Active File

FINAL DETERMINATION

Review of a Proposed Air Pollution Source Pursuant to

Environmental Protection Agency Rules for the Prevention of

Significant Deterioration (PSD)

40 CFR 52.21

McIntosh Unit 3

City of Lakeland, Florida

Roger O. Pfaff

U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

December 27, 1978

Proposed to be Revised 4/6/95

Exhibit A

On November 26, 1978, EPA issued a Preliminary Determination that McIntosh Unit 3 could be approved with conditions under EPA Regulations for Prevention of Significant Deterioration, 40 CFR 52.21. During the 30 day public comment period, ending December 26, 1978, only the City of Lakeland commented on the determination. The City asked that a condition be added to the determination allowing the use of oil as a fuel during periods when the coal feed is lost due to equipment malfunctions.

EPA agreed to allow this request, but only if the flue gases are scrubbed by the SO_2 scrubber. The final conditions are the same as those in the Preliminary Determination except for this extra condition. The full list of conditions of approval follows:

Conditions of Approval

1. For Particulate Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Particulate matter emitted to the atmosphere from the boiler shall not exceed:

Mode of Firing	lb/10^6 Btu Heat Input
Coal	0.044
Coal/Refuse:	0.050
Oil	0.070
Oil/Refuse:	0.075

2. For Sulfur Dioxide from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input derived from solid fossil fuel.

B. A flue gas desulfurization system will be ~~designed~~ installed to treat all exhaust gases ~~and~~ will operate at a minimum SO_2 removal efficiency of 85 percent whenever sulfur coal is burned.

C. The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

D. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

3. For Particulate Emissions from Materials Handling Operations:

The applicant shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, coal transfer and loading system, limestone handling or storage operation, or fly ash handling or storage operation, gases which exhibit 20 percent opacity or greater.

4. For NO_x Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. NO_x emitted to the atmosphere from the boiler shall not exceed 0.7 pound per million Btu heat input when firing coal or coal/refuse.

B. NO_x emitted to the atmosphere from the boiler shall not exceed 0.3 pound per million Btu heat input when firing oil or oil/refuse.

5. Stack Testing

A. Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests. Performance tests shall be conducted for the 4 modes of boiler operation (i.e., coal, coal/refuse, oil, oil/refuse).

B. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference methods 1 through 5 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference method 6 will be used for SO_2 tests. Reference method 7 will be used for NO_x tests.

C. Performance tests shall be conducted under such conditions as EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

D. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate for test methods applicable to the facility.

ii. Safe sampling platform(s).

iii. Safe access to sampling platform(s).

iv. Utilities for sampling and testing equipment.

E. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined by using the arithmetic mean of the other two runs.

6. Continuous Monitoring Requirements

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous SO_2 monitor shall be installed prior to the flue gas desulfurization system for purposes of calculating SO_2 removal efficiencies.

7. Excess Emission Reporting Requirements

In addition to the requirements of 40 CFR 60.7, each excess emission report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.

Active File

Florida Department of
Environmental Protection

Memorandum

TO: Howard Rhodes

THROUGH: Clair Fancy

FROM: A. A. Linero AA Linero

DATE: December 9, 1995

SUBJECT: City of Lakeland - C. D. McIntosh Unit No. 3

Attached for your signature is an amendment to the City of Lakeland's PSD Permit applicable to Unit No. 3 at the C. D. McIntosh Power Plant.

The amendment revises the original 1978 EPA-issued PSD permit (as previously amended by the Department) to allow burning of petroleum coke (petcoke).

To avoid an increase in SO_2 the City has agreed to an absolute limit of 0.718 pounds per million Btu heat input ($lb/10^6$ Btu) while maintaining the previously agreed-to scrubber efficiency requirements. You might recall that we had set 0.75 $lb/10^6$ as the point at which they could operate their scrubber at less than 90 percent efficiency. The new limit is an improvement.

They also requested the ability to use natural gas and low sulfur fuel (<0.5 % S) without restriction. This will result in even lower SO_2 emissions during those times.

