

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP

14280 Park Meadow Drive • Suite 400 • Chantilly, Virginia 20151-2219

Telephone: (703) 227-7700 • Fax: (703) 227-7791

RECEIVED

MAR 21 2000

March 20, 2000
LTR. APP0006

BUREAU OF AIR REGULATION

Via Federal Express:

Mr. C.H. Fancy, P.E.

Chief, Bureau of Air Regulation

Department of Environmental Protection

2600 Blair Stone Road, Mail Station #5505

Tallahassee, Florida 32399-2400

Re: Auburndale Power Partners, L.P.
SCR Installation

Dear Mr. Fancy:

The following information is provided in response to your correspondence dated February 18, 2000 regarding the above referenced project:

Item 1. A detailed description of the SCR control device including ancillary equipment

Response: Please refer to Attachment A.

Item 2. A manufacturers description with guaranteed reduction efficiency and output concentration of NO_x and ammonia slip.

Response: The SCR vendor has provided control system performance guarantees in terms of NO_x and ammonia slip exhaust concentrations as follows:

1. NO_x Emissions
Emissions of NO_x measured at the heat recovery steam generator's (HRSG) exhaust stack shall not exceed 15 parts per million by dry volume (ppmvd) when corrected to an exhaust stack gas concentration of 15% oxygen (O₂).
2. Ammonia slip
Ammonia slip emissions measured at the HRSG exhaust stack shall not exceed 10 ppmvd when corrected to an exhaust stack gas concentration of 15% O₂.

Mr. C.H. Fancy, P.E.
March 20, 2000
Page -2-

Item 3. Total ammonia storage capacity to be added to the facility, including number and sizes of tanks, pumps, pipes and fittings, etc.

Response: The SCR control system will include one 15,000 gallon storage tank containing 19 percent aqueous ammonia. Additional details of the ammonia storage and handling system are provided in Attachment A.

Item 4. Total actual annual emission increase/decrease in NO_x and ammonia emissions in pounds per hour and tons per year.

Response: The installation of the SCR catalyst will not result in an increase in NO_x emissions over permitted limits.

Ammonia emissions, based on the manufacturers guarantee of 10 ppmvd (corrected to 15% O₂) ammonia slip and assuming continuous operation at the maximum exhaust flow rate, are estimated to be 17.2 pounds per hour and 75.3 tons per year.

Item 5. An evaluation of 112(r) applicability and the appropriate submission of a risk management plan, if required.

Response: The SCR control system will include one 15,000 gallon storage tank containing 19 percent aqueous ammonia. The Accidental Release Prevention Program requirements of 112(r) of the Clean Air Act are applicable to facilities having processes which contain greater than 20,000 pounds of ammonia in concentrations of 20 percent or greater. Because the Auburndale Cogeneration Facility SCR control system will utilize an aqueous ammonia solution containing less than 20 percent ammonia, Section 112(r) of the CAA and its implementing USEPA regulations, including the requirement to submit a risk management plan, are not applicable.

Item 6. A Professional Engineer's certification that the control device will be installed and operated according to manufacturers recommendations and that the allowable NO_x emission limit of 15 ppm will continue to be met.

Response: Please refer to Attachment B.

Mr. C.H. Fancy, P.E.
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It is our understanding, as stated in your 2/18/00 correspondence, that with the submittal of the information provided in this letter, installation of the SCR equipment may proceed. Please contact me at (703) 227-7740 or e-mail at bfranco@edisonmission.com if you have any questions.

Sincerely,

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP

A handwritten signature in black ink, appearing to read "Bruce L. Franco", with a stylized flourish at the end.

Bruce L. Franco, P.E.
Executive Director

Attachments

**Auburndale Cogeneration Facility
ID # 1050221**

**Attachment A
SCR Control System Description**

1.0 GENERAL. The HRSG shall be furnished with a complete selective catalytic reduction (SCR) system as required to control concentrations of NO_x generated by the gas turbine and to the levels specified herein (if provided).

The SCR System shall be considered an integral part of the HRSG. Design, fabrication, inspection, and testing of this equipment shall be in accordance with the requirements of these Specifications.

2.0 ARRANGEMENT. The SCR System shall be incorporated as an integral part of the HRSG system. The SCR System shall be of the modular design which allows access for installation and removal of individual catalyst modules.

