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The *Reliable One*™

January 18, 2008

DARM/BAR
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

RECEIVED

JAN 22 2008

BUREAU OF AIR REGULATION

Attention: Mr. Russell Wider, Program Administrator, Title V Section

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

Dear Mr. Wider:

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 in March 15, 2008 and the activity of interest is the repair and replacement of damaged tubing in the unit's secondary superheater.

Stanton Unit 2 is a nominal 468 MW steam generator with a nominal heat input of 4,286 MMBtu/hr, which began commercial operation on March 29, 1996. 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, SO₂ emissions are controlled by a flue gas desulfurization system, and NO_x emissions are controlled by a selective catalytic reduction system. Additional pollution control upgrades have been proposed and are summarized in Attachment 4 of this application package.

A superheater tube changeout is planned for the upcoming March 15, 2008 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 replacement material (SA213 TP304H) will be slightly different from the existing material. 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 million and will require about 8 weeks to complete. The existing secondary superheat outlet tube bank will be removed from the unit and a new replacement bank will be installed.

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.

Notwithstanding 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, 2007), 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 period (2003 through 2006, the year 2007 is not yet available). 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 (2005-2006) will be compared to the period following the outage, in this case, the year 2008.

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.

| Year of Operation | Heat Input (MMBtu/yr) | Generation (net, MW-hrs) | Hours Operated |
|---------------------------------------|-----------------------|--------------------------|----------------|
| 2003 | 28,477,649 | 2,956,008 | 7,261 |
| 2004 | 30,203,431 | 3,062,770 | 7,728 |
| 2005 | 32,905,551 | 3,405,859 | 7,865 |
| 2006 | 34,820,403 | 3,197,451?? | 8,218 |
| <i>Highest 2-yr Average 2005-2006</i> | 33,862,977 | 3,301,655 | 8,042 |

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. The application includes the following four attachments: 1) *Attachment 1*- summary tables of annual utilization and annual emissions, 2) *Attachment 2*- graphical depiction of hourly heat input, 3) *Attachment 3*- the scope of work for the activities to be performed, and 4) *Attachment 4*- summary of other recent proposed air construction permit activities for Unit 2.

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.

Mr. Wider
January 18, 2008
Page 4

Sincerely,

Louis M. Brown

for |

Denise M. Stalls
Director, Environmental Division

Attachments

Cc: Scott Osbourn, P.E., Golder Associates Inc.
James Bradner, P.E., DEP Central District



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

Air construction permit.

Air Operation Permit

Initial Title V air operation permit.

Title V air operation permit revision.

Title V air operation permit renewal.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

Air construction permit and Title V permit revision, incorporating the proposed project.

Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application serves to transmit additional information with respect to the upcoming outage scheduled for Stanton Unit 2 to repair and replace damaged tubing in the unit's secondary superheater. Stanton Unit 2 is a nominal 468 MW steam generator with a nominal heat input of 4,286 MMBtu/hr. This unit began commercial operation on March 29, 1996.

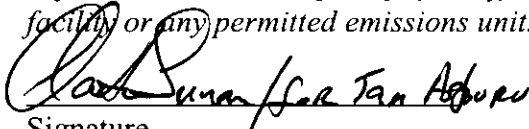
A superheater tube changeout is planned for the upcoming March 15, 2008 outage. Tubes will be repaired and replaced because metallurgical analyses indicate advanced and irreparable erosion. The new replacement tubes are characterized as functionally equivalent or a "like-kind" replacement, although the type of replacement material (SA213 TP304H) will be slightly different from the existing material. 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 million and will require about 8 weeks to complete. The existing secondary superheat outlet tube bank will be removed from the unit and a new replacement bank will be installed.

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.

