LAKELAND
ELECTRIC & WATER

(813) 499-6603

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Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

October 26, 1995

VIA HAND DELIVERY

Hamilton S. Oven, Jr., Administrator
Power Plant Siting Section
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 48
Tallahassee FL 32399-2400

RE: City of Lakeland C.D. McIntosh Unit No. 3; Request to Modify Site Certification No. PA-78-06 and PSD Permit No. PSD-FL-8

Dear Buck:

As you may recall, the City of Lakeland submitted a request for modification of the Site Certification for C.D. McIntosh Unit No. 3 on December 7, 1994. Subsequently, on April 6, 1995, the City temporarily withdrew that request pending resolution of an issue related to the sulfur dioxide emissions limit and removal efficiencies in the context of the Prevention of Significant Deterioration (PSD) permit for Unit No. 3. That sulfur dioxide issue has been resolved and the City by this letter requests that the Department resume its review of the City's request for modification of the Site Certification for C.D. McIntosh Unit No. 3. As stated in our letter of December 7, 1994, the City has identified several needed clarifications and minor revisions. In addition, the City has requested authority to burn petroleum coke as a fuel.

While virtually all of the provisions of the previous request for modification of Site Certification remain the same, there are a few minor changes being made to the previous submittal. Specifically, certain portions of the Revised Site Certification Application are being corrected to more generally reference coal and petroleum coke blends, and annual coal usage rates. Replacement pages for the December 7 submittal are included as Attachment A to this letter.

The City would appreciate the Department considering the requested Site Certification modification in conjunction with the City's revised request for PSD permit revision, which was submitted last week to the Department's Division of Air Resources Management. If any additional information is needed to process the City's Site Certification modification request, please let us know within 30 days, and we will immediately provide the requested information.

The City of Lakeland very much appreciates the Department of Environmental Protection's cooperation regarding its requests to modify the Site Certification and PSD permit for the C.D.

McIntosh Unit No. 3. If you or any of the Department's air staff has any questions or would like to discuss the City's requests, please do not hesitate to contact me at (941) 499-6603.

Sincerely,

Farzie Shelton/arm

Farzie Shelton
Environmental Coordinator

cc: Howard Rhodes, FDEP
Clair Fancy, FDEP
Al Linero, FDEP
Martin Costello, FDEP
Ken Kosky, KBN
Angela Morrison, HGSS

ATTACHMENT A-1

CITY OF LAKELAND
McIntosh Unit No. 3

Description of Amendments to Site Certification Application

Section 3.2.1 Fuel Types

In 1994, the City of Lakeland conducted a successful test burn of petroleum coke blended with coal. In an effort to use the most cost-effective fuels while not increasing emissions above allowable limits, the City of Lakeland requests that the Department approve its revised application to allow petroleum coke to be burned when blended with coal. Because continuous emissions monitors are installed for sulfur dioxide, nitrogen oxides, and opacity, as required by the PSD permit (Condition No. 6) and NSPS (40 CFR § 60.45), Lakeland can ensure that the emission limits for these pollutants are not exceeded when up to 20 percent petroleum coke is blended with coal (or coal and refuse) and burned in Unit No. 3. Lakeland has clarified in the revised application what fuels and fuel blends may be burned and the conditions under which such fuels and blends may be burned. Specifically, Lakeland is requesting authorization to burn petroleum coke and has clarified that natural gas and/or low sulfur oil will be used for ignition and fuel stabilization of the unit. Because natural gas and low sulfur oil are "clean fuels," such fuels may be burned at any time.

Section 3.2.2 Fuel Quantities

Heat Input Rate--The heat input rate provided in the site certification application was 2.162×10^{13} mmBtu per year for coal, based on manufacturer's data. The heat input rate was not included in the conditions of certification. Recently, Lakeland has carefully reviewed the heat input capacity for McIntosh Unit No. 3 and has identified that the rate in the original site certification application is not reflective of the unit's actual operating capability. The appropriate maximum heat input rate is 2.8697×10^{13} Btu per year. The heat input rate now requested is *not* the result of a physical change in, or change in the method of operation of, McIntosh Unit No. 3. The new heat input rate represents a *corrected* rate that more accurately reflects the maximum heat input capacity of the unit. Further, the correction of the heat input rate to reflect maximum unit capacity will not result in an increase in "actual" (annual) emissions. The Department should therefore allow the correction to the maximum heat input rate in the application, without the need for a revision to the conditions of certification and without triggering a "modification" under the Department's new source review rules (Chapter 62-212, F.A.C.).