The design of the SCR System shall allow for access for removal of catalyst coupons and to allow cleaning of the catalyst during periodic maintenance intervals. The internal structure of the HRSG casing shall allow complete access to the catalyst front face with the use of temporary scaffolding (by others) without removal of internal structures.

The ammonia injection grid shall be designed and arranged to ensure uniform mixing of the ammonia and the exhaust gas stream. The minimum distance between the ammonia injection grid and the catalyst modules shall be as recommended by the catalyst manufacturer unless a heat transfer section or a mixing device is located between the injection grid and catalyst sections.

Skid mounted aqueous ammonia vaporizing and dilution equipment shall be provided with the SCR System. Air or recirculated HRSG exhaust gas shall be used as the diluent. The ammonia vaporizing equipment shall include an ammonia evaporator, evaporator temperature control equipment, ammonia accumulator, ammonia flowmeter and pressure regulating valve, piping, instruments, controls, and all other required accessories. Filters shall be provided in the dilution air and ammonia lines and after the ammonia evaporator. The filters shall be provided with instrumentation to monitor the pressure drop across the filters in order to alert the plant operators for maintenance. An ammonia storage tank with 15,000 gallons minimum storage capacity shall be furnished by the Contractor. The storage tank shall contain aqueous ammonia with a NH₃ concentration of 19 percent. A complete ammonia unloading, storage, and supply facility shall be furnished excluding an ammonia transfer pump.

A NEMA 12 terminal cabinet shall be mounted on each skid. The cabinets shall be completely wired with all control instrumentation, relaying, and power circuits requiring external connections brought to terminal blocks. Internal wiring shall be arranged so that external connections can be made with only one wire per terminal point.

**Auburndale Cogeneration Facility
ID # 1050221**

**Attachment A
SCR Control System Description**

The ammonia injection grids shall be designed to evenly distribute the reducing agent throughout the exhaust gas stream. Each branch of the injection grids shall be fed from the common supply manifold external to any exhaust gas ductwork. The supply manifold shall include a pressure indicator. The ammonia injection grids and manifold piping shall include the injection nozzles, adjusting valves, orifice plates, and magnehelic type differential pressure instruments. The ammonia injection grid shall be designed to allow zone control of the ammonia injection flow to allow for a high degree of tuning flexibility. Sufficient flexibility in spacing of nozzles and flow adjustment shall be provided to accommodate a maldistribution of +/-5 percent RMS in NO_x concentration at the inlet to the ammonia injection grid. The ammonia injection grid shall be designed so it can be removed by unbolting flanges and supports to simplify inspection and servicing.

A complete SCR System PLC based control system shall be provided which shall perform all the required interlock and control logic in order to safely operate the SCR System, and that includes all required equipment and instrumentation (excluding NO_x and ammonia slip exhaust gas monitoring and exhaust gas flow measurement equipment). Control of the SCR System shall be achieved through the use of a triple loop control scheme which uses exhaust gas flow, inlet NO_x emission level and stack outlet NO_x emission level. A manual backup ammonia injection control system shall also be provided to allow operation in case of controller malfunction.

Additional control functions shall be provided to protect equipment and personnel from system upsets including high exhaust gas temperature, high catalyst section differential pressure, and loss of instrument air pressure, dilution air flow, and exhaust gas flow. Instrumentation shall be provided to alarm ammonia dilution air fan failure and institute an instrument air purge of the ammonia lines upon failure of both ammonia dilution air fans. Additional instrumentation shall be provided to alarm the following conditions as a minimum.

High ammonia flow (leak)

Low dilution airflow

High catalyst temperatures

Low instrument air pressure

High ammonia/NO_x operating ratio

All alarms shall be transmitted to the DCS for annunciation in the Control Room and all process measurements shall be made available to the DCS. All equipment status shall be transmitted back to the DCS for all motors, heaters, and automatic block valves. APP will provide and install the DCS QLC communication interface card and associated software for the DCS interface as well as the DCS interface cable between the QLC card and the PLC.

**Auburndale Cogeneration Facility
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**Attachment A
SCR Control System Description**

The DCS shall remotely control and monitor the operation of the SCR System from the Control Room. The PLC shall provide auto/manual control for pumps and fans to operate with commands from the DCS. Motors shall be started, stopped, and put back into automatic mode from DCS commands. Local indication of pressure, temperature, level, flow, valve stroke, valve position, etc, shall be provided. A local gauge panel is not required if all process indicators are easily viewed from outside the skid.

