Florida Department of Environmental Protection
Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

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Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

Florida State University
990 Learning Way
Tallahassee, Florida 32306

Authorized Representative:
Dennis Bailey, Associate VP,
Facilities Operations and Maintenance

Air Permit No. 0730010-005-AC
Permit Expires: June 10, 2016

Central Utilities Plant
Minor Source Air Construction Permit
Boiler No. 2 Replacement

This is the final air construction permit, which authorizes replacement of Boiler No. 2 with a larger 94.68 MMBtu/hr unit. The proposed work will be conducted at the Florida State University Central Utilities Plant, which is at a state university (Standard Industrial Classification No. 8221). The facility is located in Leon County at 990 Learning Way in Tallahassee, Florida. The UTM coordinates are Zone 16, 759.5 km East, and 3370.9 km North. As noted in the Final Determination provided with this final permit, only minor changes and clarifications) were made to the draft permit.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C., and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Pensacola, Florida

/s/ June 10, 2011

Rick Bradburn, Air Program Administrator (Date)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on June 10, 2011 to the persons listed below.

Dennis Bailey, Florida State University: dbailey@admin.fsu.edu
Larry M. Simmons, P.E.; Pinnacle Engineering Group, PA: larrymsimmons@yahoo.com
DEP Northwest District Branch Office, Tallahassee

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

/s/ 6/10/11

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

This permit follows permit 0730010-004-AF.

Existing Facility

This facility produces 125 psig saturated steam for use as domestic hot water for dormitories, building heating systems and scientific research facilities. The existing facility consists of the following emissions units.

Facility ID No. 0730010	
ID No.	**Emission Unit (EU) Description**
EU 002	Boiler No. 1, 83.5 MMBtu/hr (70,000 lb/hr steam @ 125 psig/353ºF)
EU 004	Boiler No. 2, 46 MMBtu/hr (39,000 lb/hr steam @ 125 psig/353ºF)
EU 010	Boiler No. 3, 83.5 MMBtu/hr (70,000 lb/hr steam @ 125 psig/353ºF)

Proposed Project

The proposed project will replace EU 004 with a new 94.68 MM BTUH boiler capable of producing 80,000 lb/hr of 125 psig steam at 353ºF (saturated). The identical existing boilers No. 1 and No.3 will be combined in a new emission unit (to preserve the history of the old emissions units) and the hours of operation will be reduced to avoid Title V. This project will add or modify the following emissions units.

Facility ID No. 0730010	
ID No.	**Emission Unit Description**
EU 012	New Boiler No. 2, 94.68 MMBtu/hr (80,000 lb/hr steam @ 125 psig/353ºF)
EU 013	Existing Boilers No. 1 and No. 3, each at 83.5 MMBtu/hr (70,000 lb/hr steam @ 125 psig/353ºF)

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northwest District Air Resource Management Program, Florida Department of Environmental Protection (Department). The District's mailing address is 160 W. Government Street, Suite 308, Pensacola, Florida 32502-5740. All documents related to applications for permits to operate an emissions unit shall be submitted to the District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office at the above address or nwdair@dep.state.fl.us.

3. Appendices: The following Appendices are attached as part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms;

   b. Appendix B. General Conditions;

   c. Appendix C. Common Conditions; and

   d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]

A. Three Boilers Subject to 40 CFR 60 Subpart Dc

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
EU 012	New Boiler No. 2; 80,000 lb/hr of 125 psig saturated steam and maximum heat input of 94.68 MMBtu/hr
EU 013	Boiler No. 1and No. 3, each at 70,000 lb/hr of 125 psig saturated steam and maximum heat input of 83.5 MMBtu/hr

EU 012, which replaces EU 004, is a new boiler capable of producing 80,000 lb/hr of 125 psig saturated steam. The new boiler is manufactured by Babcock and Wilcox (Model No. FM 103-79) and is a water tube boiler with a maximum design heat input capacity of 94.68 MMBtu/hr.

