors for hydrocarbons. Computations using this factor suggest that over three percent of the natural gas entering the engine, evolves therefrom as unburned fuel. This is an unreasonable figure in my opinion. The corresponding calculation for diesel operation suggests that about 0.6 percent of the fuel evolves as hydrocarbons. In consideration of these engine designs, the figures are not compatible.

Sections "c" and "d" of Mr. Balducci's letter dealing with the need for BACT and PSD requirements are being addressed by my partner Dr. Koogler in separate correspondence. We basically do not feel that PSD is required in as much as emissions are not being increased by the installation of the proposed engine and generating unit. Details of this rational are explained in his letter.

Mr. Balducci addresses the additional question of nine Caterpillar generators on site and requests that a permit application by submitted for these generators. I have reviewed the situation relative to these additional units and must confess that my understanding of there utilization was not complete and therefore I propose that they should indeed be permitted; However, I would have them permitted under the existing permit referenced above for the five or six Worthington engines.

As the unamended application reflects, there are currently five Worthington engines with various capacities installed at the Regency Square facility. The permit modification currently under consideration describes the addition of a sixth Worthington engine of 3,000 horsepower (2200 kw) rating. In addition to these various Worthington engines there exist a total of nine Caterpillar Model G398 gas engines. Seven of these engines are sparingly used for the generation of electricity. Each of these seven is of 775 horsepower and has attached thereto a 500 kw generating capability. The remaining two engines are the same model and horsepower but are devoted exclusively to air conditioning service. Each of these two engines drives a centrifigual compressor in what one would consider a normal mechanical refrigeration system. These engines like the Worthingtons are therefore subject to variable loadings as the demand for electricity and/or air conditioning varies. The fuel utilization of these Caterpillar engines and the engine hours of operation were included in the totals used for computations dealing with the unamended permit application.covering the existing five Worthington engines. The emissions from these Caterpillar engines are therefore reflected in the existing and now revised computations. It is our desire that the

attached amended permit application sheets be substituted to reflect in inclusion of these nine Caterpillar engines. The permit as issued or reissued would therefore reflect the main electric generating capacity of the Worthington engines plus the nine Caterpillar engines which are used as described.

If you have any questions relative to these topics, please let me know.

Sincerely,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS

Robert S. Sholtes, Ph.D., P.E.

RSS:ls

cc: Mr. Balducci
Bio-Environmental Services Division

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

April 7, 1981

Mr. Carl Bock
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Regency Square, No. 6 Dual Fuel Engine

Dear Mr. Bock:

Enclosed please find copies of the applications submitted to this office for the construction of the captioned source. The applicant's $20 application fee has been forwarded to the Bills Road, DER Sub-District office. I have notified both the applicant and the engineer that all future correspondence should be sent to the Bureau, with a copy to this agency. This application has been forwarded to you as it appears that Federal PSD for NOx is applicable.

Please note that Regency Square has previously expanded its generating capacity as per the following information derived from their previous permit applications:

No. of Engines	NO_x (T/yr)	Permit issued
4	50.8	June 29, 1976
5	126.0	June 19, 1979
6	1074.0	(Mar. 2, 1981 - application received)

If I can be of any assistance, please call me at 633-3033.

Very truly yours,

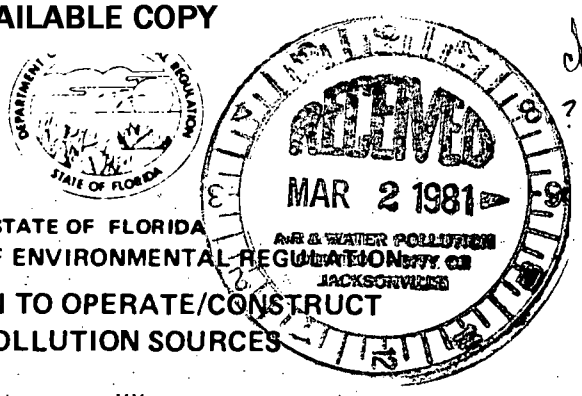
E. P. Balducci

E. P. Balducci
Assistant Engineer

EPB/kdp

Enclosures

BEST AVAILABLE COPY



ck Rec
? mach 5
AC 16-40548
AO
April 1

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: _____ [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Regency Square Properties COUNTY: Duval

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) _____

SOURCE LOCATION: Street 9501 Arlington Exwy. City Jacksonville, FL

UTM: East 40447,170 North 3,354610

Latitude _____ ° _____ ' _____ "N Longitude _____ ° _____ ' _____ "W

APPLICANT NAME AND TITLE: Joan and Martin Stein (Partner)

APPLICANT ADDRESS: Suite 1200, Barnett Regency Tower, Jacksonville, FL 32211

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Regency Square Properties

I certify that the statements made in this application for a operation 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: _____

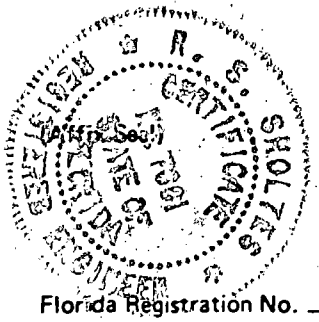
Martin E. Stein, Owner

Name and Title (Please Type)

Date: 2/26/81 Telephone No. 904/725-9272

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)

Signed: _____

Robert S. Sholtes, Ph.D., P.E.

Name (Please Type)

Sholtes & Koogler Environmental Consultants

Company Name (Please Type)

1213 NW 6TH Street; Gainesville, FL 32601

Mailing Address (Please Type)

Florida Registration No. 7601 Date: 2/23/81 Telephone No. 904/377-5822

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

BEST AVAILABLE COPY

AC 16-40548

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

RECEIVED
MAR 2 1981
AIR & WATER POLLUTION CONTROL - CITY OF JACKSONVILLE

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: _____ [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Regency Square Properties COUNTY: Duval

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) _____

SOURCE LOCATION: Street 9501 Arlington Exwy. City Jacksonville, FL

UTM: East 40447,170 North 3,354610

Latitude _____ ° _____ ' _____ "N Longitude _____ ° _____ ' _____ "W

APPLICANT NAME AND TITLE: Joan and Martin Stein (Partner)

APPLICANT ADDRESS: Suite 1200, Barnett Regency Tower, Jacksonville, FL 32211

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Regency Square Properties

I certify that the statements made in this application for a operation 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: _____

Martin E. Stein, Owner

Name and Title (Please Type)

Date: 2/26/81 Telephone No. 904/725-9272

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)

Signed: _____

Robert S. Sholtes, Ph.D., P.E.

Name (Please Type)

Sholtes & Koogler Environmental Consultants

Company Name (Please Type)

1213 NW 6TH Street; Gainesville, FL 32601

Mailing Address (Please Type)

Florida Registration No. 7601 Date: 2/23/81 Telephone No. 904/377-5822

[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.

Regency Square Properties is currently permitted to operate five (5) dual-fuel electric generating sets to provide power to the Regency Square Shopping Center Complex. This application deals with the expansion of this electric generating facility to include a new engine and generating set supplementing (see additional sheet)

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

Start of Construction _____ Completion of Construction _____

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.)

331,000 - cost to install existing five Worthington generating sets

56,000 - capital cost to add sixth generating set which is a Worthington SWA/VEE12 unit rated at 2,200 kw

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

AC16-2483 expired 8-1-76; AO16-2575 expiring 6-30-81: Notice to Correct 4-5-79

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? XX Yes ____ No

F. Normal equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ; if power plant, hrs/yr 23,379*; if seasonal, describe: *total engine hours for calendar year 1980

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? _____
   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
   c. If yes, list non-attainment pollutants. _____
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioration" (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? No
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 II. A. continued

the existing five units giving a total of six (6) units for reliability and future power needs. In mid April, 1981, it is anticipated that electrical loads will increase and approximate the following daily levels:

7500 KW for 10 hr.
1750 KW for 8 hr.
2250 KW for 6 hr.

Upon completion of the proposed additions, the installed equipment and rated capacities will be:

Unit No.	KW Rating	HP Rating
1	1250	2000
2	1350	2000
3	1350	2000
4	1750	2700
5	2750	3800
6	2200	3000

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)

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

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Based on calendar year 1980 operating experience)

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	
Particulate Matter	1.13	1.62	20% Opacity*				Stacks
Sulfur Dioxide	1.08	1.59					Stacks
Hydrocarbons	1.32	1.98					Stacks
Nitrogen Oxides	336.	1074.					Stacks
Carbon Monoxides	3.45	4.92					Stacks

* Operating Permit No. AO 16-2575

D. Control Devices: (See Section V, Item 4) No control devices installed

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	
Natural Gas	33.2x 10^3 ft^3/hr	45.0x10^3 ft^3/hr	47.0 x 10^6 BTU/Hr.
Diesel	11.0 gal/hr.	33.8 gal/hr.	4.32 x 10^6 BTU/hr.

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

Fuel Analysis: Based on 1980 consumption

Percent Sulfur: 0.36 Percent Ash: 0.0007

Density: 7.02 lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: 19,715 BTU/lb 138,000 BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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): #1, 2, 3, 4 = 1.5

Stack Height: 38.0 ft. Stack Diameter: #5, 6 =2.0 ft.

Gas Flow Rate: 9,345 ACFM Gas Exit Temperature: 355° °F.