The ammonia leak detection system shall have a local alarm horn and flashing beacon light that alerts local personnel to detected ammonia. The alarm system shall be provided with alarm acknowledge and reset buttons at the ammonia tank skid

The Contractor shall perform control drawing submittal and shall participate in conferences with the DCS manufacturer and APP in order to assist with interface issues between Contractor provided control systems and the DCS. The Contractor shall design the control systems based on his knowledge and experience of the requirements inherent with the design of the equipment.

Vent piping shall be routed to a safe area. The arrangement of all vent piping shall be acceptable to APP.

3.0 MATERIALS. The SCR catalyst materials shall be manufactured by Cormetech or other supplier approved by APP. The SCR catalyst shall be effective when the combustion turbine is burning natural gas and shall be capable of withstanding 400 hours of operation per year on No. 2 fuel oil (without ammonia injection). Copper materials shall not be used for any components in the SCR System.

The catalyst shall be supported on a metallic or ceramic monolithic base material. The bonding procedure used and the design of the catalyst cells shall be such that delamination of the catalyst from the support material or permanent deformation of the support material shall not occur due to stresses induced by the design seismic, pressure, and thermal conditions, or combinations thereof.

4.0 CONSTRUCTION. Catalyst cells shall be shop assembled into arrays for installation into the SCR catalyst housing. Arrays shall be the maximum practical size to facilitate and minimize field maintenance. Final dimensions shall meet shipping and handling limitations and shall facilitate handling, installation, and removal of catalyst by operating/ maintenance personnel.

Each array shall be supported in a steel frame with suitable lifting lugs for installation and removal of arrays in the field. Multiple arrays may be assembled into modules in the field. Arrays/modules which are more than one catalyst cell deep shall have provisions for removing each layer of catalyst cells independently of the others.

**Auburndale Cogeneration Facility
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**Attachment A
SCR Control System Description**

The catalyst design shall allow for thermal expansion and contraction of the catalyst arrays/modules without subjecting the catalyst, internal support members, or SCR catalyst housing to excessive stress levels while heating up, operating, or cooling down.

The catalyst housing shall have provisions for installation of an additional catalyst layer of up to 19 inches deep. During the Emissions Guarantee Period the Contractor shall provide additional or replacement catalyst and shall install such catalyst as required to meet the emission guarantees.

The SCR System casing housing modification shall be designed and constructed using materials that meet or exceed those used in the existing HRSG. The SCR housing modifications shall include an internal insulation and lagging system using materials that meet or exceed those used in the existing HRSG Spool Duct. The catalyst casing shall include a sealing system that limits exhaust gas leakage past the catalyst to less than 1 percent. The catalyst casing shall include all required internal supports for catalyst loading, thermal stress, and earthquake loading.

Ammonia handling equipment and instruments must have explosion proof connections (NEC Class 1, Division 2) and be suitable for outdoor installation. All other electrical connections can be of nonhazardous duty if located at a distance, specified by code, from the ammonia equipment.

All piping design, materials, and fabrication shall be in accordance with the requirements of Subsection 2C1. All injection grid piping connections inside the exhaust gas ductwork shall be socket or butt weld type. Internal ammonia injection grid piping shall be constructed of 300 Series stainless steel.

Injection grids shall be properly supported to prevent thermal distortion and damage due to vibration induced by the exhaust gas flow. The design shall consider maximum thermal expansion without cooling by the reducing agent and diluent.

The SCR catalyst shall be the regular packed parallel flow type and shall be designed to minimize pressure loss.

In order to monitor catalyst life and performance, a minimum of 10 test coupons shall be provided and installed in the catalyst beds as recommended by the catalyst manufacturer. Each catalyst coupon shall be labeled with a serial number. All catalyst coupons shall be from the same lot as the installed catalyst. These samples will be tested to evaluate catalyst activity and physical properties as the catalyst ages.

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**Attachment A
SCR Control System Description**

A minimum of three sampling ports shall be provided in the vertical and horizontal plane both upstream and downstream of the catalyst section to allow measurement of exhaust gas velocities and NO_x profiles during plant operation.

Removable access covers of sufficient size shall be incorporated into the casing above the SCR catalyst section to allow installation and removal of the SCR catalyst arrays/modules. New access doors shall also be provided (or existing doors reused) along the casing side walls for maintenance and inspection and shall provide access to both sides of the catalyst. New access doors shall be 18" x 24" and shall be hinged and pressure tight with bolted closure. The number and location of all access doors shall be acceptable to APP. Sufficient clear space shall be provided upstream of the SCR catalyst bank for accessibility. The floor of the catalyst housing shall be capable of supporting a person's weight.