EU 013 combines existing boilers No. 1 and No. 3, replacing EU 002 and EU 010, and reduces their allowable hours of operation to avoid Title V. Boilers No. 1 and No. 3 are manufactured by Cleaver Brooks, Model No. D94RH, and are each capable of producing 70, 000 lb/hr of 125 psig saturated steam with a maximum heat input rate of 83.5 MMBtu/hr.

All of the boilers are subject to 40 CFR 60 subpart Dc.

EQUIPMENT

1. Equipment Name: The permittee is authorized to replace old Boiler No. 2 (EU 004) with new Boiler No. 2 (EU 012) including new ancillary equipment, piping and controls needed. [Application No. 0730010-005-AC]

PERFORMANCE RESTRICTIONS

2. Permitted Capacity: For testing purposes Boilers No. 1 and No.3 (EU 013) each have a maximum allowable operating rate of 70, 000 pounds of 125 psig saturated steam per hour averaged during the test period, and new Boiler No. 2 (EU 012) has a maximum allowable operating rate of 80,000 pounds of 125 psig saturated steam per hour averaged during the test period. These are the operating rates at which compliance with standards shall be demonstrated. [Rule 62-210.200(PTE), F.A.C.]

3. Capacity (facility-wide residual oil use): The maximum annual quantity of residual oil used by EU 012 (new Boiler No. 2) and EU 013 (Combined Boilers No. 1 and No. 3) is limited to 172,900 gallons based on a rolling 12-month total. [Rule 62-210.200(PTE), F.A.C.; requested by application received April 15, 2011 for 0730010-005-AC to avoid Title V]

4. Authorized Fuel: The primary fuel is natural gas. Only during periods of natural gas curtailment, the boilers may burn residual oil with a sulfur content not to exceed 0.5%. The total annual capacity factor for oil for each boiler is limited to no more than 10 percent. *Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from oil during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated at the maximum allowable heat input. The annual capacity factor shall be determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each month. [Rule 62-210.200(PTE), F.A.C.; 40 CFR 60.41c, 60.42c(d), Rule 62-204.800(8), F.A.C.; EPA Determination Detail, Control Number: 9700034 (alternative to COMs)]

   {Permitting Note: Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).}

5. Restricted Operation: EU 012 (New Boiler No. 2) is allowed to operate continuously (8,760 hours per year). EU 013 (Existing Boilers No.1 and No.3) is limited to a combined total of 11,400 boiler operating

hours (nominally 5,700 hours for each boiler) per rolling 12-month period. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; restricted hours for Boilers No. 1 and No. 3 requested by permittee to escape Title V in application for 0730010-005-AC]

EMISSIONS STANDARDS

6. Opacity Standard: Emissions shall not exceed 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity. This opacity standard applies at all times, except during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(c) & (d), Rules 62-204.800(8), and 62-296.406(1), F.A.C.]

TESTING REQUIREMENTS

7. Initial Compliance Tests: EU 012 shall be tested to demonstrate initial compliance with the emissions standards for opacity while burning residual oil in accordance with EPA Method 9 for 60 minutes. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. [40 CFR 60.45c(a) and 60.8(a), Rules 62-204.800 and 62-297.310(4) and (7)(a)1., F.A.C.]

8. Other Compliance Tests: Visible emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Visible emissions tests shall be conducted for each boiler (while burning residual oil) in accordance with EPA Method 9 for 60 minutes. Such tests shall be scheduled one time within the final six months of the permit term. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing. [Rules 62-4.070, 62-297.310(4), (7) & (8), and 62-297.401(9), F.A.C.]

9. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rules 62-204.800 and 62-297.401, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, 62-297.100 and 62-297.401, F.A.C.; Appendix A of 40 CFR 60]

10. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. [Rules 62-297.310(2) and 62-4.070, F.A.C.]

