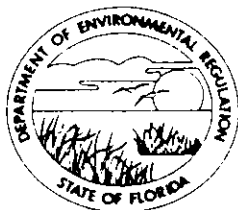


STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

October 17, 1984

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Royce Lyles
Managing Director
Jacksonville Electric Authority
233 West Duval Street
Jacksonville, Florida 32202

Dear Mr. Lyles:

Enclosed are Permit Numbers AC 16-85951, AC 16-86189, and AC 16-86190, dated October 15, 1984, to Jacksonville Electric Authority, issued pursuant to Section 403, Florida Statutes.

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

Sincerely,

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

CHF/pa

Enclosure

cc: Richard Breitmoser, Jacksonville Electric Authority
Doug Dutton, DER Northeast District
Jerry E. Woosley, Duval County Dept. of Health, Welfare,
and Bio-Environmental Services

Final Determination

Jacksonville Electric Authority
Auxiliary Boiler, Northside Station
Duval County, Florida

Permit Number
AC 16-85951

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

October 11, 1984

Response to Public Comment
Northside Station, JEA
AC 16-85951

Jacksonville Electric Authority's application for a permit to construct an auxiliary boiler at the Northside Station in Duval County, Florida has been reviewed by the Bureau of Air Quality Management (BAQM). Public notice of the Department's Intent to Issue the construction permit was published in the Florida Times Union on July 23, 1984.

JEA filed a petition for administrative hearing and submitted comments on the proposed construction permit. Their comments and DER's responses are addressed as follows:

Comment 1

JEA disagrees with Specific Condition 2 which limits fuel oil to virgin oil burned in the proposed boiler. The company's proposed wording for the condition is: "No. 6 fuel oil shall be virgin oil plus less than 5% of internally generated waste oil from known mineral oil sources such as drained lubricating oil from the permittees operating units".

Response

This comment is accepted by DER.

Comment 2

JEA objects to Specific Condition 3 which limits the fuel sulfur content to less than 1.8 and requests the SO₂ emission limit to be 1.98 pounds per million Btu heat input.

Response

This comment is not accepted by DER. The wording "sulfur content to less than 1.8% sulfur" will be changed to "not to exceed 1.8% sulfur".

Comment 3

JEA objects to Specific Condition 5 which limits the visible emission to 15% opacity.

Response

This comment is not accepted by DER. The determination of the visible emissions limit of 15% opacity is based on actual field observation of steam generators of this size and firing No. 6 fuel oil.

Comment 4

JEA objects to Specific Condition 6 which requires fuel oil analysis reports for each oil delivery.

Response

This comment is not accepted by DER.

Comment 5

JEA objects to Specific Condition 9 which requires a "complete application for an operation permit" prior to 90 days before expiration of the existing permit.

Response

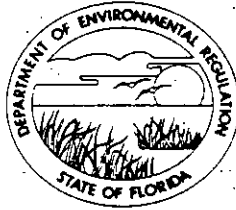
DER agrees to change the expiration date of the construction permit but will retain the condition.

BESD's comments to the public notice is attached. Their comments are in agreement with DER's responses.

The final action by the department will be to issue the permit with the changes on Specific Conditions 2, 3, and 9 in the Final Determination.

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
Jacksonville Electric Authority
233 West Duval Street
Jacksonville, Florida 32202

Permit Number: AC 16-85951
Expiration Date: July 31, 1985
County: Duval
Latitude/Longitude: 30° 25' 04" N/
81° 33' 09" W
Project: Oil/Gas Fired Auxiliary
Boiler, 120 MMBtu/hr

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

For the construction of an oil (or L.P. gas in the future) fired auxiliary boiler at the JEA's Northside Station located in Jacksonville, Florida.

Construction shall be in accordance with the attached permit application except as otherwise noted on pages 5 and 6, Specific Conditions.

Attachments:

1. Application to construct Air Pollution Sources, DER Form 17-1.122(16), received on April 20, 1984.
2. DER's incompleteness letter, dated May 14, 1984.
3. JEA's response to incompleteness letter, received on May 16, 1984.
4. A BACT determination made by DER.
5. BESD's comments to the public notice, received on August 31, 1984.
6. JEA's comments to the public notice, received on August 10, 1984.
7. Final Order, dated October 9, 1984, dismissing petition for administrative hearing.

PERMITTEE:
Jacksonville Electric Authority

I. D. Number:
Permit Number: AC 16-85951
Expiration Date: July 31, 1985

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 Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement 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 applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

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

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

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties 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, unless specifically authorized by an order from the department.