We are requiring that the City provide information documenting that there is no (PSD-significant) increase in sulfuric acid mist emissions and carbon monoxide emissions on an annual basis as required by the WEPCO revisions to our rules.

There were no comments from the public, EPA, or the Park Service. Comments from the City were considered. They have seen the final determination and will have no objections to the final permit.

CHF/aal/l

Attachments

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

December 11, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.
Environmental Coordinator
City of Lakeland
Department of Water and Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

Re: City of Lakeland, C.D. McIntosh Unit No. 3
Amendment of Final Determination - PSD-FL-008(B)

The Department hereby amends the Conditions of Approval related to sulfur dioxide (SO_2) emissions and fuel use in the subject Final Determination (dated December 27, 1978) pursuant to 40 CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD Permit, previously amended on September 5, 1995, is amended as follows:

Condition 1.A.

FROM:

Particulate matter emitted into the atmosphere from the boiler shall not exceed:

Mode of Firing	lb/10^6 Btu Heat Input
Coal	0.044
Coal/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

TO:

Particulate matter emitted into the atmosphere from the boiler shall not exceed:

Mode of Firing	lb/10^6 Btu Heat Input
Coal	0.044
Coal/Petcoke	0.044
Coal/Refuse	0.050
Coal/Petcoke/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

Condition 2.A.

FROM:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input.

TO:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input in accordance with 40 CFR 60 Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971.

Condition 2.B.

FROM:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal is burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation and percent reduction requirement shall be determined on a 30-day rolling average.

TO:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. This compliance information shall be retained for a period of three years and made available by the City upon request by the Department. Whenever blends of petroleum coke with other fuels are co-fired, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average and shall comply with the reduction requirements given above.

Condition 2.C.

FROM:

The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

The burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Condition 2.D.

FROM:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of high sulfur oil (greater than 0.5 percent sulfur by weight) or a combination of high sulfur oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Condition 2.E. (new)

Continuous burning of natural gas, low sulfur fuel oil (less than or equal to 0.5 percent sulfur by weight), or combinations of these two fuels with or without the use of the SO_2 scrubber will be allowed.

Condition 6. Continuous Monitoring Requirements

FROM:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic coal sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The coal analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO_2 reduction.

TO:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fossil fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fossil fuel analysis data shall be used in conjunction with emission factors and the continuous monitoring data to calculate SO_2 reduction.

Condition 8 (new)

The following fuels may be burned:

Coal only
Low sulfur fuel oil only (≤ 0.5 percent sulfur by weight)
Coal and up to 10 percent refuse (based on heat input)
Low sulfur fuel oil and up to 10 percent refuse (based on heat input)
Coal and up to 20 percent petroleum coke (based on weight)
Coal and up to 20 petroleum coke (based on weight) and 10 percent refuse (based on heat input)
High sulfur fuel oil (> 0.5 percent sulfur by weight) consistent with Conditions 2.C. or 2.D.
Natural gas only, or in combination with any of the other fuels or fuel combinations listed above

Condition 9 (new)

The City shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is initially co-fired with petroleum coke, information demonstrating in accordance with 40 CFR 52.21 (b)(33) and 40 CFR 52.21 (b)(21)(v) that the operational changes did not result in emissions increases of carbon monoxide, nitrogen oxides, or sulfuric acid mist.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-008.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes, Director
Division Air Resources Management

CERTIFICATE OF SERVICE

This is to certify that this **PERMIT AMENDMENT** and all copies were mailed to the listed persons before the close of business on _____.

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Chapter 120.52(9), Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

_____
Clerk Date

cc: J. Harper, EPA
J. Bunyak, NPS
B. Oven, DEP
B. Thomas, SWD
R. Harwood, PCESD
K. Kosky, KBN
A. Morrison, HGSS

Final Determination

City of Lakeland
Department of Water and Electric Utilities
C. D. McIntosh Power Plant Unit No. 3
Lakeland, Florida
Polk County

Electric Utility Steam Generating Unit
Coal/Municipal Refuse/Oil - Fired Boiler
364 MW

Permit No. PSD-FL-008(B)

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

December 11, 1995

Final Determination

On November 3, 1995, a draft permit amendment, Intent to Issue, Notice of Intent to Issue, and Preliminary Determination were sent to The City of Lakeland, EPA Region IV, the Southwest Florida DEP District, Polk County, and the National Park Service. The draft permit amendment was to change certain Conditions of Approval related to fuel use, emission limits, and compliance procedures contained in the Final Determination dated December 27, 1978 applicable to the C.D. McIntosh Power Plant, Unit No. 3 as amended on September 5, 1995.