The catalyst module support frame shall be designed to reduce thermal stresses by allowing for thermal expansion between the catalyst modules, support frame, and casing.

5.0 AMMONIA STORAGE TANK. The ammonia storage tank shall consist of a horizontal cylindrical storage tank of all welded steel construction and shall be furnished with the following accessories.

Level gauges and level transmitters

Pressure and temperature gauges

Pressure safety valve

One 18 inch diameter manhole at the top of the tank

Platform (provided for accessing the level, pressure, and temperature gauges)

Ladder

Drain

Level switch

Four ammonia gas leakage detectors shall be installed around the ammonia storage tank. Also, an alarm system shall be included.

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**Attachment A
SCR Control System Description**

The internal design pressure shall be approximately 25 psig. The tank shall be designed, constructed and tested in accordance with ASME Section VIII, Division I.

In the discharge side, an emergency shutoff valve shall also be provided.

**Auburndale Cogeneration Facility
ID # 1050221**

**Attachment B
Professional Engineer Certification**

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 pollution control equipment proposed for the Auburndale Cogeneration Facility, 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 air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.

Signature

Date

3/14/00

* Certification is applicable to the SCR control system planned for the Auburndale Cogeneration Facility.



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

February 18, 2000

Mr. Bruce L. Franco, P.E., Executive Director
Auburndale Power Partners, Limited Partnership
12500 Fair Lakes Circle, Suite 200
Fairfax, Virginia 22033

RE: Request For Permit Revision To Install SCR, Auburndale Cogeneration Facility, ID #: 1050221

Dear Mr. Franco:


This letter is being sent in response to your request, dated December 17, 1999, to revise the Title V permit for the above referenced facility, to install SCR as a control device for NO_x emissions. As submitted, your letter of request and the first four pages of the permit application form do not constitute a valid permit application. However, a review of your construction and Title V permits has resulted in the determination that installation of SCR has already been authorized as an optional control device for this facility. In order to proceed with the installation of SCR, the following information is requested:

1. A detailed description of the SCR control device including ancillary equipment.
2. A manufacturers description with guaranteed reduction efficiency and output concentration of NO_x and ammonia.
3. Total ammonia storage capacity to be added to the facility, including number and sizes of tanks, pumps, pipes and fittings, etc.
4. Total actual annual emissions increase/decrease in NO_x and ammonia emissions in pounds per hour and tons per year.
5. An evaluation of 112(r) applicability and appropriate submission of a risk management plan, if required.
6. A Professional Engineer's certification that the control device will be installed and operated according to manufacturers recommendations and that the allowable NO_x emission limit of 15 ppm will continue to be met.

Upon submittal of the above requested information, the installation of the SCR equipment may proceed. When installation is completed, a special compliance test (pursuant to Rule 62-297.310(7)(b), F.A.C.) will be required to demonstrate that the allowable NO_x emission limit is not being violated. After the test has been performed, submit the successful test results with a request for an Administrative Permit Correction to your Title V permit. At that time, we will then make administrative changes to your initial Title V permit to reflect the fact that NO_x emissions are controlled by water injection and/or SCR.

If you have any questions, please contact Scott M. Sheplak at (850) 921-9532, or me, at the above letterhead address.

Sincerely,


C.H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/SMS/jh

cc: Tom Davis, ECT
Bill Thomas, DEP - SWD

"More Protection, Less Process"

DAY 90 ~ 3/17/00

Need to log into ARMS?

Process as a permit review or admin permit correction?

The PSD permit allowed the permittee to install SCR. See conditions A.8. & A.43. in the Title V permit.

The guideline memo reference is not a good argument for the installation of SCR. This is not a like-kind replacement.

11/18/99

Waggoner D.I.

Auburndale Power Partners

Ratio:

 $\frac{1.8 \text{ lb steam}}{\text{mm BTU}}$ ~~pre meeting notes~~

SCR proposed

15 ppmvd complied with by steam

Using higher steam: fuel ratio than unit designed at
 10 man operating problems: ^{leads to following} (2.3 vs usual use of 1.8)

- NiO coatings corrossions in 3rd stage plates
- Na Phosphate carryover by steam
- vibration by steam injection in particular in combustors in unit

will definitely install SCR

request: return to 25 ppmvd limit until SCR installed
 to prevent damage

duration: 1 year till new SCR installed

AI: SCR must be better than 15

me: any ^{more} water (steam) ^{pro} conditioning to reduce corrosion?

unit repair downtime: 3 weeks

Auburndale PP

36-15 ppm will be cost effective with SCR they think

A.I

we are having trouble with EPA on CTs + NOx limits
~~they may~~ they may not agree with it.