Water Vapor Content: 8%-estimate % Velocity: 22.0-estimate FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

MAXIMUM LB/HR EMISSIONS

A. Particulate

Diesel: 33.5 lb/1,000 gal x 4 engines x $\frac{8.45 \text{ gal/engine hours}}{}$ = 1.13

Gas: 0

1.13 lb/hr

B. SO_2

Diesel: 31.2 lb/1,000 gal x 4 engines x $\frac{8.45 \text{ gal/engine hours}}{}$ = 1.05

Gas: 0.6 lb/10^6 ft^3 x 4 engines x $\frac{11,242 \text{ } ft^3\text{/engine hours}}{}$ = 0.03

1.08 lb/hr

C. Hydrocarbons

Diesel: 37.5 lb/1,000 gal x 4 engines x $\frac{8.45 \text{ gal/engine hours}}{}$ = 1.27

Gas: 1.2 lb/10^6 ft^3 x 4 engine x $\frac{11,242 \text{ } ft^3\text{/engine hours}}{}$ = 0.05

1.32

D. NOx

Diesel: 469 lb/1,000 gal x 4 engines x $\frac{8.45 \text{ gal/engine hours}}{}$ = 15.85

Gas: 80 lb/hr x 6 engines = 320.0

336.00

E. CO

Diesel: 102 lb/1,000 gal x 4 engines x $\frac{8.45 \text{ gal/engine hours}}{}$ = 3.45

Gas: 0

3.45

The computation of NOx emissions from the natural gas fired portion of these dual-fuel engines in complicated by the fact that they are dual-fuel and in addition operate at variable loads through the day. After mid April, 1981, day at the Regency generating station is estimated as follows:

7500 KW for 10 hours

1750 KW for 8 hours

2250 KW for 6 hours

Using the engineering judgement of these various factors it is purported that an average condition would be approximately three engines running at 2000 HP (attributed to natural gas). Using this value, one may enter figure 3.3.2-1 of AP-42 and estimate emissions as follows:

$$\frac{3 \text{ engines} \times 80 \text{ lb/hr} \times 24 \text{ hr} \times 365 \text{ days}}{2{,}000 \text{ lb/ton}} = 1051 \text{ tons/yr NOx}$$

In similar fashion the maximum rate may be estimated:

4 engines x 80 lb/hr = 320 lb/hr NOx

ACTUAL LB/HR EMISSIONS

A. Particulate

Diesel: $\frac{33.5 \text{ lb}/1000 \text{ gal} \times 96.46 \text{ Mgal/yr}}{2000}$ = 1.62

Gas: 0

1.62 ton/yr

B. Sulfur Dioxide

Diesel: $\frac{31.2 \text{ lb}/1000 \text{ gal} \times 96.46 \text{ Mgal/yr}}{2000}$ = 1.50

Gas: $\frac{0.6 \text{ lb}/10^6 \text{ ft}^3 \times 290.5\ 10^6 \text{ ft}^3}{2000}$ = 0.09

1.59 ton/yr

C. Hydrocarbons

Diesel: $\frac{37.5 \text{ lb}/1000 \text{ gal} \times 96.46 \text{ Mgal/yr}}{2000}$ = 1.81

Gas: $\frac{1.2 \text{ lb}/10^6 \text{ ft}^3 \times 290.5\ 10^6 \text{ ft}^3}{2000}$ = .17

1.98 ton/yr

D. Nitrogen Oxides

Diesel: $\frac{469 \text{ lb}/1000 \text{ gal} \times 96.46 \text{ Mgal/yr}}{2000}$ = 23

Gas: See separate page = 1051

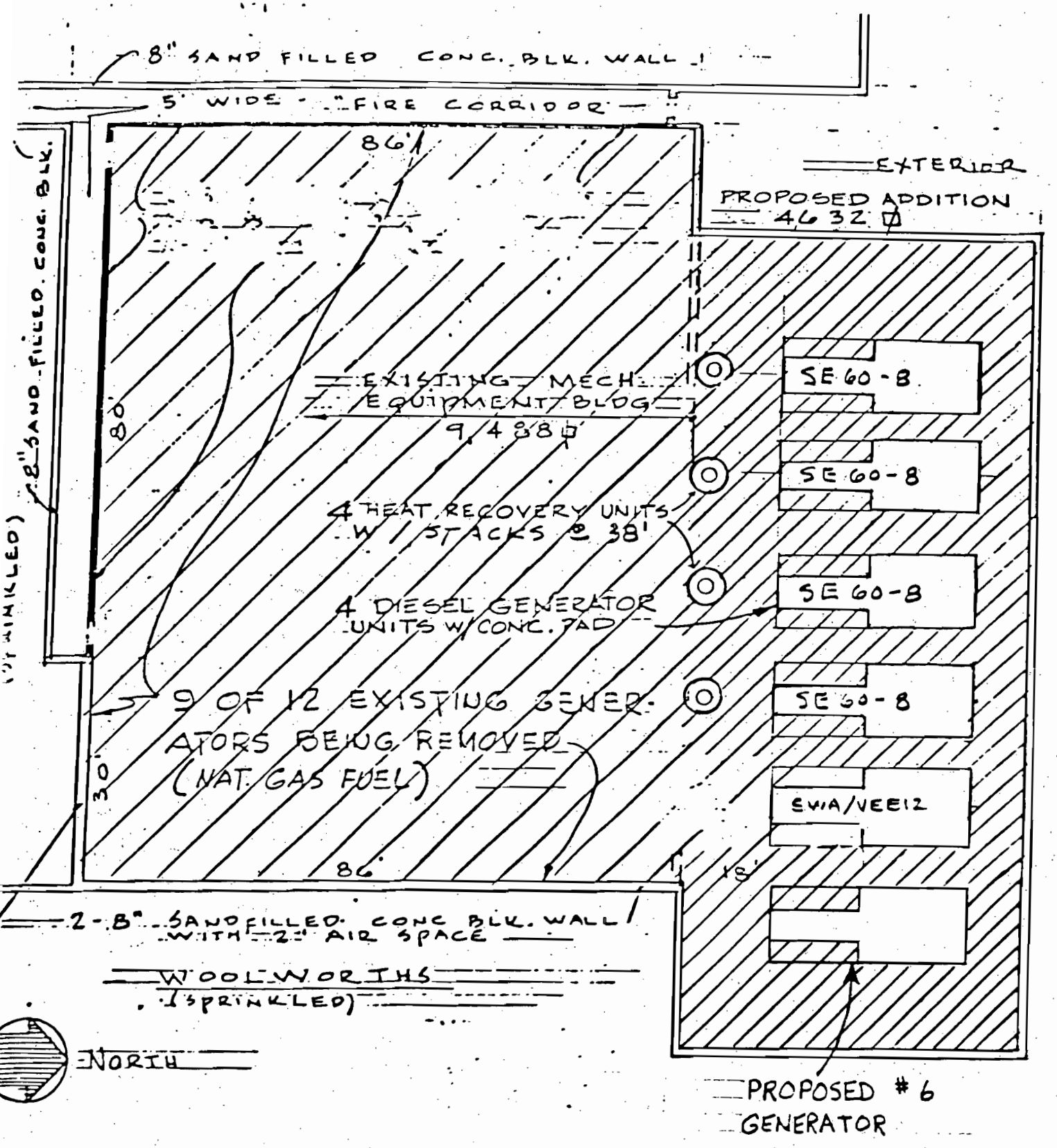
1074 ton/yr

E. Carbon Monoxide

Diesel: $\frac{102 \text{ lb}/1000 \text{ gal} \times 96.46 \text{ Mgal/yr}}{2000}$ = 4.92

Gas: 0

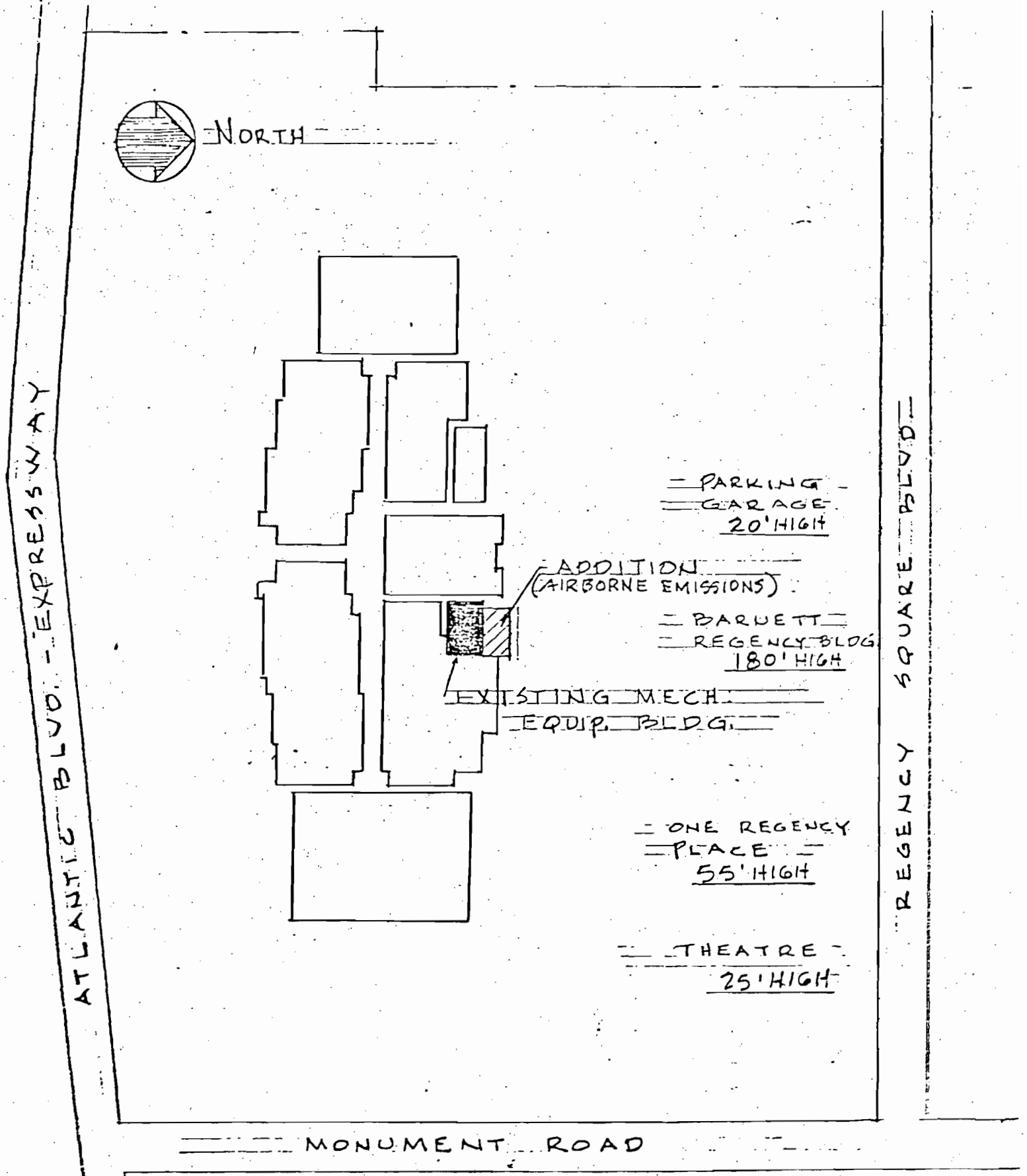
4.92 ton/yr



FLOOR PLAN
SCALE: 1" = 20'-0"

