DRAFT PERMIT

PERMITTEE

Orlando Utilities Commission (OUC)
P.O. Box 3193
Orlando, Florida 32802

Authorized Representative:
Mr. Jan C. Aspuru, Vice President of
Power Generation

Air Permit No. 0950137-028-AC
Permit Expires: June 30, 2010
Minor Air Construction Permit
Stanton Energy Center

Temporary Short-Term Test Burn of
Chem-Mod™ Fuel (Coal) Additive

PROJECT

OUC operates an existing power plant called the Curtis H. Stanton Energy Center (Stanton), which is categorized under Standard Industrial Classification (SIC) as No. 4911. The existing facility is located in Orange County at 5100 South Alafaya Trail in Orlando, Florida. The UTM coordinates are: Zone 17, 483.6 km East and 3151.1 km North.

This is the final air construction permit, which authorizes a test of a two part fuel chemical additive called Chem-Mod™ Solution at Stanton Units No. 1 and 2. This authorization is only for a test lasting no more than ninety (90) days in duration to determine whether this fuel additive reduces emissions of nitrogen oxides (NO_X) from Units No. 1 and 2. This test will also allow operational issues when using the fuel additive to be assessed.

This final permit is organized into 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. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

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 Tallahassee, Florida

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Joseph Kahn, Director (Date)
Division of Air Resource Management

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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 with Appendices) 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 _____ to the persons listed below.

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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.

_____ _____
(Clerk) (Date)

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FACILITY DESCRIPTION

The existing Stanton Energy Center (Stanton) consists of two 468 megawatts (MW) coal-fuel units (Units No. 1 and 2) and one 640 MW natural gas-fired combined cycle (NGCC) unit (Unit A). There are storage and handling facilities for solid fuels, fly ash, limestone, gypsum, slag, and bottom ash. A recently permitted nominal 300 MW NGCC unit (Unit B) should be operational by the year 2012.

PROPOSED PROJECT

This project involves the test burning of a fuel additive in Units No. 1 and 2 at the Stanton. The fuel additive, referred to as the Chem-Mod™ Solution, is a dual injection sorbent system in which two chemicals are injected on the coal feed belt, before the coal combustion process, to reduce the resulting combustion emissions. The two additives are referred to as MerSorb and S-Sorb. The proposed test requires additional material handling system for the additives, as well as a diesel generator to supply electrical power to the new systems.

FACILITY REGULATORY CLASSIFICATION

- The facility is a potential major source of hazardous air pollutants (HAP).
- The facility operates existing units subject to the Acid Rain provisions of Title IV of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source (Prevention of Significant Deterioration (PSD) major source) in accordance with Rule 62-212.400, F.A.C.
- The facility is subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, Florida Administrative Code (F.A.C.).
- The facility operates units subject to the Standards of Performance for New Stationary Sources (NSPS) pursuant to 40 CFR Part 60.
- The facility operates units that were certified under the Florida Power Plant Siting Act, 403.501-518, F.S.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

1. Permitting Authority: All documents related to PSD applications for permits to construct or modify emissions units shall be submitted to the Bureau of Air Regulation of the Florida Department of Environmental Protection (DEP) at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to construct minor sources of air pollution or to operate the facility shall be submitted to the Air Resources Section of the Department's Central District Office at 3319 Maguire Boulevard, Suite 232, Orlando, FL 32803-3767.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Central District Office. The mailing address and phone number of the Central District Office are: Department of Environmental Protection, Central District Office, 3319 Maguire Boulevard, Suite 232, Orlando Florida 32803-3767. Telephone: (407)894-7555. Fax: (407)897-5963.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); and Appendix C (Common Conditions).

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, 62-213, 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. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. Reasonable precautions include the following: a) Paving and maintenance of roads, parking areas and yards; b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne; e) Landscaping or planting of vegetation; f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g) Confining abrasive blasting where possible; and, h.) Enclosure or covering of conveyor systems. In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.
[Rule 62-296.320(4)(c), F.A.C.]

8. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

   {Permitting Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

9. General Visible Emissions (VE) Standard:

   a. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity).

   b. Notwithstanding subparagraph 62-296.320(4)(b)1., F.A.C., above, the owner or operator of an emissions unit subject to the general visible emission standard may request the Department to establish a higher visible emissions standard for that emissions unit. The owner or operator may request that a visible emissions standard be established at that level at which the emissions unit will be able, as indicated by compliance tests, to meet the opacity standard at all times during which the emissions unit is meeting the applicable particulate matter standard. The Department shall establish such a standard, through the permitting process, if it finds that:

      (i.) The emissions unit was in compliance with the applicable particulate emission standard while a compliance test was being conducted but failed to comply with the general visible emissions standard during the test;

      (ii.) The emissions unit and associated air pollution control equipment were operated and maintained in a manner to minimize the opacity emissions during the compliance test; and

      (iii.) The emissions unit and associated air pollution control equipment were incapable of being adjusted or operated in such a manner as to meet the opacity standard.

      (iv.) If the presence of uncombined water is the only reason for failure to meet visible emission standards given in this rule, such failure shall not be a violation of this rule.

   [Rule 62-296.320(4)(b) F.A.C, General Visible Emissions Standard]

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A. Coal-Fuel Fired Units No. 1 and 2

This section of the permit addresses the following emissions unit.

EU ID No.	Emission Unit Description
001	Coal-Fuel Fired Unit No. 1
002	Coal-Fuel Fired Unit No. 2

COMPLIANCE WITH EXISTING PERMIT CONDITIONS

1. Existing Permits: This permit supplements all existing valid permits. The permittee shall continue to comply with all applicable conditions from valid air construction and Title V operation permits.
[Application No. 0950137-028-AC and Rule 62-4.070(3), F.A.C.]

TEMPORARY EQUIPMENT

2. Electrical Generator: The permittee is authorized to temporarily install and operate a Caterpillar™ or similar 500 kilowatt (kW) diesel electrical generator. The generator must meet all applicable requirements of NSPS 40 CFR 60, Subpart IIII for Stationary Compression Ignition Internal Combustion Engines and NESHAP 40 CFR 63 for Stationary Reciprocating Internal Combustion Engines (RICE).
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C., and Rule 62-4.070(3), F.A.C.]

3. Chem-Mod™ Solution Processing Systems: The permittee is authorized to temporarily install the delivery, conveyance, storage and spray systems associated with applying the Chem-Mod™ Solution fuel additive to the coal on the coal feed belts prior to the combustion processes in Units No. 1 and 2. These Chem-Mod™ processing systems must meet the reasonable requirements to minimize unconfined emissions of particulate matter (PM) and the VE standards specified in **Conditions 7 and 9 of Section II** of this permit, respectively. This equipment consists of the following:
   - For the Mersorb component of the Chem-Mod™ Solution fuel additive: a storage tank filled by tanker trucks, a day storage tank , a feed pump and application spray nozzles;
   - For the S-Sorb component of the Chem-Mod™ Solution fuel additive: a storage silo with a bin filter filled by tanker trucks; three (3) transfer screws and a day storage silo; and,
   - To mix the coal once the Chem-Mod™ Solution fuel additive has been applied, a 950 ton per hour (TPH) mixer.

   [Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C., and Rule 62-4.070(3), F.A.C.]

PERFORMANCE RESTRICTIONS

4. Chem-Mod™ Solution Fuel Additive: For Units No. 1 and 2, the permittee is temporarily authorized to apply the fuel additive Chem-Mod™ Solution to the currently authorized coal blends (bituminous coal). The maximum application rate for the fuel additive is 7.65 TPH.
[Application No. 0950137-028-AC and Rule 62-210.200(PTE), F.A.C.]

5. Fuel Additive Application: The fuel additive shall only be applied to coal that will be fired in Units No. 1 or No. 2. The Compliance Authority shall be given at least thirty (30) days notice before the application of the coal additive begins and notified immediately after its final application.
[Application No. 0950137-028-AC and Rule 62-4.070(3), F.A.C.]

6. Test Duration: The permittee shall complete the test within ninety (90) successive calendar days of when the fuel additive is initially applied to the coal.
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

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7. Restricted Fuel Additive Application: Unless written permission is given by the Department, no more than 16,000 tons of the additive shall be applied to the coal used in Units No. 1 and 2 during the test period. [Rule 62-4.070(3), F.A.C. and Rule 62-210.200(PTE), F.A.C.]

