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BUREAU OF AIR REGULATION

February 7, 2005

Mr. Al Linero  
South Permitting Section  
DARM/BAR  
Florida Department of Environmental Protection  
2600 Blair Stone Rd.  
Tallahassee, Florida 32399-2400

**RE: OUC STANTON ENERGY CENTER, UNIT 2  
PLANNED OUTAGE- SUPERHEATER TUBE REPLACEMENT** 0950137-008-AC

Dear Mr. Linero:

This letter serves to transmit additional information with respect to the upcoming outage scheduled for Stanton Unit 2 and the necessity of obtaining a construction permit for certain planned activities. Specifically, the outage is scheduled to begin on March 5, 2005 and the activity of interest is the repair and replacement of damaged tubing in the unit's primary superheater.

Stanton Unit 2 is a nominal 468 MW steam generator with a nominal heat input of 4,286 MMBtu/hr. This unit is fired primarily on bituminous coal. The unit is also equipped to fire No. 6 fuel oil, pipeline quality natural gas, on-spec used oil and landfill gas. Unit 2 is categorized as a dry bottom wall-fired unit consisting of a Babcock and Wilcox boiler/steam generator, Model RB 621. Best Available Control Technology (BACT) has been applied for all pollutants. Particulate emissions are controlled by a dry electrostatic precipitator, SO<sub>2</sub> emissions are controlled by a flue gas desulfurization system, and NO<sub>x</sub> emissions are controlled by a selective catalytic reduction system. This unit began commercial operation on June 1, 1996.

A superheater tube change out is planned for the upcoming March 5, 2005 outage. Tubes will be repaired and replaced because metallurgical analyses indicate advanced and irreparable erosion. The new replacement tubes are characterized, as functionally equivalent or a "like-kind" replacement, although the type of alloy proposed to be used in the replacement areas will be slightly different from the existing material. Specifically, the replacement material (SA213 T11) will have a slightly higher chromium content (1.25 percent) than the existing material (SA210 T12 at 1.0 percent chromium). This is the first time that this type of repair and replacement activity has been conducted on this unit. Further, it is not anticipated that this will be a recurring activity, due to the higher corrosion resistance of the replacement material. The project cost is estimated at \$5.0 million and will require about 4 weeks to complete.

The first issue is whether the project is exempt in accordance with the Department's definition of a modification under existing rules (Florida Section 62-210, F.A.C.). The project is arguably a physical change and thus is eligible for consideration as a modification.

However, it should be considered whether the project is exempt from the definition of modification as provided in Section 62-210.200(169)(a), F.A.C. This provision states:

*A physical change or change in method of operation shall not include: Routine maintenance, repair, or replacement of component parts of an emission unit. (Emphasis added.)*

This exemption is dependent on the definition of "routine". Two recent court cases, of some relevance to these planned activities, have resulted in differing interpretations with respect to the meaning of routine. The *Ohio Edison* ruling (August 7, 2003) maintained that the meaning of "routine" was with respect to activities for a particular emission unit. The *Duke Power* ruling (August 26, 2003) was that "routine" was relative to an entire source category (i.e., is the activity routine in the industry). Superheater repairs and replacements are typically required during the life of an electric utility steam generating unit (EUSGU) and such repairs and replacements are routine within the industry.

Not with standing whether the proposed activity is routine repair and replacement, a modification can only occur if it would result in an increase in actual emissions for the facility. In making a comparison of whether an increase in actual emissions has occurred, the utilization before and after the change is the most important indicator, especially if the change did not by itself affect the emission rate of the unit. While the superheater tube repair and replacement could affect long-term utilization and, possibly the short-term heat input of a unit, it could not affect the emission rate in terms of pounds per million Btu (lb/MMBtu) of heat input. The following paragraphs provide additional information with respect to both short-term impacts (i.e., affect on heat input rate) and long-term impacts (i.e., annual utilization).

Short-term impacts can be assessed in terms of the unit's fuel flow or heat input, expressed as million Btu per hour (MMBtu/hr). This parameter, combined with pollutant emission rates in lb/MMBtu, yields a pollutant mass emission rate of pounds per hour (lb/hr). This analysis is based on the assumption that, as long as the short-term heat input is not affected by the proposed activity, then short-term pollutant emission rates are similarly unaffected. This is because comparison of actual emissions are confounded by several factors, including the availability of continuous emission monitoring data, data reporting procedures, fuel quality and sampling variability. Taken together, comparisons of emissions would have to account for a variety of factors in order to draw conclusions with regard to whether or not emissions have increased as a result of a physical or operational change. The short-term measure of heat input rate (MMBtu/hr) is currently provided as a nominal rating in the Unit 2 permit to 4,286 MMBtu/hr. While Acid Rain monitoring data are not used for compliance with the permitted heat input rating, as it tends to over-estimate heat input, this data provides a good indicator of unit capacity. Historical data was obtained for the most recently available operating quarter (3rd Quarter, 2004), plotted and compared to the unit's maximum rated capacity (Permit Application, Attachment 2). It is clear that unit operation has not degraded with respect to maximum achievable capacity and that activities planned for the upcoming outage are not for the purpose of restoring or otherwise impacting the short-term heat input rate.