Regency Square

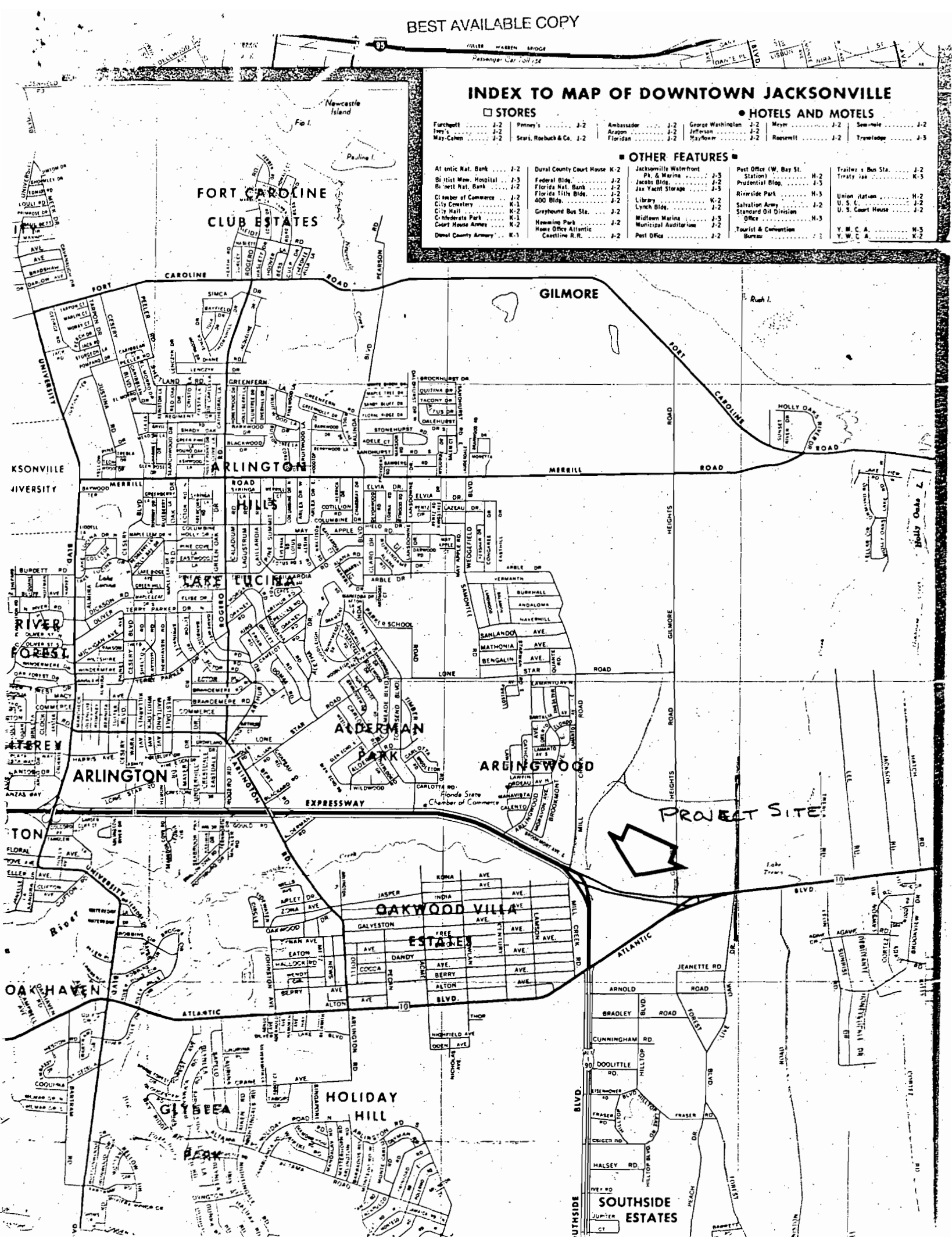
SHOPPING CENTER
JACKSONVILLE, FLORIDA



AREA PLAN
SCALE: 1" = 300

Regency Square

SHOPPING CENTER
JACKSONVILLE, FLORIDA



DER PERMIT APPLICATION TRACKING SYSTEM MASTER RECORD

FILE#000000040548 COE# DER PROCESSOR:THOMAS DER OFFICE:TLH
FILE NAME:REGENCY SQUARE PROPERTIESDATE FIRST REC: 03/02/81 APPLICATION TYPE:AC
APPL NAME:REGENCY SQUARE PROPERTIES APPL PHONE:(904)725-0297 PROJECT COUNTY:16
ADDR:9501 ARLINGTON EXPRESSWAY CITY:JACKSONVILLE ST:FLZIP:
AGNT NAME:SHOLTES, ROBERT S., P.E. AGNT PHONE:(904)377-5822
ADDR:1213 NW 6TH ST CITY:GAINESVILLE ST:FLZIP:32601

ADDITIONAL INFO REQ:04/01/81 / / / / REC: / / / / / /
APPL COMPLETE DATE: / / COMMENTS NEC:Y DATE REQ: / / DATE REC: / /
LETTER OF INTENT NEC:Y DATE WHEN INTENT ISSUED: / / WAIVER DATE: / /

HEARING REQUEST DATES: / / / / / /
HEARING WITHDRAWN/DENIED/ORDER -- DATES: / / / / / /
HEARING ORDER OR FINAL ACTION DUE DATE: / / MANUAL TRACKING DESIRED:N
*** RECORD HAS BEEN SUCCESSFULLY UPDATED *** 04/09/81 15:04:02
FEE PD DATE#1:03/05/81 $0020 RECEIPT#00048943 REFUND DATE: / / REFUND $
FEE PD DATE#2: / / $ RECEIPT# REFUND DATE: / / REFUND $
APPL:ACTIVE/INACTIVE/DENIED/WITHDRAWN/TRANSFERRED/EXEMPT/ISSUED:AC DATE:03/02/81
REMARKS: EXPANSION OF GENERATING CAPACITY THROUGH THE ADDITION OF A NEW ENGINE.
UTM = 404.47170E/ 3354.610N.

Fee paid through JAX office

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

November 1, 1979

Joan & Martin Stein
Regency Square Properties
Suite 1200, Barnett Regency Tower
Jacksonville, Florida 32211

Gentlemen:

Duval County - AP
Regency Square Properties
Expansion of Existing Shopping Center (CX)

Enclosed is Permit Number AC16-23105 , dated November 1, 1979 , to construct the subject pollution source, issued pursuant to Section 403.061(14), Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.15, Florida Administrative Code, (copy enclosed). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

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 action for violation of the conditions and requirements thereof.

Sincerely,

Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:vk

cc: Records Center, Tallahassee
Bio-Environmental Services Division
Mr. John B. Koogler, Ph., D., P.E.

DER Form 17-1.122(66)

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

REGENCY SQUARE PROPERTIES
Suite 1200, Barnett Regency Tower
9501 Arlington Expressway
Jacksonville, Florida 32211

CONSTRUCTION
PERMIT

NO. AC16-23105

Expansion of Existing Shopping Center

DATE OF ISSUANCE

November 1, 1979

G. Doug Dutton
Subdistrict Manager

DATE OF EXPIRATION

December 31, 1982

Walter W. Honour, Chief
Bio-Environmental Services
City of Jacksonville

DER FORM PERM 11-42

3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

G. DOUG DUTTON
SUBDISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

APPLICANT:

Joan & Martin Stein (Partners)
Regency Square Properties
Suite 1200, Barnett Regency Tower
Jacksonville, Florida 32211

PERMIT/CERTIFICATION NO. AC16-23105

COUNTY: Duval

PROJECT: *

This permit is issued under the provisions of Chapter 403.061(16), Florida Statutes, and Chapter 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:

* Expansion of an existing shopping center and addition of 4139 parking spaces

Located at UTM: E - 7447170

N - 3354610

In accordance with application dated August 8, 1979 and additional information received September 7, 1979.

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

PERMIT NO.: AC16-23105
APPLICANT: Regency Square Properties
Source: Expansion of existing shopping center

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)

SPECIFIC CONDITIONS:

PERMIT NO.: AC16-23105
APPLICANT: Regency Square Properties
Source: Expansion of existing shopping center

1. Supporting documents are retained in file of office to which they were submitted and not attached as stated in the leading paragraph and General Condition No. 2. They are as follows:

1. Permit Application
2. Computer modeling results
3. Copy of public notice

2. Any revision(s) to a permit (and application) must be submitted and approved prior to implementation.

Expiration Date: December 31, 1982

Issued this 1st day of November, 19 79.

