

YOUNG, VAN ASSENDERP & VARNADOE, P. A.
ATTORNEYS AT LAW

REPLY TO
Tallahassee

R. BRUCE ANDERSON
TASHA O. BUFORD
DANIEL H. COX
DAVID P. HOPSTETTER*
C. LAURENCE KEESEY
KENZA VAN ASSENDERP
GEORGE L. VARNADOE
ROY C. YOUNG

*BOARD CERTIFIED REAL ESTATE LAWYER

DAVID B. ERWIN
OF COUNSEL

MEMORANDUM

GALLIE'S MALL
225 SOUTH ADAMS STREET, SUITE 200
POST OFFICE BOX 1833
TALLAHASSEE, FLORIDA 32302-1833
TELEPHONE (850) 222-7206
TELECOPIER (850) 561-6834

SUNTRUST BUILDING
801 LAUREL OAK DRIVE, SUITE 300
POST OFFICE BOX 7907
NAPLES, FLORIDA 34101-7907
TELEPHONE (941) 597-2814
TELECOPIER (941) 597-1060

TO: Blanca Bayo
FROM: Roy C. Young
DATE: January 21, 1999
SUBJECT: Docket #990023-EM
City of Lakeland

Enclosed find the following in connection with the above-captioned matter for filing in the above docket:

- 1. Original and 15 copies of Preliminary List of Issues of City of Lakeland.
- 2. Diskette

If you need anything further, please advise.

ACK _____ RCY:swp
AFA 3 Enclosures
APP _____ cc: Cochran Keating, Esquire
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BEFORE THE PUBLIC SERVICE COMMISSION

**In Re: Petition by City of Lakeland
For Determination of Need
For McIntosh Unit 5 and
Proposed Conversion From
Simple to Combined Cycle**

Docket #990023-EM

**PRELIMINARY LIST OF ISSUES
OF CITY OF LAKELAND**

ISSUE 1: Is the reliability criteria used by the Petitioner to determine the need for capacity in 2002 to be satisfied by McIntosh Unit 5 and its proposed conversion to combined cycle reasonably appropriate for planning purposes?

Position:

Yes, Lakeland has adopted the 15 percent minimum reserve margin criteria as a planning criterion, which is consistent with requirements by the Florida Reliability Coordinating Council (FRCC) policy, Florida Public Service Commission (FPSC) rules, Florida Municipal Power Pool guidelines, and industry practice.

ISSUE 2: Are the load forecasts used by the Petitioner to determine the need for capacity in 2002 to be satisfied by McIntosh Unit 5 and its proposed conversion to combined cycle reasonably appropriate for planning purposes?

Position:

Yes, Lakeland's load forecasts apply industry standard practices and represents Lakeland's staff expert opinion for the potential for load growth within their service territory. Lakeland has attempted to bracket the potential load growth with a high and low load growth scenario.

ISSUE 3: Does the Petitioner have a reliability need for McIntosh Unit 5 and its proposed conversion to combined cycle in 2002?

Position:

Yes, Lakeland has demonstrated a need for capacity in 2002 to meet Lakeland's reserve margin criteria. Lakeland has demonstrated this need under a base case scenario and multiple sensitivities. In addition, Lakeland has applied a probabilistic reserve margin approach presented by the FPSC staff, which indicates an even greater need for reserve capacity.

ISSUE 4: Is the timing of the Petitioner's need for McIntosh Unit 5 and its proposed conversion to combined cycle appropriate?

Position:

Yes, the timing of the petition is critical for the McIntosh Unit 5 conversion to combined cycle for commercial operation for January 1, 2002. Furthermore, the commercial operation of the combined cycle conversion may be critical to the continued operation of the simple cycle combustion turbine when the PSD permit requires a reduction in the level of NO_x emissions.

ISSUE 5: Will McIntosh Unit 5 and the Petitioner's proposed conversion of it to combined cycle contribute to the electric system reliability and integrity of their system and Peninsular Florida?

Position:

Yes, Lakeland's system must have a reliable source of power to meet reserve requirements for 2002 or suffer potential outages during periods of severe demand or during periods of unscheduled outages by generating units resulting in the loss of system integrity. The use of oil as backup fuel provides a secondary fuel source for emergency operation and increases reliability and integrity.

ISSUE 6: Will McIntosh Unit 5 and the Petitioner's proposed conversion of it to combined cycle contribute to fuel diversity for their system, as well as for Peninsular Florida?

Position:

Yes, the conversion of McIntosh Unit 5 will utilize waste heat rather than burning fuel. The dual fueled McIntosh Unit 5 allows generation with two different fuels, thus increasing fuel diversity. Furthermore, the primary fuel, natural gas, is domestically produced, thus reducing the dependency on foreign oil impacts.

ISSUE 7: Are there any adverse consequences to the Petitioner's customers if the proposed conversion to combined cycle is not completed in the time frame requested by the Petitioner?

Position:

Yes, Lakeland's reserve margin is projected to fall below the specified 15 percent minimum reserve margin if McIntosh Unit 5 is not converted to combined cycle on time. This would result in an increased cost to Lakeland customers of \$9.35 million for a one-year delay in the conversion to combined cycle.

ISSUE 8: Is the fuel price forecast used by the Petitioner reasonable?

Position:

Yes, the fuel price projections are generally consistent with other projections and industry acknowledged forecasts.