* ① 25 ppmvd request for 1 year - ^{will be out of compliance with TV & need compliance plan}

A.I - get compliance plan for this limit from district

* say will just be out of compliance for awhile

work with Tampa District

* need Compliance plan : for Title V permit if ^{short-term} go out of compliance

Consent Order : acknowledge problem & out of compliance &

will request comp. Plan for TV to operate

till PSD is changed ~~then~~ ~~TV~~ ^{for} ~~TV~~

till come into compliance with TV current limits

whichever comes first.

^{District} Not for "in advance of intent to go out of compliance with TV limit for awhile to install SCR & put in PSD permit modification.

Jeff: Would they need a PSD modification if
go out of TV compliance & get consent order +
compliance plan to reach TV value again.

Our Recommendation

① Consent Order for Title V - not reaching 15ppmvd
to install SCR

Jeff: part of consent order ^{compliance plan} is possible PM increase by SCR ~~to~~ see
if reach significant rates & needs PSD modification
(he thinks probably less than sig. rates)

Dolk County

Consent agreement doesn't need public notice

↑ PM? → unknown

↑ CO by catalyst → Y

↑ VOC? → maybe

↑ ammonia 10, 5 or 2 slip

Company

Theory: cold modulate ammonia / steam to get 15ppmvd
+ minimize ammonia slip.

need certain NH_3 for catalyst bed & hard to get
2ppm NH_3 + reduce NO_x

PSD: actually ^{this} can get more NO_x emissions if minimize NH_3 slip.
we get goal is NO_x reduction w/o lots extra emissions (CO_2 NH_3)

Off-spec steam injection failed.

Comping

is 15 ppm easier to swallow if we accept lower Nth slip.

Scott

(compliance plan etc.)

if revise TV in the EPA call object on PSD grounds.

What is approval procedure to install SCR?

Recommend for better angle with district:

- ① offer will be out of compliance starting because
- ② offer preliminary compliance plan

Any public notice? Scott thinks so

Jeff: EPA thinks monitoring req. is significant modification

Scott

- any time out of compliance with TV, must submit compliance plan
- is this a TV revision? EPA thinks so. ~~if~~ → find out
- out of Appendix TV plan has specific dates to regain compliance

Consent Order: general except specific end date
details go in compliance plan.

① Is a revision required?

~~if~~ not, submit compliance + put in file.

File -

**AUBURNDALE POWER PARTNERS,
LIMITED PARTNERSHIP**

January 24, 2000

Mr. Bill Proses
Southwest District
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619

RECEIVED

JAN 29 2001

BUREAU OF AIR REGULATION

Re: Notification of SCR Initial Startup;
Auburndale Power Partners (APP), Limited Partnership;
Permit No.: 1050221-002-AV

Dear Mr. Proses:

As discussed in today's telephone conversation between Mr. Al Linero of the FDEP Tallahassee office, and myself, this letter is to advise the FDEP that initial startup of the APP SCR has been accomplished on January 19, 2001 and that we intend to keep the SCR in operation. The SCR is now in a shake-down period in which we will closely monitor its operation and continue to tune the process.

In the next few weeks we plan on conducting a provisional test in preparation for a final acceptance test. The date for the acceptance test has not been finalized. We will notify the Southwest District office in writing at least 30 days prior to conducting the acceptance test. The results of the acceptance test will be forwarded to the FDEP.

If you have any questions or if there is any other information you need, please contact me at (863) 965-1561.