W. W. Honour

Walter W. Honour, Division Chief
Bio-Environmental Services
City of Jacksonville

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

G. Doug Dutton

G. Doug Dutton
Subdistrict Manager

REGENCY SQUARE MALL
COMPLEX SOURCE
PERMIT APPLICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO MODIFY/CONSTRUCT COMPLEX SOURCE PROJECTS OTHER THAN HIGHWAYS

INSTRUCTIONS TO APPLICANTS

PURPOSE

The purpose of the application is to provide the information required to enable the Department to determine if the proposed complex (indirect) air pollution source will cause violations of the Florida Ambient Air Quality Standards. Any questions concerning these applications should be directed to the DER District or Subdistrict Office which serves your area.

SECTION I – GENERAL

A permit is required for subject complex sources prior to construction of the source. Applications should be submitted in quadruplicate (five copies are required if project is to be located in a county under the direction of a DER approved Local Program) to the appropriate DER District or Subdistrict Office.

An application for a permit shall be accompanied by a check of $20 drawn in favor of "State of Florida, Department of Environmental Regulation", as an application fee.

Comments from local, state and/or federal agencies having jurisdiction or interest in the proposed project may also be required.

All required information should be typed or printed in ink on the application form provided. If additional space is required, separate sheets with proper identification may be attached. References to documents submitted to other agencies will not be considered a substitute for any information required by this form.

All documents (except plans) submitted in support of the application should be 8½" by 11" in size.

The intent of the complex source application form is to provide the basis for a uniform quantitative evaluation of the proposed project's impact on the air pollutant concentrations in the area involved. Additional data on projected emission of nitrogen oxides, hydrocarbons and/or the impact on photochemical oxidants may be required by the Department.

Applicants may use the "Gaussian diffusion" or other models as long as: a full explanation of the methodology is included, all calculations and assumptions are clearly shown, the calibration factor is one (1) unless a different factor is established on the basis of data submitted.

Scale drawings showing the details of the proposed complex source and immediate impact area are required. These drawings or plot plans will include the location of: ambient air sampling sites, receptors, existing or projected point sources, adjacent roads and intersections, and traffic regulating devices.

SECTION II – TECHNICAL DATA

(Item Numbers Correspond to items in Technical Data Section.)

(1) **Project description** – This portion of the application should include general information on the type of business(es) to be conducted at the site and other information regarding the anticipated level of activity such as seating capacity, leasable business area, future expansion plans, etc.

(2) **Meteorological Data** – The Department will accept the following assumed worst conditions: (a) Stability Class D; (b) Wind Direction selected to result in maximum carbon monoxide levels; and, (c) Wind Speed 0.9 m/sec (2 mph). Other assumed worst conditions will be accepted if adequately justified. All data should be reported on the standard SAROAD form available from your DER District or Subdistrict Office.

(3) **Ambient Air Quality** – (a) Current maximum carbon monoxide ambient air concentrations in the immediate vicinity of the proposed source are required. If data is not available from regional or local pollution control agencies, the applicant is required to conduct on-site testing utilizing approved DER methods and procedures. It is recommended that the applicant consult with the District or Subdistrict Office prior to sampling to discuss location, frequency, etc. Location of sampling site(s) should coincide with at least one model receptor location. Information concerning ambient air testing can be obtained from any DER District/Subdistrict Office. Projections of carbon monoxide concentrations, as required by (3)b., c., and d. will be based on local development potential. All ambient air data should be reported on the standard SAROAD form available from your DER District/Subdistrict Office.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO MODIFY/CONSTRUCT COMPLEX SOURCE PROJECTS OTHER THAN HIGHWAYS

INSTRUCTIONS TO APPLICANTS

PURPOSE

The purpose of the application is to provide the information required to enable the Department to determine if the proposed complex (indirect) air pollution source will cause violations of the Florida Ambient Air Quality Standards. Any questions concerning these applications should be directed to the DER District or Subdistrict Office which serves your area.

SECTION I – GENERAL

A permit is required for subject complex sources prior to construction of the source. Applications should be submitted in quadruplicate (five copies are required if project is to be located in a county under the direction of a DER approved Local Program) to the appropriate DER District or Subdistrict Office.

An application for a permit shall be accompanied by a check of $20 drawn in favor of "State of Florida, Department of Environmental Regulation", as an application fee.

Comments from local, state and/or federal agencies having jurisdiction or interest in the proposed project may also be required.

All required information should be typed or printed in ink on the application form provided. If additional space is required, separate sheets with proper identification may be attached. References to documents submitted to other agencies will not be considered a substitute for any information required by this form.

All documents (except plans) submitted in support of the application should be 8½" by 11" in size.

The intent of the complex source application form is to provide the basis for a uniform quantitative evaluation of the proposed project's impact on the air pollutant concentrations in the area involved. Additional data on projected emission of nitrogen oxides, hydrocarbons and/or the impact on photochemical oxidants may be required by the Department.

Applicants may use the "Gaussian diffusion" or other models as long as: a full explanation of the methodology is included, all calculations and assumptions are clearly shown, the calibration factor is one (1) unless a different factor is established on the basis of data submitted.

Scale drawings showing the details of the proposed complex source and immediate impact area are required. These drawings or plot plans will include the location of: ambient air sampling sites, receptors, existing or projected point sources, adjacent roads and intersections, and traffic regulating devices.

SECTION II – TECHNICAL DATA

(Item Numbers Correspond to items in Technical Data Section.)

(1) **Project description** – This portion of the application should include general information on the type of business(es) to be conducted at the site and other information regarding the anticipated level of activity such as seating capacity, leasable business area, future expansion plans, etc.

(2) **Meteorological Data** – The Department will accept the following assumed worst conditions: (a) Stability Class D; (b) Wind Direction selected to result in maximum carbon monoxide levels; and, (c) Wind Speed 0.9 m/sec (2 mph). Other assumed worst conditions will be accepted if adequately justified. All data should be reported on the standard SAROAD form available from your DER District or Subdistrict Office.

(3) **Ambient Air Quality** – (a) Current maximum carbon monoxide ambient air concentrations in the immediate vicinity of the proposed source are required. If data is not available from regional or local pollution control agencies, the applicant is required to conduct on-site testing utilizing approved DER methods and procedures. It is recommended that the applicant consult with the District or Subdistrict Office prior to sampling to discuss location, frequency, etc. Location of sampling site(s) should coincide with at least one model receptor location. Information concerning ambient air testing can be obtained from any DER District/Subdistrict Office. Projections of carbon monoxide concentrations, as required by (3)b., c., and d. will be based on local development potential. All ambient air data should be reported on the standard SAROAD form available from your DER District/Subdistrict Office.

(4) **Physical Data** – Enter the required information for the proposed project and the nearest adjacent roads. All road numbers referenced will also be shown on the plot plan submitted with the application.

(5) **Receptor Distances** – Enter the required information and show the receptor numbers on the projected location map. Receptor(s) shall be so located that maximum carbon monoxide levels at reasonable receptor or exposure site(s) will be detected. The number of receptors shall be sufficient to characterize the carbon monoxide levels in the immediate impact area.

(6) **Stationary Sources** – Enter the required information on all incinerators, large heating units, process vents, etc.

(7) **Traffic Data** – Projections of traffic data should reflect the increase in traffic from the date of ambient air testing. The current and future contributions from traffic will be reflected in the Ambient Air Quality Data. Current and future traffic projections, for most highways, may be obtained from the Florida Department of Transportation. Unless otherwise approved by the Department, carbon monoxide emission computations should be based on the latest copy of EPA's "Mobile Source Emission Factors" and/or "EPA Mobile I Program", as updated by EPA to reflect changes in the federally administered Federal Motor Vehicle Control Program.

It has been shown that the year of maximum ambient air pollutant concentrations resulting from a complex source does not necessarily have to be the first or last (10th) year of review, but may occur sometime in between. This "critical" year is a function of traffic increase and level of automotive emission controls found in any year. Accordingly, the applicant is required to determine the "critical" year and provide model results for that year as well as the first and tenth year.

(8) **Results** – The validity of the model results is proportional to the validity of the data input projections. The sources and methods used to determine the projections found in the Ambient Air Quality Data (3) and Traffic Data (7) sections must be included with the application.

(9) **Brief Discussion of Results** –

(10) **Statements by Applicant and Engineer** – This section is to be completed by both the applicant and the professional engineer, registered in the State of Florida, attesting to the accuracy and soundness of the project design. Also, any additional comments or supporting information may be attached that may be relevant to the Department's evaluation of the application.

FOR DER USE ONLY

APPLICATION NO.

SECTION I – GENERAL INFORMATION

Source Type: [X] Shopping Center [ ] Commercial Parking Lot [ ] Business/Industrial [ ] Sports Stadium
[ ] Recreation Center [ ] Other (Specify) _____

Project Type: [ ] New Construction [ ] Modification

Source Name: Regency Square Properties County Duval

Location Address 9501 Arlington Expressway, Jacksonville, Fl Zip 32211

U.T.M. Zone ___ East 447.170 KM North 3354.610 KM

Applicant Name & Title Joan and Martin Stein (Partner)

Address Suite 1200, Barnet Regency Tower City Jacksonville, Fl Zip 32211

Telephone 904-725-9277

Company Name Regency Square Properties

Consultant Name & Title John B. Koogler, Ph.D., P.E.

Company Name Sholtes and Koogler Environmental Consultants

Address 1213 N. W. 6th Street City Gainesville,

State Florida Zip 32601 Telephone 904-377-5822

Estimated Date Start of Construction August 1979

Estimated Date End of Construction 1981

SECTION II – TECHNICAL DATA

(1) Project Description (nature and extent)

Expansion of an existing shopping center by Construction of 531,973 sq. ft. (GLA) and addition of 4139 parking spaces.