The Public Notice was published by the City of Lakeland on November 10, 1995 in the The Ledger, a newspaper of general circulation in Polk County, Florida.

No comments were received during the 30-day review and comment period except from the City of Lakeland by letter dated November 9, 1995.

The City and the Department request or require a number of clarifications and changes to the draft permit amendment as follows:

CONDITION 2.A.

DEPARTMENT COMMENT:

The sulfur dioxide (SO_2) limitation of 1.2 pounds per million Btu heat input ($lb/10^6$ Btu) in Condition 2.B. may appear to be a relaxation of the 40 CFR 60 Subpart D requirement applicable to Unit 3 which requires compliance with the same limit on the basis of three hours-worth of stack tests. To clarify, the Department will amend **existing** Condition 2.A. as follows:

FROM:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input.

TO:

Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input **in accordance with 40 CFR 60 Subpart D-Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971.**

SPECIFIC CONDITION 2.B.

CITY'S COMMENTS:

The City requests that records on sulfur dioxide (SO_2) emissions and reduction percentages be maintained on site rather than submitted quarterly to the Department. Exeedances would be included in the excess emissions reports already required for submission to the Department. Additionally the City wishes to clarify that the lower SO_2 emission rate of 0.718 pounds per million Btu heat input ($lb/10^6$ Btu) applies only when petcoke blends are fired.

DEPARTMENT'S RESPONSE:

The Department agrees that the excess emissions reports (as well as the reports and compliance requirements pursuant to Title IV and Title V of the Clean Air Act) will provide the Department sufficient information to determine when the unit does not operate in compliance with applicable SO_2 limits. The Department agrees that the condition as drafted can be misconstrued to require compliance with the petcoke SO_2 emission limit when petcoke is not co-fired. In accordance with the previous comment, the Department also wishes to remove the 1.2 lb $SO_2/10^6$ Btu emission rate from this condition as confusing and in apparent conflict with the limit in Condition 2.A. Therefore **draft** Specific Condition 2.B. is changed as follows:

FROM:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 1.2 pounds per million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the sulfur dioxide emission limitation of 0.75 pound per million Btu heat input and percent reduction requirement shall be determined on a 30-day rolling average and submitted to the Department on a quarterly basis. Whenever blends of coal and petroleum coke or refuse are burned, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average.

TO:

A flue gas desulfurization system will be installed to treat exhaust gases and will operate such that whenever coal or blends of coal and petroleum coke or refuse are burned, sulfur dioxide in gases discharged to the atmosphere from the boiler shall not exceed 10 percent of the potential combustion concentration (90 percent reduction), or 35 percent of the potential combustion concentration (65 percent reduction), when emissions are less than 0.75 pounds per million Btu heat input. Compliance with the percent reduction requirement shall be determined on a 30-day rolling average. **This compliance information shall be retained for a period of three years and made available by the City upon request by the Department.** Whenever blends of petroleum coke **with other fuels are co-fired**, sulfur dioxide emissions shall not exceed 0.718 pounds per million Btu heat input based on a 30-day rolling average **and shall comply with the reduction requirements given above.**

CONDITIONS 2.C. and 2.D.

CITY'S COMMENTS:

The City believes that there can be some confusion regarding the oil described in existing Conditions 2.C. and 2.D. which is "high sulfur oil" and the new Condition 2.E. related to firing "low sulfur oil." The City recommends some clarification language to define the oil in Conditions 2.C. and 2.D.

DEPARTMENT'S RESPONSE:

The Department agrees with the City and revises **existing** Condition 2.C. as follows:

FROM:

The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

The burning of **high sulfur** oil **(greater than 0.5 percent sulfur by weight)** or a combination of **high sulfur** oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

Similarly, the Department revises **existing** Condition 2.D. as follows:

FROM:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

TO:

During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of **high sulfur** oil **(greater than 0.5 percent sulfur by weight)** or a combination of **high sulfur** oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

CONDITION 5.B.

