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CERTIFIED MAIL

BUREAU OF AIR REGULATION

March 4, 2008

Ms. Trina Vielhauer, Chief
Bureau of Air Regulation
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Larsen Power Plant – Permit 1050003-014-AV

Subject: Annual Certification of Condition C.31.

Dear Ms. Vielhauer:

Please find the enclosed report from Golder Associates Inc. to demonstrate compliance with the subject condition for the year 2007. Also attached is the Responsible Official certification from Mr. Tim Bachand.

If you have any questions, please do not hesitate to contact me at (863) 834-8180.

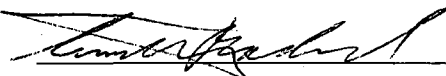
Sincerely,

Bret Galbraith, E.I.
Environmental Permitting

Enclosure

cc: Larsen Unit 8 Box File
SWD - 3/7/08

Responsible Official Certification

1. Responsible Official Name :
Timothy Bachand, P.E., Manager of Engineering
2. Responsible Official Mailing Address...
Organization/Firm: Lakeland Electric
Street Address: 501 E. Lemon St.
City: Lakeland State: FL Zip Code: 33801-5079
3. Owner/Authorized Representative Telephone Numbers...
Telephone: (863) 834-6633 ext. Fax: (863) 834-5670
4. Responsible Official Email Address: TIMOTHY.BACHAND@LAKELANDELECTRIC.COM
5. Responsible Official Statement:
<p><i>I, the undersigned, am a responsible official of the Title V source addressed in this submittal. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this submission are true, accurate and complete. The air pollutant emissions units and air pollution control equipment described in this submittal 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 and all other applicable requirements identified in this submittal to which the Title V source is subject. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in any compliance plan(s) previously submitted.</i></p> <p>RE: Larsen Power Plant – Permit 1050003-014-AV</p> <p>Subject: Annual Certification of Condition C.31.</p> <p> Signature</p> <p><u>3/4/08</u> Date</p>

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BUREAU OF AIR REGULATION

**CITY OF LAKELAND -- LAKELAND ELECTRIC
CHARLES LARSEN MEMORIAL POWER PLANT
FACILITY ID 1050003**

UNIT 8 PSD APPLICABILITY CERTIFICATION -- 2007

Professional Engineer Certification

1. Professional Engineer Name: **Scott Osbourn**

Registration Number: **57557**

2. Professional Engineer Mailing Address...

Organization/Firm: **Golder Associates Inc.****

Street Address: **5100 W. Lemon St, Suite 114**

City: **Tampa**

State: **FL**

Zip Code: **33609**

3. Professional Engineer Telephone Numbers...

Telephone: **(813) 287-1717**


ext. **211**

Fax: **(813) 287-1716**

4. Professional Engineer Email Address: **SOsbourn@golder.com**

5. Professional Engineer Statement:

I, the undersigned, hereby certify that to the best of my knowledge, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in the Charles Larsen Memorial Power Plant Unit 8 assessment of PSD applicability are true, accurate and complete.

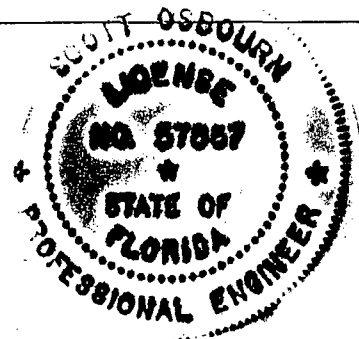


Signature
(seal)

3/3/08

Date

**** Board of Professional Engineers Certificate of Authorization #00001670**



Golder Associates Inc.

5100 West Lemon Street
Suite 114
Tampa, FL USA 33609
Telephone: (813) 287-1717
Fax: (813) 287-1716



March 4, 2008

073-89511

Lakeland Electric
501 E. Lemon Street
Lakeland, Florida 33801-5079

Attention: Ms. Farzie Shelton, Associate General Manager of Technical Support

RE: Charles Larsen Memorial Power Plant
Final Permit No. 1050003-013-AV
Condition D.44 Emissions Estimates and Certification for 2007

Dear Ms. Shelton:

As required by Condition D.44 of the above-referenced permit, this correspondence provides an analysis and Professional Engineer's certification related to the 2007 annual emissions increases associated with the turbine upgrades and peak firing for Charles Larsen Memorial Power Plant Unit 8.

Unit 8 at the Charles Larsen Memorial Power Plant was modified to include turbine upgrades and peak firing, as authorized by an air construction permit (1050003-012-AC) and a modification of the existing Prevention of Significant Deterioration approval [PSD-FL-166(D)]. This permitting action was deemed a minor modification with emission increases less than the PSD significant emission rate (SER) thresholds specified in Rule 62-210.200(243), F.A.C. The turbine upgrades for Unit 8 involved enhancements to the compressor discharge (high pressure brush seal), that limited the amount of air leakage. The upgrades theoretically result in a 4.4 percent increase in output with an increase in heat input of 1.9 percent from the "new and clean" condition. Peak Mode operation allows the unit, through a computer-controlled increase in firing temperature, to run at higher power and heat input. This is a standard operating feature of the GE Frame 7EA CT, with peak mode operation enabling an increase in power and heat input of about 8.7 percent at ISO conditions.