Attachment 1 provides a summary of annual utilization over the most recent period (Table 1), as well as a summary of the most recent period of annual emissions estimates. Data for the 2007 calendar year is not yet available. ***Attachment 2*** graphically depicts hourly heat input readings (as recorded by the Acid Rain CEMS) for the most recent available quarter (3rd Quarter, 2007). ***Attachment 3*** summarizes the proposed scope of work for the superheater tube replacement and, as well as process schematics. Additional pollution control upgrades have been proposed and are summarized in ***Attachment 4*** of this application package.

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

| |
|---|
| 1. Owner/Authorized Representative Name : Jan C. Aspuru VP, Power Resources |
| 2. Owner/Authorized Representative Mailing Address... Organization/Firm: Orlando Utilities Commission Street Address: P.O. Box 3193 City: Orlando State: FL Zip Code: 32802 |
| 3. Owner/Authorized Representative Telephone Numbers... Telephone: (407) 658 - 6444 ext. Fax: (407) 275 - 4120 |
| 4. Owner/Authorized Representative Email Address: <u>jaspuru@ouc.com</u> |
| 5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. 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 and all other requirements identified in this application to which the facility is subject. 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 the facility or any permitted emissions unit.</i>  Signature <u>1/18/08</u> Date |

Application Responsible Official Certification

Complete if applying for an initial/revise/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

| |
|---|
| 1. Application Responsible Official Name: |
| 2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source. |
| 3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code: |
| 4. Application Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () - |
| 5. Application Responsible Official Email Address: |
| 6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. 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 and all other applicable requirements identified in this application to which the Title V source is subject. 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 the facility or any permitted emissions unit. 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 compliance plan(s) submitted with this application.</i> _____ Signature _____ Date |

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 West 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, 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.*

(3) *If the purpose of this application is to obtain a Title V 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 plan and schedule is submitted with this application.*

(4) *If the purpose of this application is to obtain an air construction permit (check here , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal 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.*

(5) *If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal 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.*

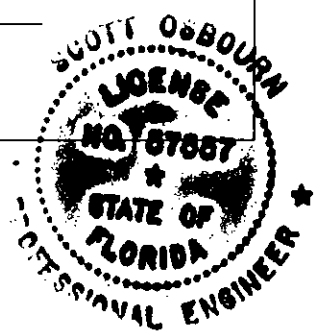
Signature

1/21/08

Date

(seal)

* Attach any exception to certification statement.



ATTACHMENT 1

Unit 2 Baseline Summary

Attachment 1. Data Summary

This attachment is a supplement to the construction permit application for OUC Stanton Unit 2. Table 1 provides annual utilization data (past and future projected). Table 2 provides a summary of the most recent years of reported annual emissions data. Data for the 2007 calendar year is not yet available.

The utilization comparison (Table 1) 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.

Table 1. Annual Utilization Summary

| Year of Operation | Heat Input (MMBtu/yr) | Generation (net, MW-hrs) | Hours Operated |
|--------------------------------------|--------------------------|-----------------------------|-------------------|
| 2003 | 28,477,649 | 2,956,008 | 7,261 |
| 2004 | 30,203,431 | 3,062,770 | 7,728 |
| 2005 | 32,905,551 | 3,405,859 | 7,865 |
| 2006 | 34,820,403 | 3,197,451 | 8,218 |
| <i>Highest 2-yr Avg</i> 2005-2006 | 33,862,977 | 3,301,655 | 8,042 |

A summary of annual reported emissions for all criteria pollutants is presented below in Table 2. The summary was obtained from AOR data as reported for the most recent period.