(2) Meteorological Data:

a. Stability Class: D Worst Condition (one hour) D Worst Condition (eight hour)

b. Wind Direction (Degrees): single direction Worst Condition (one hour) (see computer printouts)
22.5° Sector Worst Condition (eight hour) (see computer printouts)

c. Wind Speed (Meters/Sec.): 2.0 Worst Condition (one hour)
2.0 Worst Condition (eight hour)

d. Source of Data:

Assumed worst case conditions for modeling. Met data collected on site also.

e. Dates of Collection:

4/3 - 5/1/79

(3) Ambient Air Quality Data

CARBON MONOXIDE CONCENTRATION (mg/m^3)

TIME	YEAR	ONE HOUR	8 HOUR
a. Current	1979	13.2	5.28
b. 1st Year	1982	14.4	5.28
c. Critical Year	1984	9.5	3.00
d. 10th Year	1992	7	3.00

e. Source of Data:

4 weeks on site monitoring during the period 4/3 - 5/1/79. The first thru tenth year data were estimated using the ratio of calculated 1-hour and 8-hour concentrations for the various years from Sect. 8A and 8B, respectively.

(4) Physical Data:

a. Parking Area: Length 732 meters, Width 427 meters (additional parking)

Total Parking Area (m^2) 31.2×10^4

Total Number of Parking Spaces 7835 (3696 + 4139 additional)

b. Adjacent Roadways

PARAMETER	S.S. Blvd (Dames Point)	Arl. Expwy ROAD NO.	Atl. Blvd. ROAD NO.	Monument Rd. ROAD NO.	Regency Sq. Bl ROAD NO.
Width (Feet)	100	50	50	50	50
Elevation with Respect to Adjacent Terrain (Feet)	+ 26	± 0.0	± 0.0	± 0.0	± 0.0
Posted Speed Limit (MPH)	55	45	45	40	35
Wind Angle with Respect to Road (Degrees)		see computer printouts			

c. Terrain: Land elevation data will be included as a part of the site plan and project location drawings submitted with the application.

Terrain is flat except for elevated proposed South Side Blvd. to the west of the site.

(5) Receptor Distances

Normal Distance From Road to Receptor (Feet)	RECEPTOR 1	2	3	4	5	6	7	8
Distance From Receptor to Upwind Edge of Parking Lot (Meters)	1320	200	840					
Adjacent Road No. S. S. Blvd.	3570	2680	280					
Adjacent Road No. Arl. Expwy	----	----	240					
Adjacent Road No. Atl. Blvd.	160	1320	----					
Adjacent Road No. Monument Rd.	400	800	3600					
Adjacent Road No. Regency Sq.	1480	360	1040					
Stationary Source	1000	440	2600					

(6) List Stationary Sources Located within the Proposed Complex

	SOURCE NAME AND TYPE	CO EMISSION (lbs/hr)
1.	Regency Square Generators # 1-4	10.2
2.	Regency Square Generator # 5	2.54
3.		
4.		
5.		

(7) Traffic Data

a. Parking Area

	PEAK ONE HOUR CONDITIONS			PEAK 8 HOUR CONDITIONS		
	1st YEAR	CRITICAL YEAR	10th YEAR	1st YEAR	CRITICAL YEAR	10th YEAR
Avg. Speed (MPH)	10	10	10	10	10	10
CO rate ** gm/m^2-S	.00024	0.00016	0.00011	.0001	.00005	.000036
% of Parking Spaces in Use	80%	100%	100%	50%	60%	60%
% of Total Vehicles in Operation	2.%	2.8%	2.8%	.85%	1.0%	1%
Peak Number of Vehicles in Operation	125	220	220	30	50	50

b. Adjacent Roads

	ONE HOUR CONDITIONS CO			8 HOUR CONDITIONS CO			24 HOUR CONDITIONS
	* AVERAGE SPEED (MPH)	** EMISSION FACTOR (gm/mi)	* PEAK VOLUME (veh/hr)	* AVERAGE SPEED (MPH)	** EMISSION FACTOR (gm/mi)	* PEAK VOLUME (veh/hr)	* AADT
1. First Year							
Road No. Atlantic	30	14.90	4577	40	12.24	3433	28000
Road No. Monument	20	23.3	1553	30	14.70	1165	9400
Road No. Regency	30	15.0	1829	35	12.80	1372	11000
Road No. ____							
2. Critical Year							
Road No. Atlantic	25	11.2	4943	35	9.50	3708	30000
Road No. Monument	15	21.0	1677	25	11.2	1260	10000
Road No. Regency	20	14.45	1975	30	9.50	1433	12000
Road No. ____							
3. Tenth Year							
Road No. Atlantic	30	6.1	5141	40	5.35	3856	31000
Road No. Monument	25	7.21	1744	35	5.22	1310	11000
Road No. Regency	30	6.1	1490	35	5.3	1054	9000
Road No. S.S. Blvd	50	5.58	3772	55	5.58	2829	22000

c. Source of Data: * Traffic Planning Associates (Traffic Engineering Consultants)
** EPA-Publication "Guidelines for Air Quality Planning and Analysis, Vol. 9 (revised)"

(8) Results

A. One-Hour Carbon Monoxide Concentrations (mg/m^3)

	Receptor Number							
	1	2	3	4	5	6	7	8
a. Facility								
1. 1st Year	2.3	4.0	8.6	---.-	---.-	---.-	---.-	---.-
2. Critical Year	1.5	2.6	5.7	---.-	---.-	---.-	---.-	---.-
3. 10th Year	1.0	1.8	4.0	---.-	---.-	---.-	---.-	---.-
* b. Road No. All line Source								
1. 1st Year	0.0	0.0	0.2	---.-	---.-	---.-	---.-	---.-
2. Critical Year	0.0	0.0	0.2	---.-	---.-	---.-	---.-	---.-
3. 10th Year	0.0	0.0	0.1	---.-	---.-	---.-	---.-	---.-
c. Road No. _____								
1. 1st Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
2. Critical Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
3. 10th Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
d. Road No. _____								
1. 1st Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
2. Critical Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
3. 10th Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
e. Road No. _____								
1. 1st Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
2. Critical Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
3. 10th Year	---.-	---.-	---.-	---.-	---.-	---.-	---.-	---.-
f. Ambient Air								
1. 1st Year	14.4	14.4	14.4	---.-	---.-	---.-	---.-	---.-
2. Critical Year	9.5	9.5	9.5	---.-	---.-	---.-	---.-	---.-
3. 10th Year	7.0	7.0	7.0	---.-	---.-	---.-	---.-	---.-
g. Total Concentration*								
1. 1st Year	16.7	18.8	23.2	---.-	---.-	---.-	---.-	---.-
2. Critical Year	11.0	12.1	15.4	---.-	---.-	---.-	---.-	---.-
3. 10th Year	8.0	8.8	11.1	---.-	---.-	---.-	---.-	---.-
h. Percent of Standard**								
1. 1st Year	41%	47%	58%	---.-	---.-	---.-	---.-	---.-
2. Critical Year	24%	24%	24%	---.-	---.-	---.-	---.-	---.-
3. 10th Year	17%	22%	28%	---.-	---.-	---.-	---.-	---.-
i. Current Ambient Air	13.2	---.-	---.-	---.-	---.-	---.-	---.-	---.-

* Sum of items a. through e. for that particular time category.

** $\frac{\text{Item f total}}{\text{Area Standard}}$ = % of standard * see PAL Model output

B. Eight-Hour Carbon Monoxide Concentrations (mg/m^3)

	Receptor Number							
	1	2	3	4	5	6	7	8
a. Facility								
1. 1st Year	0.7	1.4	3.6	--.-	--.-	--.-	--.-	--.-
2. Critical Year	0.3	0.7	1.8	--.-	--.-	--.-	--.-	--.-
3. 10th Year	0.3	0.5	1.3	--.-	--.-	--.-	--.-	--.-
b. Road No. All Roadways								
1. 1st Year	0.0	0.0	0.1	--.-	--.-	--.-	--.-	--.-
2. Critical Year	0.0	0.0	0.1	--.-	--.-	--.-	--.-	--.-
3. 10th Year	0.0	0.0	0.1	--.-	--.-	--.-	--.-	--.-
c. Road No. _____								
1. 1st Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
2. Critical Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
3. 10th Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
d. Road No. _____								
1. 1st Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
2. Critical Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
3. 10th Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
e. Road No. _____								
1. 1st Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
2. Critical Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
3. 10th Year	--.-	--.-	--.-	--.-	--.-	--.-	--.-	--.-
f. Ambient Air								
1. 1st Year	5.3	5.3	5.3	--.-	--.-	--.-	--.-	--.-
2. Critical Year	3.0	3.0	3.0	--.-	--.-	--.-	--.-	--.-
3. 10th Year	3.0	3.0	3.0	--.-	--.-	--.-	--.-	--.-
g. Total Concentration								
1. 1st Year	6.0	6.7	9.0	--.-	--.-	--.-	--.-	--.-
2. Critical Year	3.3	3.7	4.9	--.-	--.-	--.-	--.-	--.-
3. 10th Year	3.3	3.5	4.4	--.-	--.-	--.-	--.-	--.-
h. Percent Standard								
1. 1st Year	60%	67%	90%	--.-	--.-	--.-	--.-	--.-
2. Critical Year	33%	37%	50%	--.-	--.-	--.-	--.-	--.-
3. 10th Year	33%	35%	40%	--.-	--.-	--.-	--.-	--.-
i. Current Ambient Air	5.3	--.-	--.-	--.-	--.-	--.-	--.-	--.-

(9) a. Brief Discussion of Results:

The result of calculations and the PAL Model clearly shows that under worst conditions neither the 1-hour nor the 8-hour air quality standards for CO will be violated, due to the expansion of this Shopping Mall. The roadways have a very minimal impact at the selected recepters. The CO emissions from the proposed Parking Lot create the maximum impact at the selected recepters. At the critical recepter location (No.3) the proposed facility will contribute only about 40 percent of the expected CO level for both the 1-hour and 8-hour period; the remainder results from existing sources.

b. Model Used to Predict Carbon Monoxide Concentrations: PAL model

(10) Additional Comments by Applicant and Engineer:

Based upon available information and following consultation with Ms. Marion DeGrove of the Duval County Local Program it was agreed the worst year (critical year) would be 1984. This was primarily due to unusual congestion expected prior to the construction of the South Side Blvd. Extension.