Sincerely,



Jeff Shaske
Plant Associate Compliance Specialist

cc: Bob Soich - FDEP Tampa
Al Linero - FDEP Tallahassee
Bruce Franco - Calpine
Ben Borsch - Calpine
Jim Miller - APP
Samuel Cerra - APP
Glenn Weigle - APP
RF

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP

12500 Fair Lakes Circle • Suite 200 • Fairfax, Virginia 22033-3804

Telephone: (703) 222-0445 • Fax: (703) 222-0516

December 17, 1999

LTR.APP0181

VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Scott M. Sheplak, P.E.
Administrator, Title V Section
Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

RECEIVED

DEC 20 1999

BUREAU OF AIR REGULATION

Re: Auburndale Power Partners, Limited Partnership

Dear Mr. Sheplak:

Auburndale Power Partners, L.P. (APP) operates a nominal 156 megawatt (MW) electric cogeneration facility located near Auburndale, Polk County, Florida. The Auburndale Cogeneration Facility (Facility ID No. 1050221) was originally constructed in 1993 and issued a final Title V operation permit (Final Permit No. 1050221-002-AV) on December 31, 1997.

The Auburndale Cogeneration Facility was initially permitted with a phased approach with respect to NO_x emission limits during natural gas combustion. The initial phase established a NO_x limit of 25 parts per million by volume (ppmvd) corrected to 15 percent oxygen (15 % O₂). The second, and final, phase imposed a limit of 15 ppmvd at 15 % O₂ effective December 31, 1998. APP is presently complying with the 15 ppmvd NO_x limit by injecting both steam and water into the combustion turbine.

APP has implemented plans to install an aqueous ammonia selective catalytic reduction (SCR) NO_x control system due to the significant adverse long-term affects to the combustion turbine operations caused by the massive increase in steam injection necessary to comply with the permitted stepdown in NO_x emissions from 25 ppmvd to 15 ppmvd; e.g., excessive parts replacement, maintenance, and downtime. The SCR control system will be designed to meet the following criteria:

- Outlet NO_x concentration of 15 ppmvd at 15% O₂ during natural gas-firing.
- Ammonia slip level of 10 ppm at 15% O₂.

Use of a SCR control system to comply with the current NO_x concentration limit of 15 ppmvd at 15% O₂ was an option previously approved by the FDEP; reference Specific Condition No. 15 of Construction Permit AC53-208321 dated December 14, 1992 and footnote B) of Table 1 – Allowable Emission Rates – of Construction Permit AC53-208321 as amended on May 19, 1997. The ammonia slip level of 10 ppm is consistent with the recent July 21, 1999 permit issued to Seminole Electric Cooperative, Inc. for the Hardee Power Station Unit 3 (Payne Creek Generating Station); reference Specific Conditions, Section B., Emission Limits, Condition 3. In addition this slip limit is also consistent with the recently approved Final Determination of Compliance for the 880 MW combined cycle natural gas fired Delta Energy Center issued on October 22, 1999 by the Bay Area Air Quality Management District located in the San Francisco Bay Area within EPA Region IX's jurisdiction. As discussed during our recent meeting in Tallahassee, APP will incur significant additional costs to maintain compliance with current NO_x permit limits through the continuing use of combined steam and water injection prior to SCR installation.

Mr. Scott Sheplak, P.E.
December 10, 1999
Page -2-

The SCR control system will not be utilized when backup distillate fuel oil is fired. Steam injection will still be utilized during the short duration periods of fuel oil firing to maintain NO_x emissions within APP's permit limit of 42 ppmvd. Installation and use of the SCR control system during natural gas-firing will not result in an increase of regulated pollutants in excess of the Significant Emission Rates specified in Table 212.400-2, F.A.C. The installation of the SCR control system therefore represents a minor modification to an existing major source. Accordingly, the modification is not subject to PSD New Source Review.

APP plans to install the SCR internals and ancillary control system equipment during a scheduled facility outage in October 2000. The SCR catalyst, which has a long lead time, is planned to be loaded in the November 2000 to January 2001 timeframe.

Pursuant to the Division of Air Resources Management (DARM) policy memo DARM-PER/GEN-25 concerning the replacement or addition of air pollution control equipment on existing sources, APP requests an amendment to Title V Operation Permit 1050221-002-AV to allow for the installation and use of a SCR control system to supplement the existing steam injection NO_x control system. Confirmation of compliance with the current 15 ppmvd NO_x permit limit will continue to be conducted using the existing 40 CFR Part 75 certified continuous emissions monitoring system (CEMS).

Four copies of the first four pages of the Department's Application for Air Permit - Title V Source requesting a revision to Title V Operation Permit 1050221-002-AV were previously submitted to the Department in correspondence from Environmental Consulting & Technology, Inc. (ECT) dated September 27, 1999. These same four pages have been attached for your convenience.

Your expeditious review and approval of APP's Title V Operation Permit revision request is greatly appreciated. Please contact me at (703) 222-0445 or e-mail at bfranco@edisonmission.com if you have any questions or require additional information.