CITY'S COMMENTS:

The City points out that the tests are for initial performance demonstration rather than annual compliance tests and that the additional reference methods are not necessary. The City also contends that 3-hour tests are no longer appropriate to determine compliance for a unit regulated on a rolling average basis by CEMS and that the test requirements can be removed.

DEPARTMENT'S RESPONSE:

The Department agrees that the performance tests referred to in Condition 5.B. are initial tests. The revision proposed by the Department will not be made and the condition will remain in its original form.

CONDITION 6.

CITY'S COMMENTS:

The City points out that prior to the proposed revision they had to analyze coal but not refuse. The revision appears to require analysis of any solid fuel, presumably including refuse. The City suggests use of the term "solid fossil fuels" in lieu of solid fuels.

DEPARTMENT'S RESPONSE:

The Department agrees. The City will still need to estimate sulfur in the refuse (on the order of 0.1 percent sulfur by weight) to calculate SO_2 input to the scrubber and reduction. Sources for those estimates include the "daily log of fuels used and copies of fuel analyses" maintained by the City per its Site Certification requirements (Condition I.B.3). Therefore **draft** Condition 5.B. is amended as follows:

FROM:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid fuel analysis data shall be used in conjunction with emission factors and continuous monitoring data to calculate SO_2 reduction.

TO:

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, an ASTM-certified automatic solid **fossil** fuel sampler shall be installed which produces a representative daily sample for analysis of sulfur, moisture, heating value and ash. The solid **fossil** fuel analysis data shall be used in conjunction with emission factors and continuous monitoring data to calculate SO_2 reduction.

CONDITION 8.

CITY'S COMMENTS:

The City wishes to clarify that high sulfur fuel can be fired in accordance with conditions in their original PSD permit conditions and did not intend to limit itself to low sulfur fuel oil which can be fired under the revised conditions.

DEPARTMENT'S RESPONSE:

The Department agrees and did not intend to limit the City with respect to the type of oil that may be fired during scrubber or coal feed equipment malfunctions. Therefore Condition 8 is changed as follows:

FROM:

The following fuels may be burned:

Coal only
Low sulfur fuel oil only (≤ 0.5 percent sulfur by weight)
Coal and up to 10 percent refuse (based on heat input)
Low sulfur fuel oil and up to 10 percent refuse (based on heat input)
Coal and up to 20 percent petroleum coke (based on weight)
Coal and up to 20 petroleum coke (based on weight) and 10 percent refuse (based on heat input)
Natural gas

TO:

The following fuels may be burned:

Coal only
Low sulfur fuel oil only (≤ 0.5 percent sulfur by weight)
Coal and up to 10 percent refuse (based on heat input)
Low sulfur fuel oil and up to 10 percent refuse (based on heat input)
Coal and up to 20 percent petroleum coke (based on weight)
Coal and up to 20 petroleum coke (based on weight) and 10 percent refuse (based on heat input)
High sulfur fuel oil (> 0.5 percent sulfur by weight) consistent with Conditions 2.C. or 2.D.
Natural gas only, **or in combination with any of the other fuels or fuel combinations listed above**

CONDITION 9.

CITY'S COMMENTS:

The City questions whether it is necessary to demonstrate that the use of petcoke will not result in emission increases of carbon monoxide or sulfuric acid mist given that emissions increases due to petcoke are not expected.

DEPARTMENT'S RESPONSE:

Based on technical articles and references about petcoke as well as tests conducted elsewhere, the Department had reason to expect increased emissions of carbon monoxide and sulfuric acid mist when firing a low sulfur coal and petcoke blend compared with firing low sulfur coal alone.

The City did not include any data on sulfuric acid mist and carbon monoxide emissions when firing low sulfur coal representative of present actual operation. The Department considers the inferences drawn from the other trial test scenarios to be presumptive but not conclusive indicators which gave the City reason to believe that there will be no increases in these emissions when firing petcoke.