TEST SCHEDULE

8. Compliance Authority Test Schedule Notification: Thirty (30) days prior to the application of the fuel additive, the permittee shall provide to the Compliance Authority in writing a test schedule. At a minimum the schedule shall include the test dates for each trial burn, the amount of the additive to be applied to the coal for each planned trail burn, the planned duration of each trail burn and the air emission tests that will be conducted during each trail burn (stack test or Continuous Emission Monitor (CEM) data). Any trial burn that results in the exceedance of emission limits specified in any valid air construction and Title V operation permits (**see Condition 1 of this subsection**) shall cease operation as soon as possible, but in no circumstances shall more than 4 hours pass before operations cease.
[Rule 62-4.070(3), F.A.C. and Rule 62-210.200(PTE), F.A.C.]

MONITORING REQUIREMENTS

9. Standard Baseline Emissions: Baseline emissions shall be determined by CEMS for NO_X, CO and SO_2 emission and a continuous opacity monitor (COM) for VE, when firing representative coal fuel blends at permitted capacity in each unit prior to using the fuel additive. For each unit that will fire coal with the coal additive, the permittee shall conduct EPA Method 5 PM emissions tests. Test results shall be reported in units of lb/mmBtu and lb/hour.
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

10. Baseline Ammonia Injection Rate: For Unit No. 2, the ammonia injection rate used in the selective catalytic reduction (SCR) system when baseline NO_X emission are determined shall be recorded by a flow meter in gallons per hour (gal/hr). [Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

11. Emissions with Coal Additive: Emissions shall be determined by the CEMS for NO_X, CO and SO_2 emissions and for VE by COM when firing coal blends with the additive at the permitted capacity for each unit. For each unit when it fires coal with the additive, the permittee shall conduct EPA Method 5 PM emissions tests. Test results shall be reported in units of lb/mmBtu and lb/hour.
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

12. Ammonia Injection Rate with Coal Additive: For Unit No. 2, the ammonia injection rate used in the selective catalytic reduction (SCR) system when NO_X emission are determined when coal with the additive is fired in the unit shall be recorded by a flow meter in gallons per hour (gal/hr).
[Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

13. Monitoring of Operations: For each trial test burn in each unit, the permittee shall conduct the following monitoring: the type, amount, and heat input of coal fired; flue gas oxygen levels and electrical outputs; the fuel additive injection rates and fuel additive concentrations; lost of ignition (LOI) of the fly ash in the PM control device; and continuously monitor and record NO_X, CO and SO_2 and VE (opacity), with the existing CEMS and COM, and for Unit No.2 the ammonia injection rate into the SCR system in gal/hr. For comparison purposes, the permittee shall identify the current corresponding baseline monitoring values for bituminous coal firing or collect baseline data during the trial burn period.
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

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14. Notifications: The permittee shall provide the Compliance Authority with a written preliminary schedule for conducting any emissions tests (by letter, fax, or email). The preliminary schedule shall be updated as necessary. The permittee shall provide the Compliance Authority with at least 15 days advance notice (by phone, fax, or email) prior to conducting any emissions tests.
[Application No. 0950137-028-AC; Rule 62-210.200(PTE), F.A.C. and Rule 62-4.070(3), F.A.C.]

15. Fly Ash Sampling Plan: OUC shall submit a fly ash sampling plan to the Bureau of Air Regulation prior to the commencement of testing. The sampling plan shall specify the manner by which fly ash samples will be collected to insure they correspond to specific rates of additive application. The samples collected shall be labeled with the date and the test conditions including the additive application rate and submitted to the Bureau of Air Regulation. [Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

16. Test Report: Within 60 days of completing all test burns, the permittee shall submit a final report summarizing all test burns to the Bureau of Air Regulation and the Compliance Authority. The final report shall provide the following: the actual schedule and overall description of each trial test burn; any operational issues related to the coal additive; a comparison of baseline operation versus operation with the coal additive; an evaluation of equipment compatibility with coal additive; a summary and comparison of continuous emissions, VE (opacity) and ammonia monitoring data; a summary and comparison of the specified operational parameters; a summary and comparison of emissions test results; a comparison of continuously monitored emissions; a discussion of the impacts on LOI; and a discussion of emissions as described in Appendix C of 40 CFR 60. [Rules 62-4.070(3), 62-210.200(PTE) and 62-212.400, F.A.C.]

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