However, the calculations and the PAL model output indicates the 1st year to be the critical year, due to improvements expected in vehicle emissions by 1984.

The receptor locations were selected to give the worst location in areas where pedestrians would have access to. (EPA-Vol. 9 revised Air Quality Maintenance Planning manual)

All roadways were divided into separate segments and each segment was studied (see PAL output).

STATEMENTS BY APPLICANT AND ENGINEER

APPLICANT:

As the owner or authorized representative of Regency Square Properties, I certify that the statements made in this application for a permit are true, correct, and complete to the best of my knowledge and belief. Further, I agree that (Project Name) Regency Mall expansion will be constructed in such a manner as to comply with applicable portions of Chapter 403, Florida Statutes; Section 17-2.05(8), Florida Administrative Code; and Chapter 17-4, Florida Administrative Code.

SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE	Regency Square Properties COMPANY
Martin Stein NAME AND TITLE (please type)	9501 Arlington Expressway BUSINESS ADDRESS
DATE	Jacksonville, Florida 32211
TELEPHONE 904 - 725 - 9272	

PROFESSIONAL ENGINEER, REGISTERED IN FLORIDA

This is to certify that the pollution control and engineering features of this complex source project have been examined by me and found to be in conformity with modern engineering principles applicable to the construction of the above named project as they relate to the control of the emissions as authorized in the permit application. There is reasonable assurance, in my professional judgment, that the construction and use of the proposed project is not expected to result in violations of the Florida Ambient Air Quality Standards.

SIGNATURE	John B. Koogler NAME (please type)

BUSINESS ADDRESS 1213 N. W. 6th Street
Gainesville, Florida 32601

COMPANY Sholtes & Koogler Environmental Consultants DATE

FLORIDA REGISTRATION NO. 12925 PHONE 904 - 377 - 5822

AFFIX SEAL

Save

Original Presentation

@ NG - 1025

Diesel - 145,500

Plus: Odd Calculations
Discrepancies
Data (odds & ends)

9 Caterpillar Engines: 500 KW, 750 hp

1. No Diesel; $16,234 / 38,685 \times 23,379 = 9810.90 \rightarrow 9811$ hrs/1981-82 prorated

2. Gas: 94.44×10^6 ft³/1981-82 consumed

÷ 16,234 hrs/ "

58,176.67 ft³/hr 9 engines

6,464.07 ft³/hr/engine (op. on equal time)

3. 9 Engines:

58,176.67 ft³/hr × 9811 hrs/yr = 570,771,309.4 ft³/1981-82

× 1025 Btu/ft³ = $5.85504059 \times 10^{11}$ Btu/1981-82

÷ 13,520 Btu/KW = 43,272,233.14 KW/1981-82

4. 88% capacity during 1981-82 yr.

5. Emissions:

NOx: × 0.033 ÷ 2000 = 713.99 TPY (145.55 PPH)

SOx: × 0.0003 ÷ 2000 = 6.49 TPY (1.32 PPH)

CO: × 0.00942 ÷ 2000 = 90.87 TPY (18.52 PPH)

HC: × 0.013 ÷ 2000 = 281.27 TPY (57.34 PPH)

SOx: × 0.00002 ÷ 2000 = 4.33 TPY (0.88 PPH)

PM: N/A

SO_2: × 6.6×10^{-6} ÷ 2000 = 0.14 TPY (0.03 PPH)

Per/Engine:

6,464.07 ft³/hr while operating 88%

7,345.53 " " 100%

Caterpillar Engines: (9 Identical Units)

1. No. Diesel $16,234/38,685 \times 23,379 = 25,720.90 \rightsquigarrow 25,721$ hrs/1981-82 prorated

2. Gas: 94.44×10^6 ft³/1981-82

16,234 hrs/1981-82 ∴ 58,176.67 ft³/hr consumed 9 engines

6,464.07 ft³/hr/engine consumed

94,440,000 ft³/yr × 1025 Btu/ft³ = 9.6801×10^{10} Btu/1981-82

(minus 2 AC units) × 7/9 (KW Generators) = 7.5289667×10^{10} Btu/1981-82

÷ 13,520 Btu/KW = 5,568,762.33 KW/1981-82

(all 9 units) 9.6801×10^{10} Btu/1981-82 ÷ 13,520 Btu/KW

= 7,159,837.28 KW/1981-82

3. 88% capacity during 1981-82 yr.

4. Emissions: (9 Units)

NO_x: × 0.033 ÷ 2000 = 118.14 TPY (14.55 PPH)

S&K × 0.0003 ÷ 2000 = 1.07 TPY (0.13 PPH)

HC: × 0.0130 ÷ 2000 = 46.54 TPY (5.73 PPH)

S&K × 0.0002 ÷ 2000 = 0.72 TPY (0.089 PPH)

NMHC @ 10% = 41.65 TPY (0.57 PPH)

CO: × 0.0042 ÷ 2000 = 15.04 TPY (1.85 PPH)

PM: N/A

SO_2: × 6.6×10^{-6} ÷ 2000 = 0.024 TPY (0.003 PPH)

38,685 { 22,451 total hrs. op. 1-4, ω → 58.04 % ~ 58%
16,234 " " op. 7-15 → 41.96 % ~ 42%
23,379 permitted

Fuel Consumption:

Engine #1, 4737

Diesel 23,250 gal / 4737 = 4.90 ~ 4.91 gals/hr

@ 145,500 Btu/gal x 23,250 = 3,382,875,000 Btu / 1981-82

÷ 4737 = 714,138.7 Btu/hr ÷ 145,500 = 4.91 gals/hr

Gas 58.38×10^6 ft³ x 1025 Btu/ft³ = 5.98395×10^{10} Btu / yr

÷ 4737 = $1.26\,32362^{\cdot 10^7}$ Btu/hr ÷ 1025 = 12,324.256 ft³/hr

total: 6.32×10^{10} Btu / ÷ 4737 = 13,346,501.0 Btu/hr

89% capacity during 1981-82 yr.

Baseline
a. Fuel Consumption:

4737/38,685 x 23,379 = 2862.77 hrs. permitted

KW: Btu: Gals /yr.

∴ 2863 hrs / yr 1981-82

Diesel: 2863 x 4.91 = 14,057.33 gals/yr x 145,500 = 2,045,341,515 Btu/yr

÷ 12,000 Btu/kw = 170,445.1263 kw/yr.

Gas: 2863 x 12,324.3 ft³/hr = 35,284,471 ft³/yr. x 1025 = $3.61665583 \times 10^{10}$ Btu/yr

÷ 12000 Btu/kw = 3,013,881.9

total: = 5,184,327 kw/yr

NO_x: Diesel x 0.0414 ÷ 2000 = 3.53 TPY — 5 x K: x 0.0123 ÷ 2000 = 19.58 TPY

Gas x 0.0332 ÷ 2000 = 49.73 — = 13.68 lbs/hr

53.26 TPY (37.21 lbs/hr)

CO: Diesel x 0.00829 ÷ 2000 0.06 TPY

Gas x 0.0042 ÷ 2000 = 6.33

7.09 TPY (4.95 lbs/hr)

HC: Diesel x 0.00332 ÷ 2000 = 0.28 TPY — x 0.0008 ÷ 2000 = 1.20 TPY

Gas x 0.0130 ÷ 2000 = 19.59 — = 0.84 lbs/hr

19.87 TPY (13.88 lbs/hr)

NMHC @ 10% = 1.99 TPY (1.39 lbs/hr)

1 gm = lbs
454 gm/lb

454 gm/lb = 1.9/lb

1. Emission Factors : Based on 1982 test data

1. NO_x

2. HC

		KW/KW	HP
Engines: Dual	1.	1100/1250 = 88.0%	2000
	2.	1120/1350 = 83.0%	2,000
	3.	1170/1350 = 86.7%	2,000
	4.	1500/1750 = 85.7%	2,700
	6.	1670/2200 = 75.9%	3,000
Gas 7-15		420/500 = 84.0%	750
Diesel	4.	1350/1750 = 77.1%	
	5.	/2750	3,800

Engine #1:

1. $4737/38,685 \times 23,379 = 2862.77 \rightarrow$ 2863 hrs/1981-82 prorated

2. Diesel: $23,250/4737 = 4.91$ gals/hr Gas: $58.38 \times 10^6/4737 = 12,324.256$ ft³/hr.

3. Diesel: 4.91 gals/hr x 2863 hrs/yr. = 14,057.33 gals/yr

x 145,500 Btu/gal = 2,045,341,515 Btu/yr.

÷ 12,000 Btu/KW = 170,445.13 KW/1981-82

Gas: 12,324.26 ft³/hr x 2863 hrs/yr = 35,284,356.38 ft³/yr.

x 1025 Btu/ft³ = 36,166,465,000 Btu/yr.

÷ 12,000 Btu/KW = 3,013,872.11 KW/1981-82

total: 3,184,317.24 KW/1981-82

4. 89% capacity during 1981-82 yr. $4737/730 = 6.49$ mths.