Fuel Flow Rates--Similar to the heat input rate issue, the fuel flow rates for McIntosh Unit No. 3 that were provided in the application need to be adjusted to reflect the actual maximum fuel flow rates experienced at Unit No. 3. These slightly higher fuel rates are needed to produce the same megawatt output of 364. As with the adjustment to the heat input rate, the

ATTACHMENT A-3

CITY OF LAKELAND
McINTOSH UNIT No. 3

Revised Site Certification Application

3.2 FUELS

3.2.1 FUEL TYPES

Unit #3 will have the capability of burning the types of fuels and fuel combinations described herein ~~in the 250 MW application~~.

The primary fuel will be pulverized coal, ~~and additionally~~ The Unit has been designed to burn processed municipal solid waste, known as Refuse Derived Fuel or RDF, to supplement the pulverized coal. ~~The unit has been designed so that refuse can supply up to 10% of the necessary heat input for loads over the 50% of the design maximum capability (approximately 182 MW). However for the purposes of calculating the emission rates, flue gas volumes and flow rates, and for annual fuel consumption for this report, it was assumed that the unit would burn refuse at a constant rate of 26.25 tons per hour for 8 hours per day.~~

The furnace design is such that RDF can supply up to 10% of the expected full load heat input to the Unit.

As an alternative fuel source, petroleum coke will be added as a supplement to the pulverized coal. The blend rate can range from

0% to 20% by weight, depending on the quality of the coal. ~~A 0% to 10% blended product will be used with medium sulfur coal (2.5% sulfur) and a 0% to 20% blended product with low sulfur coal (1% sulfur).~~

2.72629 x 10^{13} BTU's based on a 95% availability (347 days) at a 90% capacity factor.

It is anticipated that the coal-only-and-coal/refuse Unit will be operated in one of the four primary firing modes at all times (coal only, coal and RDF, coal and petroleum coke, or coal, RDF, and petroleum coke). will-be-available-for-311-days-annually-with-the oil-and-oil-refuse-modes-accounting-for-the-remaining-availability. Based on above-data,-typical these modes, the approximate average annual fuel uses-are: usage will be:

FUEL	QUANTITY
Coal	818,000 864,550 970,452 tons (Typical Coal)
RefuseRDF	-72,450 75,000 tons
OilPetroleum Coke	337,600-Bbls:190,000 194,000 tons

The-expected-hourly-fuel-flow-requirements-at-both-maximum-load (364MW)-and-at-average-load-(272MW)-for-each-of tThe maximum and average heat inputs and fuel flows for the primary firing modes as described in Section 3.2.1 are shown in Table 3.2.1.

rail haul, using CSX Transportation (CSXT). The unit train will reach the Plant site on a railroad spur line connecting the coal trestle with the CSXT track located one and one half miles east of the Plant. The coal will be unloaded using an elevated trestle approximately 1000 feet long. The bottom dump hopper cars will unload when they are given a signal through a third rail system as determined by an Operator.

PETROLEUM COKE

Petroleum coke will be obtained from a suitable source based on lowest evaluated delivered cost. Options to be evaluated include: purchasing a material blended with coal off site and delivered as a blended fuel ready for burning or purchasing a supply of petroleum coke to be delivered to the site and blended with the normal supply of coal.

The petroleum coke will be delivered to the Plant by truck from a nearby port or by rail, directly from a supply source. A blended fuel would be delivered either by rail or truck from a blending facility.

The blend will be carefully monitored and controlled to assure compliance with all regulated parameters at the stack exit with continuous emissions monitoring systems (i.e., sulfur dioxide, nitrogen oxide, and opacity). A blend of 90/10 (by weight) medium sulfur (2.5%) coal with petroleum coke and a blend of 80/20 (by

~~weight) low sulfur (1.0%)~~ coal with and petroleum coke has been tested and all environmental and operational parameters checked. ~~The entire range of blends~~ A blend of coal and up to 20% petroleum coke provides good operation and no adverse environmental impacts.

The fuel blend supplied to Unit #3 and the flexibility built into the flue gas desulfurization system (Scrubber) will be fully controlled, to ensure complete environmental compliance at all times.

REFUSE

Refuse collected from Lakeland and the surrounding area will be delivered to the refuse processing facility by the collection trucks.

OIL

Oil will be delivered to the Plant site by fuel oil trucks from the Port of Tampa.

NATURAL GAS

Natural gas is supplied to the site by a high pressure main tied in with Florida Gas Transmission several miles north of the Plant.