MONITORING REQUIREMENTS

11. Opacity Observations During Residual Oil Use. At least once during each daylight shift when residual oil is combusted, an observer certified in accordance with EPA Method 9 shall perform a six-minute visible emission observation. In order to obtain representative results, the oil consumption rate during the observation must be the maximum rate during the shift. An observer certified in accordance with EPA Method 9 shall perform a six-minute visible emission observation whenever the boiler reaches operating load after a cold startup with residual oil. If the average opacity for a six-minute set of readings collected exceeds 10 percent, the observer must collect two additional six-minute sets of visible emission readings.

[40 CFR 60.47c(g), Rule 62-204.800(8), F.A.C.; Alternative to COMS per EPA Determination Detail/Control No.9700034/NSPS/Region4/05-07-96/Jewell Harper]

12. Residual Oil Sulfur Content. In addition to the opacity monitoring required during the use of residual oil, the permittee shall demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling. The initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described by the following:
Oil samples shall be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The permittee shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Compliance with the fuel oil sulfur limits shall be determined on a 30-day rolling average basis. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less. Fuel oil sulfur limits shall apply at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.42c(g) & (i), 60.44c(g) and 60.46c(d)(2), Rule 62-204.800(8), F.A.C.]

RECORDS AND REPORTS

13. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7) F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. For each test run, the report shall also indicate the steam produced in pounds per hour. [Rule 62-297.310(8), F.A.C.]

14. Excess Emissions Reports. Thirty days after the end of each semiannual period in which there are opacity excess emissions during oil combustion, the facility must submit an excess emission report (EER) to the Department. The report shall be postmarked by the 30th day following the end of a relevant semiannual period. For reporting purposes, excess emissions are defined as any six-minute period during which the average opacity exceeds 20 percent, and EERs must indicate the total time of the visible emissions observations during the reporting period and identify the duration of any excess emissions. [40 CFR 60.48c(c) & (j), Rule 62-204.800(8), F.A.C.]

15. Residual Oil Sulfur Content Reports. The permittee shall keep records of the residual oil sulfur content and submit reports for each six-month period. The records and reports shall include the following:
    a. Calendar dates covered in the reporting period.
    b. Each 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

    Reports shall be postmarked by the 30th day following the end of the relevant semiannual period.
    [40 CFR 60.48c (d) & (j), Rule 62-204.800(8), F.A.C.]

16. Opacity Observation Records. For each opacity observation during periods of residual fuel oil use conducted using Method 9, the permittee shall keep the following records:
    a. Dates and time intervals of all opacity observation periods;

b. Name, affiliation, and copy of current visible emissions reading certification for each visible emissions observer participating in the observation; and

c. Copies of all visible emissions observer opacity field data sheets.

All opacity observation records shall be made available for inspection upon request of the Department. [40 CFR 60.47c(g) incorporated by reference in Rule 62-204.800(8), F.A.C.; Alternative to COMs per EPA Determination Detail/Control No. 9700034/NSPS/Region4/05-07-96/Jewell Harper]

17. Operational Data (Fuel Records): The permittee shall maintain records of the quantities of residual oil and natural gas combusted each month and on a 12-month rolling total. These records will be made available for inspection upon request by the Department. [40 CFR 60.48c(g)(2), Rule 62-204.800(8), F.A.C.]

18. Operational Data (Hours of Operation). The permittee shall maintain records of the individual and combined hours of operation for Boilers No. 1 and No. 3 on a daily, monthly and 12-month rolling total basis. These records shall be available on request for Department inspection. [Rule 62-210.300(2)(b), F.A.C., and Application 0730010-005-AC to avoid Title V]

19. Boiler Maintenance Records. The facility must maintain the boilers following procedures and schedules recommended by the boiler manufacturer. Records shall be kept to verify that the necessary maintenance activities have been performed. These records shall be made available for inspection upon request of the Department. [Rule 62-4.160(2), F.A.C.; EPA Determination Detail/Control No. 9700034/NSPS/Region 4/05-07-96/Jewell Harper]