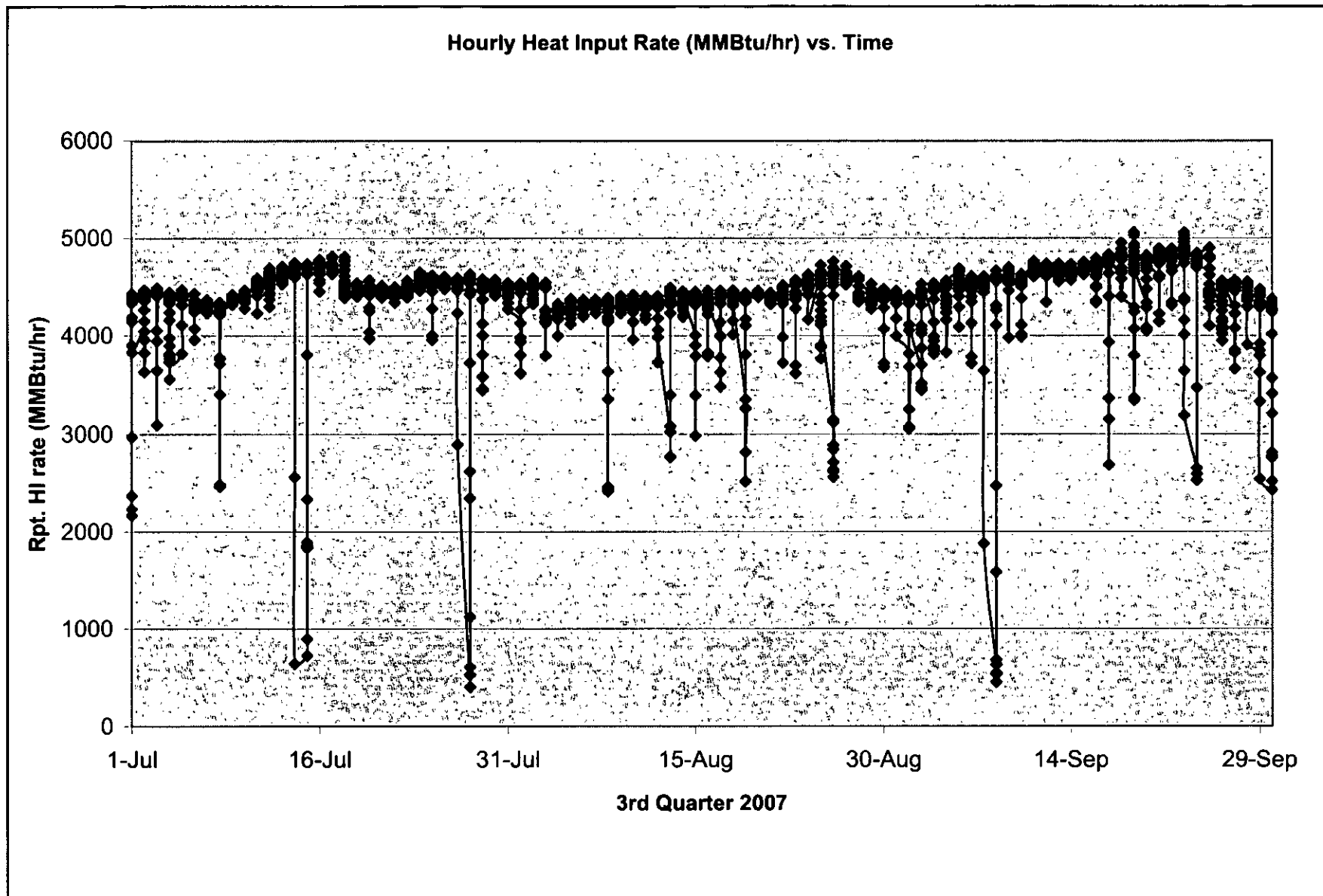
Table 2. Annual Emissions Summary

| Year of Operation | NOx (TPY) | SO2 (TPY) | CO (TPY) | PM (TPY) | PM10 (TPY) | VOC (TPY) |
|--|--------------|--------------|-------------|-------------|---------------|--------------|
| 2003 | 2,420 | 2,368 | 358.5 | 95.2 | 64.3 | 40.8 |
| 2004 | 2,564 | 2,501 | 371.1 | 112.8 | 112.8 | 44.9 |
| 2005 | 2,682 | 2,779 | 385.1 | 78.1 | 78.1 | 44.3 |
| 2006 | 2,855 | 2,640 | 399.7 | 100.0 | 100.0 | 47.3 |
| <i>Highest 2-yr</i> <i>Avg</i> 2005-2006 | 2,769 | 2,710 | 392.4 | 89.1 | 89.1 | 45.8 |