ISSUE 9: Has the Petitioner provided adequate assurances regarding available primary and secondary fuel to serve the proposed facility on a long term and short term basis at a reasonable cost?

Position:

Yes, Lakeland has 40,000 MBtu/day of FTS-1 and FTS-2 natural gas transportation capacity acquired from original and permanently relinquished contracts with FGT. In additions, Lakeland is in negotiations for additional transportation capacity. Lakeland currently targets its natural gas commodity purchases to be approximately 50 percent long-term purchases and 50 percent spot purchases. In addition, Lakeland is constructing a new 1.05 million-gallon oil storage tank to store secondary fuel oil.

ISSUE 10: Has the Petitioner provided appropriate assurances that sufficient natural gas pipeline capacity will be available to transport natural gas to McIntosh Unit 5.

Position:

Yes, Lakeland has 40,000 MBtu/day of FTS-1 and FTS-2 natural gas transportation capacity acquired from original and permanently relinquished contracts with FGT. In addition, Lakeland is in negotiations for additional transportation capacity.

ISSUE 11: Did the Petitioner reasonably consider the costs of environmental compliance when they evaluated their future generation needs?

Position:

Yes, the cost estimate for McIntosh Unit 5 and the proposed conversion to combined cycle include costs for environmental compliance as well as contingency. The cost estimates for the conversion of McIntosh Unit 5 includes the higher cost for SCR even though Lakeland is planning to meet emission requirements with Ultra Low NO_x combustors.

ISSUE 12: Has the Petitioner provided sufficient information on the site, design, and engineering characteristics of McIntosh Unit 5 and its proposed conversion to combined cycle to evaluate its proposal?

Position:

Yes, costs and performance characteristics including information on the site, design, and engineering characteristics were provided for McIntosh Unit 5 and the proposed conversion to combined cycle. This included detailed drawings, cost estimates, and operating performance.

ISSUE 13: Has the Petitioner adequately explored alternative generating technologies?

Position:

Yes, Lakeland studied several generating technologies including conventional, advanced, and renewable energy sources under base case and sensitivity analysis using the optimal generation expansion program POWROPT and the chronological production cost program POWRPRO. The alternatives were first modeled in a two-phase screening analysis to eliminate alternatives that were not feasible or too costly. From the screening analysis, a pulverized coal unit, atmospheric fluidized bed unit, pressurized circulating fluidized bed unit, four combined cycle alternatives, and three simple cycle alternatives were modeled in detail. POWROPT evaluates all combinations of generating alternatives provided to develop the least-cost expansion plan. The least-cost expansion plan identified from the base case evaluations and numerous sensitivities selects the conversion of McIntosh Unit 5 to combined cycle in 2002 and the construction of McIntosh Unit 4 in 2004.

ISSUE 14: Has the Petitioner adequately explored and evaluated the availability of purchase power from other electric utilities?

Position:

Yes, Lakeland has conducted an Invitation for Proposal (IFP) process to identify potential power supply alternatives. No feasible alternatives were lower in cost than McIntosh Unit 5.

ISSUE 15: Has the Petitioner adequately explored and evaluated the availability of purchase power from qualifying facilities and non-utility generators?

Position:

Yes, Lakeland has conducted an Invitation for Proposal (IFP) process to identify potential power supply alternatives. No feasible alternatives were lower in cost than McIntosh Unit 5.

ISSUE 16: Has the Petitioner adequately evaluated and considered conservation measures which might mitigate or delay the conversion of McIntosh Unit 5 to combined cycle unit in 2002?

Position:

Yes, Lakeland has evaluated 66 potential conservation and demand-side management program using the FIRE model to arrive at the least-cost alternative. No conservation or demand-side management programs proved to be cost effective based upon FIRE modeling.

ISSUE 17: Will McIntosh Unit 5 and its proposed conversion to combined cycle contribute to the provisions of adequate electricity to the Petitioner and Peninsular Florida at a reasonable cost?

Position:

Yes, McIntosh Unit 5 and the proposed conversion to combined cycle will provide reliable generation with very low power costs for Lakeland. The unit will be the industry's most efficient combine cycle unit using clean burning natural gas.

ISSUE 18: Has the Petitioner demonstrated that McIntosh Unit 5 and its proposed conversion to combined cycle is the most cost-effective alternative available?

Position:

Yes, McIntosh Unit 5 and the proposed conversion to combined cycle has been selected as the least cost alternative in base case, sensitivity analyses and against numerous self-build alternatives and power purchase proposals received. None of the self-build alternatives or feasible purchase power offers were more cost-effective than McIntosh Unit 5 and the proposed conversion to combined cycle.

ISSUE 19: Has the Petitioner considered all associated facilities and transmission improvements that would be required in conjunction with McIntosh Unit 5 and its proposed conversion to combined cycle?

Position:

Yes, McIntosh Unit 5 and the proposed conversion to combined cycle require no new transmission lines or associated facilities.

ISSUE 20: Are the economic and financial assumptions used by the Petitioner in determining the need for the proposed McIntosh Unit 5 conversion reasonable?

Position:

Yes, the economical and financial assumptions are reasonable for Lakeland's system.

ISSUE 21: Based upon the resolution of the previous factual and legal issues, should the Petitioner petition for determination of need for McIntosh Unit 5 and its conversion to combined cycle be granted?

Position:

Yes.