In the Department's letter of September 11, 1995, the City was advised to search past records to see if any carbon monoxide or sulfuric acid data exist which are representative of the low sulfur coal condition. The Department pointed out that tests to obtain these data are inexpensive and easy to conduct. Submission of such data might have obviated the need to report representative annual emissions in the future for these two parameters.

CONCLUSION:

The Final Determination of the Department is to amend PSD Permit No. PSD-FL-008 as described in the public information package with minor changes as indicated above.

FINAL DETERMINATION

Review of a Proposed Air Pollution Source Pursuant to

Environmental Protection Agency Rules for the Prevention of

Significant Deterioration (PSD)

40 CFR 52.21

McIntosh Unit 3

City of Lakeland, Florida

Roger O. Pfaff

U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

December 27, 1978

Proposed to be Revised 12-29-94

On November 26, 1978, EPA issued a Preliminary Determination that McIntosh Unit 3 could be approved with conditions under EPA Regulations for Prevention of Significant Deterioration, 40 CFR 52.21. During the 30 day public comment period, ending December 26, 1978, only the City of Lakeland commented on the determination. The City asked that a condition be added to the determination allowing the use of oil as a fuel during periods when the coal feed is lost due to equipment malfunctions.

EPA agreed to allow this request, but only if the flue gases are scrubbed by the SO_2 scrubber. The final conditions are the same as those in the Preliminary Determination except for this extra condition. The full list of conditions of approval follows:

Conditions of Approval

1. For Particulate Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Particulate matter emitted to the atmosphere from the boiler shall not exceed 0.1 lb/mmBtu heat input, regardless of the fuel burned. ~~:~~

~~Mode of Firing ---------- lb/10^6 Btu Heat Input~~

~~Coal ---------- 0.044~~

~~Coal/Refuse: ---------- 0.050~~

~~Oil ---------- 0.070~~

~~Oil/Refuse: ---------- 0.075~~

2. For Sulfur Dioxide from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 1.2 pound per million Btu heat input derived from solid fossil fuel.

B. A flue gas desulfurization system will be installed to treat all exhaust gases, ~~and~~ The desulfurization system will operate at a minimum SO_2 removal efficiency of 85 percent whenever high sulfur (3.3% sulfur) coal is burned.

C. The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas

desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

D. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

3. For Particulate Emissions from Materials Handling Operations:

The applicant shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, coal transfer and loading system, limestone handling or storage operation, or fly ash handling or storage operation, gases which exhibit 20 percent opacity or greater.

4. For NO_x Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. NO_x emitted to the atmosphere from the boiler shall not exceed 0.7 pound per million Btu heat input when firing coal or coal/refuse.

B. NO_x emitted to the atmosphere from the boiler shall not exceed 0.3 pound per

million Btu heat input when firing oil or oil/refuse.

5. Stack Testing

A. Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests. Performance tests shall be conducted for the 4 modes of boiler operation (i.e., coal, coal/refuse, oil, oil/refuse).

B. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference methods 1 through 5 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference method 6 will be used for SO_2 tests. Reference method 7 will be used for NO_x tests.

C. Performance tests shall be conducted under such conditions as EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

D. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate for test methods applicable to the facility.

ii. Safe sampling platform(s).

iii. Safe access to sampling platform(s).

iv. Utilities for sampling and testing equipment.

E. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined by using the arithmetic mean of the other two runs.

6. Continuous Monitoring Requirements

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. ~~In addition, a continuous SO_2 monitor shall be installed prior to the flue gas desulfurization system for purposes of calculating SO_2 removal efficiencies.~~

7. Excess Emission Reporting Requirements

In addition to the requirements of 40 CFR 60.7, each excess emission report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.

8. Fuels

The following fuels may be burned:

Coal only

Oil only

Coal and up to 10% refuse (based on heat input)

Oil and up to 10% refuse (based on heat input)

Coal and up to 20% petroleum coke (based on weight)

Coal and up to 20% petroleum coke (based on wieght) and 10% refuse (based on heat input)

In addition, natural gas and low sulfur fuel oil (e.g., diesel) may be fired during startup or at any other time.