ATTACHMENT A-2

PROPOSED REVISIONS TO THE C.D. McINTOSH POWER PLANT - UNIT NO. 3
Recertification Application - June 1978, as Amended in 1987
(December 1994; Additional Changes October 1995)

Section	Subject	Discard Old Pages	Insert New Pages Revised as of 12/94	Insert New Pages Revised as of 10/95
3.2	Fuels	3.2-1 - 3.2.6	3.2-2, 3.2-6, 3.2-7	3.2-1, 3.2-3, 3.2-4, 3.2-5
3.4	Heat Dissipation System	3.4-1	3.4-1	
3.5	Changes in Chemical & Biocide Wastes	3.5-1 -3.5-2	3.5-1 - 3.5-2	
3.6	Changes in Sanitary & Other Wastes	3.6-2	3.6-2 - 3.6-2a	
3.7	Air Emissions	3.7-1 - 3.7-2	3.7-1 - 3.7-2	
5.6	Other Effects of Plant Operation	5.6-1 - 5.6-3	5.6-1 - 5.6-3	

(Replacement pages for previous Exhibit A to Attachment 2 - Revised Site Certification Application)

Revised 10-25-95

3.2 FUELS

3.2.1 FUEL TYPES

Unit #3 will have the capability of burning the types of fuels and fuel combinations described herein.

The primary fuel will be pulverized coal. The Unit has been designed to burn processed municipal solid waste, known as Refuse Derived Fuel or RDF, to supplement the pulverized coal.

The furnace design is such that RDF can supply up to 10% of the expected full load heat input to the Unit.

As an alternative fuel source, petroleum coke will be added as a supplement to the pulverized coal. The blend rate can range from 0% to 20% by weight.

As a backup to pulverized coal, Unit #3 has the capability to burn low sulfur oil (.77% sulfur) as a primary fuel. In which case, RDF can also be burned with the low sulfur oil at a rate of up to 10% of expected full load heat input to the Unit.

Ignition or fuel stabilization of this Unit will be provided primarily by natural gas and/or low sulfur oil. Neither fuel can

2.72629 x 10^{13} BTU's based on a 95% availability (347 days) at a 90% capacity factor.

It is anticipated that the Unit will be operated in one of the four primary firing modes at all times (coal only, coal and RDF, coal and petroleum coke, or coal, RDF, and petroleum coke). Based on these modes, the approximate average annual fuel usage will be:

FUEL	QUANTITY
Coal	970,452 tons (Typical Coal)
RDF	75,000 tons
Petroleum Coke	194,000 tons

The maximum and average heat inputs and fuel flows for the primary firing modes as described in Section 3.2.1 are shown in Table 3.2.1.

3.2.3 TRANSPORTATION

COAL

Coal normally will be delivered to the Plant site in two continuously operating unit trains in ninety (90) cars of one hundred ton (nominal) bottom dump hopper cars per unit train.

The coal supply will be primarily from the area east of the Mississippi River. The majority of the coal will come from Eastern Kentucky, but may also be obtained from other sources of suitable quality.

The coal will normally be delivered to the Plant via single line rail haul, using CSX Transportation (CSXT). The unit train will reach the Plant site on a railroad spur line connecting the coal trestle with the CSXT track located one and one half miles east of the Plant. The coal will be unloaded using an elevated trestle approximately 1000 feet long. The bottom dump hopper cars will unload when they are given a signal through a third rail system as determined by an Operator.

PETROLEUM COKE

Petroleum coke will be obtained from a suitable source based on lowest evaluated delivered cost. Options to be evaluated include: purchasing a material blended with coal off site and delivered as a blended fuel ready for burning or purchasing a supply of petroleum coke to be delivered to the site and blended with the normal supply of coal.

The petroleum coke will be delivered to the Plant by truck from a nearby port or by rail, directly from a supply source. A blended fuel would be delivered either by rail or truck from a blending facility.

The blend will be carefully monitored and controlled to assure compliance with all regulated parameters at the stack exit with continuous emissions monitoring systems (i.e., sulfur dioxide, nitrogen oxide, and opacity). A blend of coal and petroleum coke has been tested and all environmental and operational parameters

checked. A blend of up to 20% petroleum coke provides good operation and no adverse environmental impacts.

The fuel blend supplied to Unit #3 and the flexibility built into the flue gas desulfurization system (Scrubber) will be fully controlled, to ensure complete environmental compliance at all times.

REFUSE

Refuse collected from Lakeland and the surrounding area will be delivered to the refuse processing facility by the collection trucks.

OIL

Oil will be delivered to the Plant site by fuel oil trucks from the Port of Tampa.

NATURAL GAS

Natural gas is supplied to the site by a high pressure main tied in with Florida Gas Transmission several miles north of the Plant.