ATTACHMENT 2

Unit 2 Heat Input Summary

Attachment 2: OUC Stanton Energy Center, Unit 2



Source: U.S.EPA Clean Air Markets (<http://camddataandmaps.epa.gov/gdm/>)

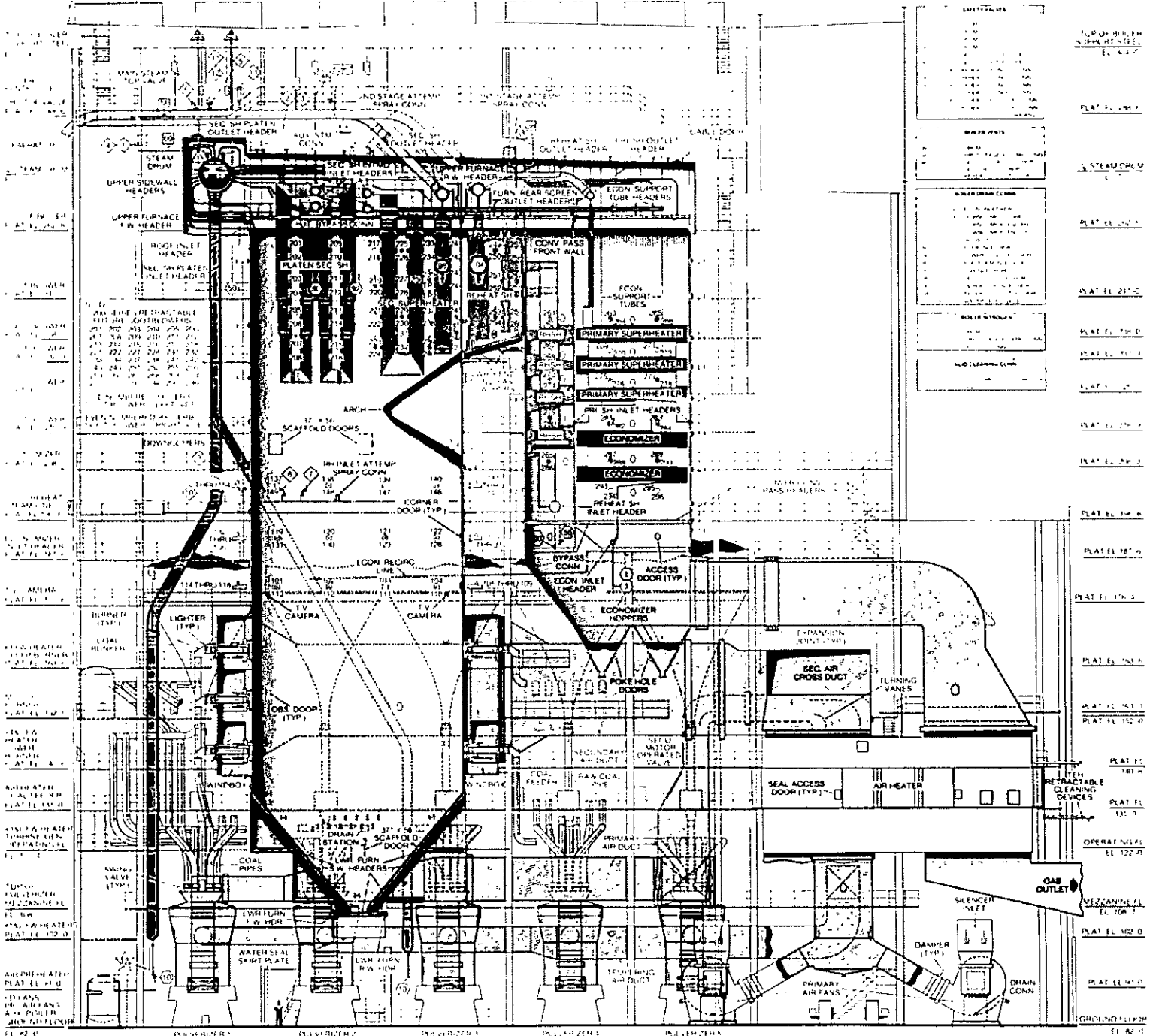
ATTACHMENT 3

**Unit 2 Proposed Scope of Work
Process Schematics**

Attachment 3. Proposed Scope of Work

Design and Fabricate Secondary Superheat Outlet Bank.

1. Design a replacement Secondary Superheat Outlet Tube Bank using at a minimum SA213TP304H. Source of material and quality control methods shall be provided at bid opening and be approved by OUC engineering prior to fabrication.
2. Fabricate to existing dimensions in Stanton Energy Center Unit 2. Tube connections will be above the seal plate and above existing welds, which are located inches above the seal plates for the inlet side. Outlet side connections will be located above the height of the inlet headers.
3. Meet existing design criteria for temperatures, pressures and steam flows. Provide performance guarantees for these design criteria.
4. Three levels of Inconel Tube Alignment brackets or "D" clip spacer lugs, spacer bars/clips (or equiv) on the bottom of the tube bundles, scallop plates and crown seals shall be included.
5. Contractor is responsible for all dimensions associated with this bid.
6. Materials will be shipped ready for installation in the boiler, prepared with the ends securely capped.
7. Any modifications to the material required for proper fit shall be back-charged to the original purchase amount.
8. Prior to fabrication provide OUC Engineering with material certifications (in English) for all materials to be used in the tube bank's construction. Tube material tests, hydrostatic and/or x-ray examination results shall be provided (in English) to OUC Engineering for review and approval prior to shipment.
9. Material options and pricing for improved coal ash corrosion, oxidation, and erosion resistance shall be provided along with options for tube claddings or other methods of improved corrosion and erosion resistance. (ex. 347 stainless steel with Inconel cladding.)