PERMITTEE:
Jacksonville Electric Authority

I. D. Number:
Permit Number: AC 16-85951
Expiration Date: July 31, 1985

GENERAL CONDITIONS:

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

PERMITTEE:

Jacksonville Electric Authority

I. D. Number:

Permit Number: AC 16-85951

Expiration Date: July 31, 1985

GENERAL CONDITIONS:

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.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

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

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE:
Jacksonville Electric Authority

I. D. Number:
Permit Number: AC 16-85951
Expiration Date: July 31, 1985

GENERAL CONDITIONS:

- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

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

SPECIFIC CONDITIONS:

1. Except as required pursuant to DER's BACT determination (attachment 4) and these specific conditions, the proposed boiler construction shall be carried out in accordance with the statements in the application submitted by the permittee.

2. The proposed boiler shall be used only as an auxiliary unit and is allowed to fire new oil (No. 2 or No. 6), L.P. gas, or new oil blended with internally generated waste oil which does not contain any (zero percent) polychlorinated biphenyls (PCBs). Records of internally generated waste oil use shall be kept on an annual basis.

monthly

PERMITTEE:
Jacksonville Electric Authority

I. D. Number:
Permit Number: AC 16-85951
Expiration Date: July 31, 1985

SPECIFIC CONDITIONS:

3. The sulfur content of the new or blended oil burning in the proposed boiler shall not exceed 1.8 percent by weight as determined by ASTM Method D-219. The fuel analysis reports of blended oils shall be recorded for inspection.

4. The boiler shall be operational only when at least one of the three larger (+ 2000-E6 Btu/hr) steam generating units has been shut down or is in the start-up mode of operation prior to being put on line. Compliance shall be determined by requiring that when any of boilers NS#1, NS#2, and NS#3 are shut down, that it be recorded in the proposed boiler operating log. When electrical power demand requires all three main units to be on line, the total station residual fuel consumption will be recorded for each four hour period whenever the auxiliary steam generator is operating. The total station fuel consumption must not exceed 1,440,000 pounds in any consecutive three (3) hour period. The recorded fuel consumption data will be retained for at least two years.

5. The visible emissions from the proposed boiler shall not be greater than 15% opacity with up to 40% opacity allowed for not more than two minutes in any one hour. DER Method 9 (17-2.700(6)(a)9, FAC) shall be used for the performance test conducted by the permittee.

6. The permittee shall submit all fuel oil analyses (every oil delivery needs a fuel analysis) with the required visible emissions test to DER's Northeast District and Jacksonville Bio-Environmental Services Division (BESD) annually.

7. The test of visible emissions shall be accomplished at 90% to 100% of the design capacity. The permittee shall notify DER's Northeast District and the BESD office 14 days prior to source testing.

8. Reasonable precautions to prevent fugitive particulate emissions during construction, such as coating or spraying roads and the construction area, shall be taken by the permittee.

9. A complete operation permit application with all compliance tests and data shall be submitted to the BESD office 90 days prior to expiration of the construction permit.

PERMITTEE:

Jacksonville Electric Authority

I. D. Number:

Permit Number: AC 16-85951

Expiration Date: July 31, 1985

SPECIFIC CONDITIONS:

Issued this 15th day of oct, 1984

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Terry Cole for
VICTORIA J. TSCHINKEL, Secretary

___ pages attached.

Best Available Control Technology (BACT) Determination
Jacksonville Electric Authority
Duval County

The applicant plans to install an auxiliary fossil-fuel-fired steam generator at the Northside generating station. The proposed unit will have a design heat input of 116.5 million Btu/hr and fire residual or distillate oil. The primary function of this unit will be to supply inplant steam requirements, especially during the colder months of the year, and will not be used as a peaking unit.

The proposed auxiliary boiler will operate only when one or more of the larger steam generating units is down or in the startup mode, therefore there will be no additional increase in sulfur dioxide or particulate emissions to the atmosphere.

The boiler will be located within the area of influence of the Jacksonville particulate nonattainment area (Rule 17-2.410(2)2.).

BACT Determination Requested by the Applicant:

The particulate and sulfur dioxide emissions will be 0.1 and 1.98 pounds per million Btu of heat input, respectively. The proposed steam generator will operate only when one of the larger main units is down or in a startup mode.

Date of Receipt of a BACT application:

April 24, 1984

Date of Publication in the Florida Administrative Weekly:

May 4, 1984

Review Group Members:

The determination was based upon comments received from the New Source Review Section, Air Modeling Section and Jacksonville Division of Bio-Environmental Services.

BACT Determined by DER:

Particulate and sulfur dioxide emissions to be limited by the following two permit conditions:

1. This steam generating unit shall be used only as an auxiliary system and shall fire New [1] or New oil blended with internally generated waste oil [2], and having a sulfur content, by weight, not to exceed 1.8% as determined by ASTM method D-219.

2. The auxiliary steam generating unit shall be operational when one of the three larger (+ 2000-E6 Btu/hr) steam generating units has been shut down or in the start-up mode of operation prior to being put on line.

