



July 31, 1997

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**BUREAU OF
AIR REGULATION**

Clair H. Fancy, Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

RE: C.D. McIntosh, Jr. Power Plant
Title V Permit Application No. 1050004-003-AV
Polk County, Florida

Dear Clair:

Pursuant to Rule 62-4.050 and 62-213 Florida Administrative Code, the Lakeland Electric and Water Utilities hereby submits to the Florida Department of Environmental Protection's Bureau of Air Regulation (Department) a revision to the Title V permit application, in quadruplicate, for the C.D. McIntosh Jr. Power Plant. This submittal include addition of segment information pages for units ID 005 (unit 2), ID 006 (unit 3) ID 004 (gas turbine peaking unit 1), and the two diesel peaking units 2 and 3, attachments LMC-EU5-C6, LMC-EU2-H, and LMC-EU3-H. Additionally this submittal revises the Attachment LMC-FE-5 "Fugitive Emissions Identification". We would like to bring to your attention that segment page 3 of 4 for ID 005 (unit 2) in respect of the distillate oil dated January 29, 1997 was submitted to you with a letter dated February 7, 1997. However, since your staff were unable to locate this segment, we are resubmitting the same dated July 25, 1997 for your files. The enclosed document has been signed and sealed by Mr. Ken Kosky, P.E. of Golder Associates, Inc. and certified by Lakeland's Responsible Official Mr. Ronald W. Tomlin, Assistant Managing Director.

Sincerely

Farzie Shelton
Environmental Division

Enc.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Ronald W. Tomlin, Assistant Managing Director
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Lakeland Electric & Water Utilities Street Address: 501 East Lemon Street City: Lakeland State: FL Zip Code: 33801-5079
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (941) 499-6300 Fax: (941) 499-6344
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i> <p><u>Ronald W. Tomlin</u> <u>7-31-97</u> Signature Date</p>

* Attach letter of authorization if not currently on file.

4. Professional Engineer's Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

[Handwritten Signature]

Signature
(seal)

21 July 1997

Date

Attach any exception to certification statement.

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Distillate (No.2) Oil	
2. Source Classification Code (SCC): <p style="text-align: center;">1-01-005-01</p>	
3. SCC Units: <p style="text-align: center;">1,000 gallons</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">8.26</p>	5. Maximum Annual Rate: <p style="text-align: center;">72,351</p>
6. Estimated Annual Activity Factor: 	
7. Maximum Percent Sulfur: <p style="text-align: center;">0.5</p>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <p style="text-align: center;">135</p>	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Maximum hourly rate based on maximum heat input for oil firing. Unit can be co-fired with natural gas. Fuel does not increase emissions of any pollutant.</p>	

Emissions Unit Information Section 2 of 7
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.3 lb/MMBtu		
4. Equivalent Allowable Emissions:	335 lb/hour	1,465 tons/year
5. Method of Compliance (limit to 60 characters): Annual stack test; EPA Methods 7,7A,7C,7D,7E; see LMC-EU2-H		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Allowable based on oil firing pursuant to 62-296.405(2)(d) and 62-296.800 FAC; 40 CFR Part 60, Subpart D, Sect. 60.44. If co-firing of oil and gas, the emission limit is prorated based on heat input.		

B.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.2 lb/MMBtu		
4. Equivalent Allowable Emissions:	237 lb/hour	1,038 tons/year
5. Method of Compliance (limit to 60 characters): Annual stack test; EPA Methods 7,7A,7C,7D,7E; see LMC-EU2-H		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Allowable based on natural gas firing pursuant to 62-296.405(2)(d) and 62-296.800 FAC; 40 CFR Part 60, Subpart D, Sect. 60.44. If co-firing oil and gas, emission limit is prorated based on heat input.		

Emissions Unit Information Section 2 of 7
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.2 lb/MMBtu/hr		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Requested Allowable Emissions 0.2 to 0.3 lb/MMBtu/hr. 40 CFR 60.44(b) allows simultaneous firing of fuels.		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

Emissions Unit Information Section 3 of 7
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.7 lb/MMBtu		
4. Equivalent Allowable Emissions:	2,548 lb/hour	11,160 tons/year
5. Method of Compliance (limit to 60 characters): Annual stack test; EPA Methods 7,7A,7C,7D,7E; see LMC-EU3-H		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Coal/Pet Coke/RDF firing; based on FDEP Rule 62-204.800(7)(b)1.; 40 CFR Part 60, Subpart D, Section 60.44(a)(3); PSD-FL-008.		

B.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.3 lb/MMBtu		
4. Equivalent Allowable Emissions:	1,092 lb/hour	4,783 tons/year
5. Method of Compliance (limit to 60 characters): Annual stack test; EPA Methods 7,7A,7C,7D,7E; see LMC-EU3-H		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Oil firing, based on FDEP Rule 62-204.800; 40 CFR 60.44(a)(2); PSD-FL-008.		

Emissions Unit Information Section 3 of 7
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.2 lb/MMBtu/hr		
4. Equivalent Allowable Emissions:	728 lb/hour	3,188.6 tons/year
5. Method of Compliance (limit to 60 characters): Annual stack test; EPA Methods 7,7A,7C,7D,7E; see LMC-EU3-H		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Gas firing; based on FDEP Rule 62-204.800(7)(b)1.; 40 CFR 60, Subpart D, Section 60.44(a)(1); PSD-FL-008.		