PSD-FL-0008
McINTOSH #3
LAKELAND

Final Determination

Review of a Proposed Air Pollution Source Pursuant to Environmental Protection Agency Rules for the Prevention of Significant Deterioration (PSD)

40 CFR 52.21

McIntosh Unit 3

City of Lakeland, Florida

Roger O. Pfaff

U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30308

December 27, 1978

On November 26, 1978, EPA issued a Preliminary Determination that McIntosh Unit 3 could be approved with conditions under EPA Regulations for Prevention of Significant Deterioration, 40 CFR 52.21. During the 30 day public comment period, ending December 26, 1978, only the City of Lakeland commented on the determination. The City asked that a condition be added to the determination allowing the use of oil as a fuel during periods when the coal feed is lost due to equipment malfuncitons.

EPA agreed to allow this request, but only if the flue gases are scrubbed by the SO_2 scrubber. The final conditions are the same as those in the Preliminary Determination except for this extra condition. The full list of conditions of approval follows:

Conditions of Approval

1. For Particulate Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Particulate matter emitted to the atmosphere from the boiler shall not exceed:

Mode of Firing	lb/10^6 Btu Heat Input
Coal	0.044
Coal/Refuse	0.050
Oil	0.070
Oil/Refuse	0.075

2. For Sulfur Dioxide from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. Sulfur dioxide emitted to the atmosphere from the boiler shall

not exceed 1.2 pound per million Btu heat input derived from solid fossil fuel.

B. A flue gas desulfurization system will be installed to treat all exhaust gases and will operate at a minimum SO_2 removal efficiency of 85 percent whenever coal is burned.

C. The burning of oil or a combination of oil and municipal refuse as an emergency fuel without the use of the SO_2 scrubber will be allowed only when the flue gas desulfurization system malfunctions to the extent that the burning of coal would cause emission limitations to be exceeded. Sulfur dioxide emitted to the atmosphere from the boiler shall not exceed 0.8 pound per million Btu under this condition.

D. During malfunctions of equipment which cause an interruption of the coal feed to the boiler, the burning of oil or a combination of oil and municipal refuse will be allowed only if all flue gases are fully scrubbed by the SO_2 scrubber. Sulfur dioxide emitted to the atmosphere from the boiler

shall not exceed 0.6 pound per million Btu under this condition.

3. For Particulate Emissions from Materials Handling Operations:

The applicant shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, coal transfer and loading system, limestone handling or storage operation, or flyash handling or storage operation, gases which exhibit 20 percent opacity or greater.

4. For NO_x Emissions from the Boiler:

The source must meet an emission limit, as measured under part (5) as follows:

A. NO_x emitted to the atmosphere from the boiler shall not exceed 0.7 pound per million Btu heat input when firing coal or coal/refuse.

B. NO_x emitted to the atmosphere from the boiler shall not

exceed 0.3 pound per million Btu heat input when firing oil or oil/refuse.

5. Stack Testing

a. Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests. Performance tests shall be conducted for the 4 modes of boiler operation (i.e., coal, coal/refuse, oil, oil/refuse).

b. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference Methods 1 through 8 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference Method 6 will be used for SO_2 tests. Reference Method 7 will be used for NO_x tests.

c. Performance tests shall be conducted under such conditions as

EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

c. The owner or operator shall provide EPA 30 days prior notice of the performance test to afford the opportunity to have an observer present.

f. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:

i. Sampling ports adequate for test methods applicable to the facility.

ii. Safe sampling platform(s).

iii. Safe access to sampling platform(s).

iv. Utilities for sampling and testing equipment.

f. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined by using the arithmetic mean of the other two runs.

g. Continuous Monitoring Requirements

Continuous monitors shall be installed and operated in accordance with 40 CFR 60.45 and 60.13. In addition, a continuous O_2 monitor shall be installed prior to the flue gas desulfurization system for purposes of calculating SO_2 removal efficiencies.

7. Excess Emission Reporting Requirements

In addition to the requirements of 40 CFR 60.7, each excess emission report shall include the periods of oil consumption due to flue gas desulfurization system malfunction.