Sincerely,

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP



Bruce L. Franco, P.E.
Executive Director

cc: Tom Davis, ECT
Neal Pospisil, Calpine

12/01/99 cc - Scott Sheplak

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Auburndale Power Partners, Limited Partnership	
2. Site Name: Auburndale Cogeneration Facility	
3. Facility Identification Number: 1050221 <input type="checkbox"/> Unknown	
4. Facility Location: Street Address or Other Locator: 1501 Derby Avenue City: Auburndale County: Polk Zip Code: 33823-4079	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Name and Title of Application Contact: Bruce L. Franco, P.E. Executive Director	
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033	
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Emissions Unit Information Section 1 of 1

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- ☐ Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

- ☐ Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

- ☐ Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

- ☒ Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: 1050221-002-AV

Reason for revision: Addition of air pollution control equipment

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Air construction permit to construct or modify one or more emissions units.
- ☐ Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- ☐ Air construction permit for one or more existing, but unpermitted, emissions units.

Emissions Unit Information Section 1 of 1

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Bruce L. Franco, P.E. Executive Director
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [✓], if so) or the responsible official (check here [], if so) of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit.</i>  Signature  Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Thomas W. Davis Registration Number: 36777
2. Professional Engineer Mailing Address: Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 Northwest 98th Street City: Gainesville State: FL Zip Code: 32606

Emissions Unit Information Section 1 of 1

4. 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.

If the purpose of this application is to obtain a Title V source 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 schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit 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.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision 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.

Thom W. Dunn
Signature

9/24/99
Date

(seal)

* Attach any exception to certification statement.

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP**12500 Fair Lakes Circle • Suite 200 • Fairfax, Virginia 22033-3804****Telephone: (703) 222-0445 • Fax: (703) 222-0516**

December 17, 1999

LTR.APP0181

VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Scott M. Sheplak, P.E.
Administrator, Title V Section
Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

Re: Auburndale Power Partners, Limited Partnership

Dear Mr. Sheplak:

Auburndale Power Partners, L.P. (APP) operates a nominal 156 megawatt (MW) electric cogeneration facility located near Auburndale, Polk County, Florida. The Auburndale Cogeneration Facility (Facility ID No. 1050221) was originally constructed in 1993 and issued a final Title V operation permit (Final Permit No. 1050221-002-AV) on December 31, 1997.

The Auburndale Cogeneration Facility was initially permitted with a phased approach with respect to NO_x emission limits during natural gas combustion. The initial phase established a NO_x limit of 25 parts per million by volume (ppmvd) corrected to 15 percent oxygen (15 % O₂). The second, and final, phase imposed a limit of 15 ppmvd at 15 % O₂ effective December 31, 1998. APP is presently complying with the 15 ppmvd NO_x limit by injecting both steam and water into the combustion turbine.

APP has implemented plans to install an aqueous ammonia selective catalytic reduction (SCR) NO_x control system due to the significant adverse long-term affects to the combustion turbine operations caused by the massive increase in steam injection necessary to comply with the permitted stepdown in NO_x emissions from 25 ppmvd to 15 ppmvd; e.g., excessive parts replacement, maintenance, and downtime. The SCR control system will be designed to meet the following criteria:

- Outlet NO_x concentration of 15 ppmvd at 15% O₂ during natural gas-firing.
- Ammonia slip level of 10 ppm at 15% O₂.

Use of a SCR control system to comply with the current NO_x concentration limit of 15 ppmvd at 15% O₂ was an option previously approved by the FDEP; reference Specific Condition No. 15 of Construction Permit AC53-208321 dated December 14, 1992 and footnote B) of Table 1 – Allowable Emission Rates – of Construction Permit AC53-208321 as amended on May 19, 1997. The ammonia slip level of 10 ppm is consistent with the recent July 21, 1999 permit issued to Seminole Electric Cooperative, Inc. for the Hardee Power Station Unit 3 (Payne Creek Generating Station); reference Specific Conditions, Section B., Emission Limits, Condition 3. In addition this slip limit is also consistent with the recently approved Final Determination of Compliance for the 880 MW combined cycle natural gas fired Delta Energy Center issued on October 22, 1999 by the Bay Area Air Quality Management District located in the San Francisco Bay Area within EPA Region IX's jurisdiction. As discussed during our recent meeting in Tallahassee, APP will incur significant additional costs to maintain compliance with current NO_x permit limits through the continuing use of combined steam and water injection prior to SCR installation.