[1] The term "new" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

[2] Internally generated waste oil is defined as: 1) automotive waste oils consisting of crankcase drainage, transmission fluids, gear lubricants, hydraulic oils, and minor amounts of kerosene and other solvents used in servicing equipment and, 2) industrial waste oils used in metal working, lubrication of industrial equipment, hydraulic and circulating systems, diesel engines and turbine lubrication and, 3) waste oils which have been used in transformers and heat transfer equipment that does not contain any (zero percent) polychlorinated biphenyls (PCBs).

Compliance shall be determined by requiring that whenever a main steam generator is down, the inactive source, NS #1, NS #2, or NS #3, is to be recorded in the auxiliary steam generator operating log. When electrical power demand requires all three main units to be on line, the total station residual fuel consumption will be recorded for each four hour period whenever the auxiliary steam generator is operating. The total station fuel consumption must not exceed 1,440,000 pounds in any consecutive three (3) hour period. The recorded fuel consumption data will be retained for at least two years.

Visible Emissions

Not to exceed 15% opacity.
40% opacity is permitted for not more than two minutes in any one hour.

DER Method 9 (17-2.700(6)(a)9, FAC) will be used to determine compliance with the opacity standard.

BACT Determination Rationale:

The applicant will shut down one of the larger +2000-E6 Btu/hr steam generators whenever the new 116.5-E6 unit is in operation or in startup mode. The new unit, therefore, would not increase particulate or sulfur dioxide emissions to the atmosphere. The applicant has proposed this scenario as BACT.

The applicant further contends that since the new boiler would only supply steam for inplant use, for example, to keep the generating station available for winter start-ups, this proposed BACT is reasonable.

The new boiler would:

- 1) operate below design capacity the majority of the time and only when one of the larger boilers is down or in start up mode
- 2) operate near design capacity primarily during the winter months, when electric power demand is low, and the main units are on standby
- 3) have installed state-of-the-art combustion controllers to minimize NO_x emissions, and
- 4) result in emissions considered minor as compared to the main units.

The department agrees that operation of the auxiliary boiler as per the proposed scenario is BACT. Particulate and sulfur dioxide emissions, when firing fuel oil, are related to the fuel sulfur content. Fuel oil containing less than 1.5% sulfur, by weight, is a SO₂ control option for a boiler of this size. The main units fire 1.8% sulfur content oil and the department does not believe a requirement for separate fuel oil storage for a lower sulfur content fuel is justified.

The fuel sulfur content was determined to be the BACT to control particulate matter and SO₂ emissions for the following reasons.

- A. The cover letter attached to JEA's air permit application stated, "No. 6 fuel oil, less than 1.8% sulfur, is the only fuel presently available for boiler operation at the Northside station." (emphasis added). JEA has not submitted data indicating a higher sulfur content fuel will be fired.
- B. The BACT economic review indicated that low sulfur fuel, as a method to control SO₂ emissions, was the cheaper alternative for a boiler of this size when compared to various wet or dry FGD systems.
- C. Compliance with the permit conditions will require the taking of a spot fuel sample and the sulfur content determined by ASTM analysis Method D-219 at a cost of approximately \$50. The energy basis SO₂ standard requested by JEA would require a stack test. A normal test probe could not be used due to the low gas velocity in the stack (less than 10 FPS) and special stack testing procedures would have to be used. The cost would be much greater than a fuel sample analysis.
- D. A fuel oil sample can be obtained quickly and easily. Compliance can be determined at any time without elaborate preparations and at a reasonable cost.

As mentioned in the overview, a BACT determination is required as set forth in Rule 17-2.600(6). Rule 17-2.100(23) requires a visible emission limit in all BACT determinations. Since the 15% opacity limit is more stringent than the 20% in Rule 17-2.600(6)(a), the more stringent limit applies.

The visible emissions limit of 15% opacity is based on actual field observation of steam generators of this size when firing No. 6 oil. JEA has not submitted any data indicating why the proposed steam generators could not meet the 15% opacity limit.

Air modeling indicates the proposed source, operating as per the scenario determined as BACT, will not impact the nonattainment area, therefore only a BACT determination is required for this source as set forth in the Florida Administrative Code Rule 17-2.600(6) - Emission Limiting and Performance Standards.

The "new" oil requirement disallows the use of waste oil which could contain sham blended RCRA compounds, or other non-fossil fuels, emissions from which were not considered in this BACT analysis.

Details of the Analysis may be Obtained by Contacting:

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

Recommended By:

CAH Fancy

C. H. Fancy, Deputy Bureau Chief

Date: 10/15/84

Approved:

Terry Cole for

Victoria J. Tschinkel, Secretary

Date: 10/15/84