Long-term impacts, or annual utilization, can be measured in several ways. Stanton Unit 2 is characterized as a base load unit, which means that it is designed to be operated at a high capacity factor. Operation is based on system wide electricity demand, which can vary annually due to weather conditions and the availability of other units. This would be evidenced by utilization of the unit for the most recent 5-year period (2000 to 2004). To evaluate whether an increase in utilization is anticipated to occur as a result of the planned outage activity, the highest 2-year average of historical use (2000-2001) is compared to projected future utilization for the 2-year period following the outage. OUC obtains future utilization estimates from the production cost models that are used to project fuel requirements.

A comparison of average utilization rates before and after the planned outage shows that no increase is projected to occur. The utilization comparison was made for three parameters that are considered representative of annual operating measurements: 1) heat input in million Btu per year (MMBtu/yr), 2) net generation in MW-hours (net, MW-hrs) and 3) hours of operation per year. These data are summarized below in tabular form.

<b>Year of Operation</b>	<b>Heat Input (MMBtu/yr)</b>	<b>Generation (net, MW-hrs)</b>	<b>Hours Operated</b>
2000	32,108,068	3,259,043	8,112
2001	31,854,316	3,247,567	8,036
2002	30,392,586	3,072,127	7,671
2003	28,477,649	2,956,008	7,261
2004	30,203,431	3,062,770	7,728
<i>Highest 2-yr Avg</i> 2000-2001	31,981,192	3,253,305	8,074
2005-2006 (2-yr Avg)*	31,139,600	3,160,377	7,887

\* Projected based on production cost models that are used to project future requirements

As stated, Unit 2 is a base load unit and already highly utilized. Any anticipated increase in future utilization, though currently not predicted, would be due to system-wide demand growth and unrelated to the repair and replacement activities planned for the upcoming outage. The comparisons of short-term (heat input rate) and long-term impacts (annual utilization) both before and after the proposed outage activities provide reasonable assurance that no change in the method of operation or in emission impacts is anticipated to occur as a result of the planned outage activities.

OUC believes, based on the above project summary, that no construction permit is necessary for the planned outage activity. However, due to current regulatory uncertainty with respect to proper treatment of equipment repair and replacement projects, as well as discussions with the Department, this letter serves to transmit an application for a construction permit for the described activities.

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The application includes the following three attachments: 1) Attachment 1- summary tables of annual utilization (Table 1) and annual emissions (Table 2), 2) Attachment 2- graphical depiction of hourly heat input and 3) Attachment 3- the scope of work issued for bid for the activities to be performed.

OUC appreciates your consideration of the above and requests your timely processing of the subject permit. If you should have any questions, please do not hesitate to contact either Scott Osbourn at (813) 287-1717 or me at (407) 737-4236.

Sincerely,



Denise M. Stalls  
Director, Environmental Division

**Attachments**

Cc: Scott Osbourn, P.E., Golder Associates Inc.  
Leonard T. Kozlov, P.E., DEP Central District

**Adams, Patty**

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**From:** Linero, Alvaro  
**Sent:** Thursday, February 10, 2005 12:13 PM  
**To:** Adams, Patty  
**Subject:** FW: Stanton Unit 2 Permit Application

Patty:

Can you log in and give me an AC number for this OUC project?

Thanks.

Al.

-----Original Message-----

**From:** Osbourn, Scott [mailto:sosbourn@golder.com]  
**Sent:** Wednesday, February 09, 2005 1:06 PM  
**To:** Linero, Alvaro  
**Cc:** dstalls@ouc.com; lbrown@ouc.com  
**Subject:** Stanton Unit 2 Permit Application

As discussed, please find attached a letter providing background with respect to the upcoming superheater tube replacement and repair project, as well as an application for a permit to construct. The application includes three attachments for: 1) annual utilization and emissions data, 2) hourly heat input and 3) a scope of work for the proposed activities. We will follow up with a hard copy, but wanted to transmit this to you as soon as possible in order that permit processing could proceed. Please don't hesitate to call me at the number below if you should have any questions.

Thanks in advance for your timely consideration of this request.

Scott Osbourn, P.E.  
Golder Associates, Inc  
5100 West Lemon St., Suite 114  
Tampa, FL 33609  
Tel: (813) 287-1717  
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2/10/2005