B.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: See Comment		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Requested Allowable Emissions and Units = 0.2 to 0.7 lb/MMBtu. 40 CFR 60.44(b) allows co-firing of fuels.		

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:	1 Jan 1970	
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	5 MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	28	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
	Maximum heat input per diesel peaking unit; represents previously permitted maximum fuel input.	

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date: 1 Jan 1973		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	20 MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	330	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
See Attachment LMC-EU5-C5, and LMC-EU5-C6.		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/yr	8,760 hours/yr

**ATTACHMENT LMC-EU5-C6
OPERATING CAPACITY COMMENT**

Maximum heat input shown for natural gas. Maximum heat input for oil is 330 MMBtu/hr.
Represents previously permitted fuel input. This source has not been modified as defined in 40
CFR 60.14 or reconstructed as defined in 40 CFR 60.15.

ATTACHMENT LMC-EU2-H

McIntosh Unit 2

The initial performance tests conducted under 40 Code of Federal Regulations (CFR) Section 60.8 have demonstrated that the emissions of nitrogen oxides were less than 70 percent of the applicable standards in 40 CFR Section 60.44. Pursuant to Section 60.45(b)(3), a continuous monitoring system for nitrogen oxides is not required. The initial performance test conducted in February 1977 demonstrated that the emissions of nitrogen oxides were 43 percent of the NSPS emission limit.

ATTACHMENT LMC-EU3-H

McIntosh Unit 3

The initial performance tests conducted under 40 Code of Federal Regulations (CFR) Section 60.8 have demonstrated that the emissions of nitrogen oxides were less than 70 percent of the applicable standards in 40 CFR Section 60.44. Pursuant to Section 60.45(b)(3), a continuous monitoring system for nitrogen oxides is not required. The initial performance test conducted in February 1983 demonstrated that the emissions of nitrogen oxides were 60 percent of the NSPS emission limit.

ATTACHMENT LMC-FE-5 FUGITIVE EMISSIONS IDENTIFICATION

Many fugitive emissions at the plant site have been classified as either "trivial activities," or are requested to be exempted under Rule 62-213.430(b). The types of fugitive emissions that are included as trivial or exempt are discussed below.

Criteria and Precursor Air Pollutants

Fugitive particulate emissions are addressed in Attachment LMC-FE-4. COL is not aware of fugitive emission of sulfur dioxide, nitrogen oxides, carbon monoxide, or lead compounds which would exceed the thresholds defined in the permit application instructions.

Volatile Organic Compounds (VOCs)

Fugitive emissions of VOCs include those resulting from the use of cleaners and solvents for maintenance and operation. VOCs are also emitted by the various fuel oil storage tanks on the plant property, and by the combustion turbines and the fossil-fuel steam generators. VOC emissions for storage tanks are covered in the facility-wide fugitive *Emission Unit* section of this permit application.

Fugitive HAPs Emissions

The following hazardous air pollutants are or may be present on the facility property and are potential sources of fugitive HAPs emissions:

- asbestos
- benzene
- chlorine
- hydrazine
- hydrochloric acid
- mercury compounds
- methyl ethyl ketone
- toluene
- xylene

Asbestos - Present in gasket material, pipe insulation, and various other locations. The facility complies with the federal NESHAPS (40 CFR 61 Subpart M) and state rules (62-257, F.A.C.) governing the abatement of asbestos-containing materials. No releases of asbestos are expected for the facility.

Benzene - Present in unleaded gasoline. The facility maintains a storage tank for unleaded gasoline. These emissions have been calculated to be significantly less than 1 TPY.

Chlorine - Used for water treatment at the facility.

Hydrazine - Hydrazine solution may be used for the treatment of boiler water.

Hydrochloric Acid - The facility may utilize hydrochloric acid in cleaning filter beds in the water treatment facility at the chemistry laboratory for use in analytical procedures.

Mercury Compounds - The facility uses mercury-containing compounds in the chemistry laboratory for use in analytical procedures and flow-measuring equipment.

Methyl Ethyl Ketone, Toluene, Xylene - The facility uses paint thinners and solvents (which may contain MEK, toluene, or xylene) for use in plant maintenance activities. These containers are kept closed.

Regulated Toxic or Flammable Substances

The following regulated toxic or flammable substances are or may be present at the facility:

- ammonia (aqueous, concentration 20% or greater)
- chlorine
- hydrazine
- hydrochloric acid
- nitric acid
- acetylene
- methane (natural gas)

Ammonia - Used for boiler water treatment.

Chlorine, Hydrazine, Hydrochloric Acid - Considered on the preceding page.

Nitric Acid - Nitric acid may be used in the chemistry laboratory for use in analytical procedures.

Acetylene - Present on the facility property in 250-lb cylinders which are used for plant maintenance (welding and cutting).

Methane - Is a primary component of natural gas. The facility has a natural gas pipeline which delivers fuel to the generating units. This fuel delivery system is normally airtight, but does have safety valves which occasionally relieve (open) when an overpressure condition develops in the gas line.