Condition D44 of Final Permit No. 1050003-013-AV requires an annual assessment of PSD applicability for the Unit 8 modification project; i.e., an annual analysis of actual emission rates to determine whether the modification project resulted in a significant emission rate increase. Specifically, Condition D.44 states:

*D.44. Future Emissions: The owner or operator shall submit to the department on an annual basis, for a period of 5 years representative of normal post-change operations of the unit, within the period not longer than 10 years following the change, information demonstrating that the physical or operational change did not result in an emissions increase. The definition of "representative actual annual emissions" found in 40 CFR 52.21(b)(33), adopted and incorporated by reference in Rule 62-204.800, F.A.C.
[1050003-012-AC]*

The results of the actual emission rate comparisons for 2007 are provided in the attached Tables 1 and 2. The assessment of whether the Unit 8 modification resulted in a significant emission rate increase for 2007 was conducted by comparing pre- and post-modification stack test data (Table 1), as well as prior permit application data and emission factors, combined with 2007 operating data (Table 2). For 2007, Larsen Unit 8 did not have an increase in emissions above the PSD significant emission rates, per the requirements of Condition D.44 and 40 CFR 52.21(b)(33). The conclusion is based on the two approaches in estimating emission increases, as summarized in Tables 1 and 2, and provides a conservative estimate of emission increases.

Please contact me at (813) 287-1717 if there are any questions regarding this analysis.

Sincerely,

GOLDER ASSOCIATES INC.



Scott Osbourn, P.E.
Senior Consultant
Florida Professional Engineer License No. 57557

Attachments

cc: Golder Associates, Inc. Document File

Table 1. Lakeland Electric - Charles Larsen Memorial Power Plant Unit 8
Assessment of PSD Applicability - Calendar Year 2007

Unit 8 2007 Heat Input	1,425,815	MMBtu/yr - gas
	550	MMBtu/yr - oil
Unit 8 2007 Peak Firing	0	MMBtu/yr - gas
	0	MMBtu/yr - oil
	7.7	Hr/yr peak firing
Unit 8 Turbine Upgrade Base Load Heat Input Increase	1.9	% (permit data)
Unit 8 Turbine Upgrade Peak Load Heat Input Increase	19.8	MMBtu/hr - increase in peak vs. base load (permit data)

A. NO_x - February 2003 & January 2008 Stack Test Data

Units	2003 - Base		2007 - Base		2007 - Peak		Base 2007 vs. 2003	
	Gas NO _x	Oil NO _x	Gas NO _x	Oil NO _x	Gas NO _x	Oil NO _x	Gas NO _x	Oil NO _x
MMBtu/hr	911.4	994.1	954.1	931.2	1,030.4	1,013.1		
lb/hr	58.0	127.6	64.9	124.2	80.1	130.9		
lb/MMBtu	0.064	0.128	0.068	0.133	0.078	0.129	0.004	0.005
Change in Emissions - 2007 vs. 2003	3.1	ton/yr - base						
	0.0	ton/yr - peak						
Totals	3.1	ton/yr						
PSD SER	40	ton/yr						
Exceed PSD SER	No							

A. CO - CY 2004 * & January 2008 Stack Test Data

Units	2004 - Base		2007 - Base		2007 - Peak		Base 2007 vs. 2004	
	Gas CO	Oil CO	Gas CO	Oil CO	Gas CO	Oil CO	Gas CO	Oil CO
MMBtu/hr	911.4	994.1	954.1	931.2	1,030.4	1,013.1		
lb/hr	30.4	10.8	37.1	11.4	26.4	9.2		
lb/MMBtu	0.033	0.011	0.039	0.012	0.026	0.009	0.006	0.001
Change in Emissions - 2007 vs. 2004	3.9	ton/yr - base						
	0.000	ton/yr - peak						
Totals	3.9	ton/yr						
PSD SER	100	ton/yr						
Exceed PSD SER	No							

* Based on calendar year 2004 stack test results.

Table 2. Lakeland Electric - Charles Larsen Memorial Power Plant Unit 8
Assessment of PSD Applicability - Calendar Year 2006

Unit 8 2007 Heat Input	1,425,815	MMBtu/yr - gas
	550	MMBtu/yr - oil
Unit 8 2007 Peak Firing	0.0	hr/yr - gas
	0.0	hr/yr - oil
Unit 8 Turbine Upgrade Base Load Heat Input Increase	1.9	% (permit data)
Unit 8 Turbine Upgrade Peak Load Heat Input Increase	19.8	MMBtu/hr - increase in peak vs. base load (permit data)

A: PM ₁₀ , NO _x , SO ₂ , CO, VOC - Permit Data											
	Units	PM ₁₀		NO _x		SO ₂		CO		VOC	
		Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil
Base Load	lb/MMBtu ¹	0.0060	0.0250	0.0995	0.1692	0.0028	0.2029	0.0550	0.0567	0.0018	0.0087
	MMBtu/yr ²	27,090	10	27,090	10	27,090	10	27,090	10	27,090	10
	ton/yr ³	0.081	0.000	1.348	0.001	0.038	0.001	0.745	0.000	0.024	0.000
Peak Load	lb/MMBtu ¹	0.0060	0.0250	0.0995	0.1692	0.0028	0.2029	0.0550	0.0567	0.0018	0.0087
	MMBtu/yr ²	0	0	0	0	0	0	0	0	0	0
	ton/yr ³	0.001	0.004	0.015	0.025	0.000	0.030	0.008	0.009	0.000	0.001
Totals	ton/yr	0.09		1.39		0.07		0.76		0.03	
PSD SER	ton/yr	15		40		40		100		40	
Exceed PSD SER		No		No		No		No		No	

¹ Maximum emission factor from PSD and Title V permits.

² Increase in heat input due to Unit 8 turbine upgrades.

³ Increase in annual emissions for 2007 due to Unit 8 turbine upgrades.

Sources: Golder, 2007; Lakeland Electric, 2007