5. Emissions:

NO_x: Diesel: x 0.0414 ÷ 2000 = 3.53 TPY S&K x 0.0123 ÷ 2000 = 19.58 TPY

Gas: x 0.033 ÷ 2000 = 49.73 (13.68 PPH)

53.26 TPY (37.21 PPH)

CO: Diesel: x 0.0089 ÷ 2000 = 0.76 TPY

Gas: x 0.0042 ÷ 2000 = 6.33

7.09 TPY (4.95 PPH)

HC: Diesel: x 0.0033 ÷ 2000 = 0.28 TPY S&K x 0.0008 ÷ 2000 = 1.27 TPY

Gas: x 0.0130 ÷ 2000 = 19.59 (0.89 PPH)

19.87 TPY (13.88 PPH)

NMHC @ 10% = 1.99 TPY (1.39 PPH)

PM: Diesel: x 0.003 ÷ 2000 = 0.26 TPY (0.18 PPH)

Gas: N/A

SO_2: Diesel: x 0.0028 ÷ 2000 = 0.24 TPY

Gas: x 6.6×10^{-6} ÷ 2000 = 0.01

0.25 TPY (0.17 PPH)

14,057.33 x 7.02 x 0.0036 x 2 ÷ 2000 = 0.355 TPY

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Engine No. 2:

1. 5720/35,065 [illegible] 3457 [illegible] prorated

2. Diesel: 30,250/5720 = 5.29 gals/hr   Gas: 64.75×10^6/5720 = 12,124.126 ft³/hr

3. Diesel: 5.29 gals/hr × 3457 hrs/yr = 18,287.53 gals/yr

× 145,500 Btu/gal = 2,660,835,615 Btu/yr

÷ 12,000 Btu/KW = 221,736.30 KW / 1981-82

Gas: 12,124.13 ft³/hr × 3457 hrs/yr = 41,913,117.41 ft³/yr

× 1025 Btu/ft³ = 42,960,945,000 Btu/yr

÷ 12,000 Btu/KW = 3,580,078.78 KW / 1981-82

total: 3,801,815.08 KW / 1981-82

4. 88% capacity during 1981-82 year   3457/730 = 4.74 mths.

5. Emissions:

NO_x: Diesel: × 0.0414 ÷ 2000 = 4.59 TPY   S&K × 0.0202 ÷ 2000 = 38.40 TPY

Gas: × 0.033 ÷ 2000 = 59.07   (22.22 PPH)

63.66 TPY (36.83 PPH)

CO: Diesel: × 0.0089 ÷ 2000 = 0.99 TPY

Gas: × 0.0042 ÷ 2000 = 7.52

8.51 TPY (4.92 PPH)

HC: Diesel: × 0.0033 ÷ 2000 = 0.37 TPY   S&K × 0.0007 ÷ 2000 = 1.33 TPY

Gas: × 0.0130 ÷ 2000 = 23.27   (0.77 PPH)

23.64 TPY (13.68 PPH)

NMHC @ 10% = 2.36 TPY (1.37 PPH)

PM: Diesel: × 0.003 ÷ 2000 = 0.33 TPY (0.19 PPH)

Gas: N/A

SO_2: Diesel: × 0.0038 ÷ 2000 = 0.31 TPY

Gas: × 6.6×10^{-6} ÷ 2000 = 0.01

0.32 TPY (0.19 PPH)

18,287.53 × 7.02 × 0.0036 × 2 ÷ 2000 = 0.462 TPY

Engine #3:

1. 5453 / 38,685 x 23,379 = 3295.42 → 3295 hrs. / 1981-82 prorated

2. Diesel: 33,180 / 5453 = 6.07 gals/hr Gas: 64.5×10^6 / 5453 = 11,841.188 ft³/hr

3. Diesel: 6.07 gals./hr. x 3295 hrs./yr = 20,000.65 gals/yr.

x 145,500 Btu/gal = 2,910,094,600 Btu/yr.

÷ 11,800 Btu/kW = 246,618.19 KW / 1981-82

Gas: 11,841.19 ft³/hr x 3295 hrs./yr = 39,016,721.05 ft³/yr

x 1025 Btu/ft³ = 39,992,139,000 Btu/yr

÷ 11,800 Btu/kW = 3,389,164.33 KW / 1981-82

total: 3,635,782.52 KW / 1981-82

4. 82% capacity during 1981-82 year 5453 / 730 = 7.47 mths.

5. Emissions:

NO_x: Diesel: x 0.0414 ÷ 2000 = 5.10 TPY — S & K: x 0.0338 ÷ 2000 = 61.44 TPY

Gas: x 0.033 ÷ 2000 = 55.92 (37.29 PPH)

61.02 TPY (37.04 PPH)

CO: Diesel: x 0.0089 ÷ 2000 = 1.10 TPY

Gas: x 0.0042 ÷ 2000 = 7.12

8.22 TPY (4.99 PPH)

HC: Diesel: x 0.0033 ÷ 2000 = 0.41 TPY — S & K: x 0.0011 ÷ 2000 = 2.00 TPY

Gas: x 0.0130 ÷ 2000 = 22.03 (1.21 PPH)

22.44 TPY (13.62 PPH)

NMHC @ 10% = 2.24 TPY (1.36 PPH)

PM: Diesel: x 0.003 ÷ 2000 = 0.37 TPY (0.22 PPH)

Gas: N/A

SO_2: Diesel: x 0.0028 ÷ 2000 = 0.35 TPY

Gas: x 6.6×10^{-6} ÷ 2000 = 0.01

0.36 TPY (0.22 TPY)

20,000.65 x 7.02 x 0.0036 x 2 ÷ 2000 = 0.505 TPY

Engine #4:

1. $^{2820}/_{38,685} \times 23,379 = 1704.25 \rightsquigarrow 1704$ hrs/1981-82 prorated

2. Diesel: $^{15,720}/_{2,820} = 5.57$ gals/hr Gas: $^{49.61 \times 10^6}/_{2,820} = 17,592.199$ ft³/hr.

3. Diesel: 5.57 gals/hr × 1704 hrs/yr. = 9,491.28 gals/yr.

× 145,500 Btu/gal = 1,380,981,200 Btu/yr

÷ 11,500 Btu/KW = 120,085.33 KW/1981-82

Gas: 17,592.20 ft³/hr × 1704 hrs/yr. = 29,977,108.8 ft³/yr

× 1025 Btu/ft³ = 30,726,537,000 Btu/yr

÷ 11,500 Btu/KW = 2,671,872.74 KW/1981-82

total: 2,791,958.07 KW/1981-82

4. 94% capacity during 1981-82 yr. $^{2820}/_{730} = 3.86$ mths.

5. Emissions:

NO_x: Diesel: × 0.0414 ÷ 2000 = 2.49 TPY × 0.0072 ÷ 2000 = 10.05 TPY (SEK)

Gas: × 0.033 ÷ 2000 = 44.09 (11.80 PPH)

46.58 TPY (54.67 PPH)

CO: Diesel: × 0.0089 ÷ 2000 = 0.53 TPY

Gas: × 0.0042 ÷ 2000 = 5.61

6.14 TPY (7.21 PPH)

HC: Diesel: × 0.0033 ÷ 2000 = 0.20 TPY × 0.0005 ÷ 2000 = 0.70 TPY

Gas: × 0.0130 ÷ 2000 = 17.37 (0.82 PPH)

17.57 TPY (20.62 PPH)

NMHC @ 10% = 1.76 TPY (2.06 PPH)

PM: Diesel: × 0.003 ÷ 2000 = 0.18 TPY (0.21 PPH)

Gas: N/A

SO_2: Diesel: × 0.0028 ÷ 2000 = 0.17 TPY

Gas: × 6.6×10^{-6} ÷ 2000 = 0.01

0.18 TPY (0.21 PPH)

9,491.28 × 7.02 × 0.0036 × 2 ÷ 2000 = 0.240 TPY

Engine #6:

1. $3721/38,685 \times 33,379 = 2248.76 \rightarrow$ 2249 hrs./1981-82 prorated

2. Diesel: $27,390/3721 = 7.36$ gals/hr Gas: $71.38 \times 10^6/3721 = 19,183.015$ ft³/hr.

3. Diesel: 7.36 gals/hr × 2249 hrs/yr = 16,552.64 gals/yr

× 145,500 Btu/gal = 2,408,409,120 Btu/yr

÷ 11,200 Btu/KW = 215,036.53 KW/1981-82

Gas: 19,183.02 ft³/hr × 2249 hrs/yr = 43,142,611.98 ft³/yr

× 1025 Btu/ft³ = 44,221,177,000 Btu/yr

÷ 11,200 Btu/KW = 3,948,319.38 KW/1981-82

total: 4,163,355.91 KW/1981-82

4. 87% capacity during 1981-82 yr.

5. Emissions:

		S & K
NO_x: Diesel:	× 0.0414 ÷ 2000 = 4.45 TPY	× 0.0166 ÷ 2000 = 34.56 TPY
Gas:	× 0.033 ÷ 2000 = 65.15	(30.73 PPH)
	69.60 TPY (61.89 PPH)	
CO: Diesel:	× 0.0089 ÷ 2000 = 0.96 TPY	
Gas:	× 0.0042 ÷ 2000 = 8.29	
	9.25 TPY (8.23 PPH)	
HC: Diesel:	× 0.0033 ÷ 2000 = 0.35 TPY	S & K × 0.0009 ÷ 2000 = 1.87 TPY
Gas:	× 0.0130 ÷ 2000 = 25.66	(1.66 PPH)
	26.01 TPY (23.13 PPH)	
	NMHC @ 10% = 2.60 TPY (2.31 PPH)	
PM: Diesel:	× 0.003 ÷ 2000 = 0.32 TPY (0.28 PPH)	
Gas:	N/A	
SO_2: Diesel:	× 0.0025 ÷ 2000 = 0.30 TPY	
Gas:	× 6.6×10^{-6} ÷ 2000 = 0.01	
	0.31 TPY (0.28 PPH)	

16,552.64 × 7.12 × 0.0036 × 2 ÷ 2000 = 0.418 TPY

Actual Op. Parameters

NOx

Engine:

1. $(23,250 \times 138,000) + (58.38 \times 10^6 \times 1045) \div 12,000 \times 0.0123 \div 2000 =$

$32.91 \text{ TPY} \times 2000 \div 4737 =$

(13.90 PPH)

2. $(30,250 \times 138,000) + (69.35 \times 10^6 \times 1045) \div 12,000 \times 0.0202 \div 2000 =$