10. Deliver five extra tubes of the same material as the tube bank of approximately twenty five foot length for warehouse stock.



ATTACHMENT 4

Unit 2—Recent Proposed Air Construction Permit Activity Summary

Attachment 4. Summary of Recent Proposed Air Construction Permit Activities for Stanton Unit 2

1. **Neural Network** -- The permit to install issued 1/10/07.
2. **Dibasic Acid** -- The permit to install issued 1/10/07.
3. **Low NO_x Burners and Overfire Air** -- Amendment Request #6, originally submitted to DEP 12/14/06. Desired construction start date is March 2008 for Unit 2 and October 2008 for Unit 1. The purpose of installing the Low NO_x Burners and Overfire Air System is to lower the level of NO_x emissions from Stanton Energy Center Units 1 and 2 while avoiding adverse effects to the boilers and the unit's performance/reliability. (Draft Permit issued)
4. **Forced Oxidation** -- Amendment Request #7, originally submitted 12/14/07 and ready for construction to begin in September. The function of the Forced Oxidation Air System is to provide the additional air needed to increase oxidation of the sulfite ions to sulfate within the scrubber slurry. The advantages of adding a forced oxidation system include the reduced FGD system maintenance through reduced scaling and plugging in the modules and improved byproduct solids handling properties due to higher quality. (Final Permit issued)
5. **Flyash/Blending Facility** -- Amendment Request #10, originally submitted 2/2/07, received RAI 3/7/07. These improvements are proposed to allow the blending of Units 1 & 2 ashes with imported ashes to produce larger quantities of high quality, marketable, pozzolan grade fly ash (a non-cementitious additive to concrete that partially replaces cement and improves concrete durability and workability), and reduce quantities of fly ash going to the onsite landfill. (Draft Permit issued)