$64.51 \text{ TPY} \times 2000 \div 5720 =$

(22.56 PPH)

3. $(33,120 \times 138,000) + (64.57 \times 10^6 \times 1045) \div 11,800 \times 0.0338 \div 2000 =$

$103.18 \text{ TPY} \times 2000 \div 5453 =$

(37.85 PPH)

4. $(15,720 \times 138,000) + (49.61 \times 10^6 \times 1045) \div 11,500 \times 0.0072 \div 2000 =$

$16.91 \text{ TPY} \times 2000 \div 2820 =$

(11.99 PPH)

6. $(27,390 \times 138,000) + (71.38 \times 10^6 \times 1045) \div 11,200 \times 0.0166 \div 2000 =$

$58.08 \text{ TPY} \times 2000 \div 3721 =$

(31.22 PPH)

Letter

1980 5% Test (Oct. 8, 1981)

$\bar{X} = 23.504$ PPH @ 89.162% vs 15.9 @ 85% capacity,

26.561 " @ 100% vs 18.7 @ 100% "

	100.3 cats	5,610 hrs/1980
	156.8 Worth	17,769 hrs/1980
vs	257.1 TPY	23,379

1980

240.77 x 10^6 ft³

96,464 gals

Engine	NO_x	CO	HC_{NM}	PM	SO_2	KW 1981-82	mths	Co%
1	54.05	7.17	2.02	0.24	0.24	3,234,338.7	6.49	90.4
2	64.57	8.60	2.41	0.32	0.30	3,860,240.6	7.84	89.3
3	61.85	8.60	2.29	0.35	0.34	3,689,200.3	7.47	82.9
4	47.31	6.23	1.79	0.17	0.17	2,837,902.2	3.86	95.2
6	70.64	9.36	2.65	0.31	0.30	4,239,312.0	5.10	85.5
9 cats	72.79	9.26	2.87	-	0.015	3,431,143.05		

$\bar{X} = 88.06$

Engine	Btu/KW	KW	Btu/hr	KW/8760	Btu/8760
1	12,000	1250	15.0×10^6	10.95×10^6	13.14×10^{10}
2	12,000	1250	15.0×10^6	10.95×10^6	13.14×10^{10}
3	11,800	1350	15.93×10^6	11.826×10^6	13.95468×10^{10}
4	11,500	1750	20.1375×10^6	15.33×10^6	17.6295×10^{10}
6	11,200	2137	23.9544×10^6	18.72012×10^6	20.966534×10^{10}
9 Cats	13,520/	500/	60.84×10^6 Total	30.66×10^6	53.29584×10^{10}
5	10,500	2750	28.875×10^6	24.09×10^6	25.2945×10^{10}

1981-82 %

Engine	Gals/hr	ft³/hr	Diesel	Gas
1	4.91	12,324.26	4.5172	95.4828
2	5.39	12,124.13	4.8668	95.1332
3	6.07	11,841.19	5.2584	94.7416
4	5.57	17,592.20	3.8194	96.1806
6	7.36	19,183.02	4.2436	95.7564
9 Cats		5,817.42	-	100.00
5 100% cap.	10.46	26,250.0	5.00	95.00
5 66.667% cap.	9.28	23,275.85	5.00	95.00

ENGINE	NO_x		CO		HC		PM		SO_2	
	S/K*		S/K**		S/K*		S/K**		S/K**	
1										
a	15.38	13.89	5.6	5.01	1.00	0.90	0.2	0.17	0.2	$\frac{0.17}{0.26}$ =
b	9.89	9.374	8.7	8.188	0.47	0.46	2.9	2.76	2.7	2.576
2										
a	25.25	22.56	5.6	4.98	0.88	0.78	0.2	0.19	0.2	$\frac{0.17}{0.28}$ =
b	9.89	9.374	8.7	8.188	0.48	0.46	2.9	2.76	2.7	2.576
3										
a	45.64	37.85	6.0	5.22	1.48	1.23	0.2	0.21	0.2	$\frac{0.21}{0.32}$ =
b	9.90	9.543	8.7	8.327	0.48	0.468	2.9	2.807	2.7	2.620
4										
a	12.60	18.02	7.7	7.31	0.88	0.82	0.2	0.20	0.2	$\frac{0.20}{0.29}$ =
b	15.49	14.678	13.7	12.816	0.73	0.672	4.6	4.32	4.2	4.032
5										
a	45.65	40.47	12.0	10.22	3.58	3.19	0.3	0.37	0.3	$\frac{0.36}{0.49}$ =
b	21.20	20.109	18.7	17.546	1.04	0.956	6.2	5.914	5.8	5.52
6										
a	35.47	31.21	9.4	8.32	2.78	1.69	0.3	0.22	0.3	$\frac{0.27}{0.37}$ =
b	18.56	17.595	16.4	15.353	0.91	0.863	5.5	5.175	5.1	4.83
7										
1	0.15	0.15	2.1	1.89	0.10	0.09	N/A	N/A	< 0.01	0.005
a	1.35	1.17	18.9	17.01	0.90	0.81	N/A	N/A	< 0.1	0.527

a = dual

b = diesel only

c = natural gas only

* based on S&K stack test data emission factors

** AP-42 emission factors

$\frac{500 \times 13520}{1045} =$

1. Natural Gas

1045 Btu/ft³ vs 1025 Btu/ft³

2. Diesel

138,000 Btu/gal vs 145,500 Btu/gal

3. SO_2 emission factor

6.6×10^{-6} lbs/KW vs 0.7×10^{-6} lbs/KW

4. Why the use of 100×10^3 gals allowable vs actual consumption
5. " " 290.5×10^6 ft³ " "
6. Natural Gas Consumption/engine/hr used in Specific Conditions

6463.8 vs 6594

7. Baseline Emissions 1980-81

NO_x	HC	CO	SO_2	PM
167.21 vs 192.1	7.72 vs 9.6	49.22 vs 64.9	1.37 vs 1.0	1.39 vs 1.5

8. Consumption/hr/fuel/engine — See Spec. Cond. proposed

9. AC units Spec. Cond.
   4. (3) with 100% dual fuel firing?
      (4) with 50% dual fuel / 50% diesel fuel firing?

   (2) Emissions total reflect entire facility

   (Same on page before)

10. KW rating #6

~~2200 vs 2137~~

11. Annual Generating (Capacity) discrepancy 1980-81

21.28×10^6 vs 26.05×10^6

Annual Fuel Consumption discrepancy 1980-81

~~78,587.43 vs 100×10^3~~ Diesel
246.5×10^6 vs 290.5×10^6 NG

12. [illegible]

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13. Operation

1980-81

<u>Cats:</u> <u>Worth</u>

16254/38,685 = 41.96% 58.04%

14. When W. on Diesel, Cats do not operate

$+3/yr W/meter

15. Explain - AC Cats
3500 full load hrs/yr.
7000 actual op. hrs. at 50% cap.?

16. How many hrs of op. - AC units 1980-81
(to calc. $+3/engine.. Cats)

NSPS @ 85°F

$$\frac{700\ ppm \times 46 \times 10^3}{22.41 \times \left[\frac{(460+85)}{(460+32)}\right]} \times {}^{1\,gm}/_{10^6\,\mu g} \times {}^{1\,lb.}/_{454\,gm.} \times {}^{0.02833\,m^3}/_{1\,ft^3}$$

$$24.82$$

$$\times \left[13{,}230\ ACFM \times \left[\frac{(460+85)}{(460+890)}\right] \times {}^{60\,min}/_{hr} \right]$$

$$320{,}460$$

$$= 25.44\ lbs/hr$$

$$= 113.62\ TPY$$

$600_{ppm} = 22.24$ lbs/hr

$= 73.06$ TPY @ 6570 hr/yr

* Appendix C

TABLE 1

SUMMARY OF EQUIPMENT AT REGENCY SQUARE PROPERTIES
TOTAL ENERGY PLANT
JACKSONVILLE, FLORIDA

Unit	Engine Manufacturer	HP Rating	KW Rating	Fuel	Date Permitted
1	Worthington	2,000 1900	1,250	gas/diesel	10-08-75
2	Worthington	2,000 1900	1,350 1250		10-08-75
3	Worthington	2,000 1900	1,350		10-08-75
4	Worthington	2,700 2452	1,750		10-08-75
5	Worthington	3,800 3875	2,750		1978
6	Worthington	3,000 2700	~~2,200~~ 2137		08-14-81
7 - 13	Caterpillar	750 each	500 each	gas	Pre- 1/75
14- 15	Caterpillar	750 each	(1)	gas	Pre- 1/75

(1) These engines drive air conditioning compressors.

Assumptions

1. Hrs. of Operation

Worthingtons 1-4, 6 22,451 hrs. ∴ 58.07%

Cats 7-15 16,234 ∴ 42.0%

38,685 hrs.

2. Permitted hrs. of Operation : AC 16-40548

23,379 hrs.

3. 8760 / 12 ≈ 730 hrs / mth.

4. ρ = 7.02 lbs/gal

138,000 Btu/gal (399.3), 19,715 Btu/lb vs 145,500?

Assumption Page:

1. Fuels

138,000 Btu/gal Diesel

1045 Btu/ft³ N.G.

Mr. Johnson 4/19/83 @ 1:35-1:37 PM

904 (724-4011)

AC 16-40548 (Date stamped 3/2/81)

S = 0.367o

138,000 Btu/gal Diesel

1044.44 Btu/ft³ N.G.

AC 76-40548 3/2/81

0.367o S

7.02 lbs/gal

19,715 Btu/lb

138,000 Btu/gal

Roogler: uses 145,500 Btu/gal ?

1025 Btu/ft³ ?

Mr. Johnson 4/22/83 @ 2:50-54 PM

904 (724-4011)

Cats - N.G. only

Worthingtons - set up for a max 94-6 NG:D

most 95-5

>90% on Dual Fuel

Mr. Johnson 4/27/83 @