Mr. Scott Sheplak, P.E.
December 10, 1999
Page -2-

The SCR control system will not be utilized when backup distillate fuel oil is fired. Steam injection will still be utilized during the short duration periods of fuel oil firing to maintain NO_x emissions within APP's permit limit of 42 ppmvd. Installation and use of the SCR control system during natural gas-firing will not result in an increase of regulated pollutants in excess of the Significant Emission Rates specified in Table 212.400-2, F.A.C. The installation of the SCR control system therefore represents a minor modification to an existing major source. Accordingly, the modification is not subject to PSD New Source Review.

APP plans to install the SCR internals and ancillary control system equipment during a scheduled facility outage in October 2000. The SCR catalyst, which has a long lead time, is planned to be loaded in the November 2000 to January 2001 timeframe.

Pursuant to the Division of Air Resources Management (DARM) policy memo DARM-PER/GEN-25 concerning the replacement or addition of air pollution control equipment on existing sources, APP requests an amendment to Title V Operation Permit 1050221-002-AV to allow for the installation and use of a SCR control system to supplement the existing steam injection NO_x control system. Confirmation of compliance with the current 15 ppmvd NO_x permit limit will continue to be conducted using the existing 40 CFR Part 75 certified continuous emissions monitoring system (CEMS).

Four copies of the first four pages of the Department's Application for Air Permit - Title V Source requesting a revision to Title V Operation Permit 1050221-002-AV were previously submitted to the Department in correspondence from Environmental Consulting & Technology, Inc. (ECT) dated September 27, 1999. These same four pages have been attached for your convenience.

Your expeditious review and approval of APP's Title V Operation Permit revision request is greatly appreciated. Please contact me at (703) 222-0445 or e-mail at bfranco@edisonmission.com if you have any questions or require additional information.

Sincerely,

AUBURNDALE POWER PARTNERS, LIMITED PARTNERSHIP



Bruce L. Franco, P.E.
Executive Director

cc: Tom Davis, ECT
Neal Pospisil, Calpine

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION**Identification of Facility**

1. Facility Owner/Company Name: Auburndale Power Partners, Limited Partnership	
2. Site Name: Auburndale Cogeneration Facility	
3. Facility Identification Number: 1050221 [] Unknown	
4. Facility Location: Street Address or Other Locator: 1501 Derby Avenue City: Auburndale County: Polk Zip Code: 33823-4079	
5. Relocatable Facility? [] Yes [<input checked="" type="checkbox"/>] No	6. Existing Permitted Facility? [<input checked="" type="checkbox"/>] Yes [] No

Application Contact

1. Name and Title of Application Contact: Bruce L. Franco, P.E. Executive Director	
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033	
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Emissions Unit Information Section 1 of 1**Purpose of Application****Air Operation Permit Application**

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- ☐ Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

- ☐ Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

- ☐ Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

- ☒ Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: 1050221-002-AV

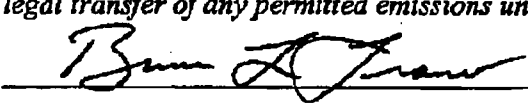
Reason for revision: Addition of air pollution control equipment

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Air construction permit to construct or modify one or more emissions units.
- ☐ Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- ☐ Air construction permit for one or more existing, but unpermitted, emissions units.

Emissions Unit Information Section 1 of 1**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: Bruce L. Franco, P.E. Executive Director
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [<input checked="" type="checkbox"/>], if so) or the responsible official (check here [<input type="checkbox"/>], if so) of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit.</i>  Signature <u>9/27/99</u> Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Thomas W. Davis Registration Number: 36777
2. Professional Engineer Mailing Address: Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 Northwest 98th Street City: Gainesville State: FL Zip Code: 32606

Emissions Unit Information Section 1 of 1**4. 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.

If the purpose of this application is to obtain a Title V source 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 schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit 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.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision 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.

Thomas W. Dunn
Signature

9/24/99
Date

(seal)

* Attach any exception to certification statement.

Tom Davis,
ECT

Missed Energy guy for last
meeting

Re: Auburndale Teleconference

12/10/99

Rather than operate out ^{of} compliance
Would like to switch air pollution control equipment

exhaustive research Rather than operate out of compliance they
are willing to install SCR by 10/2000. (and not change the
NOx limit)

Tom plans to fax a letter of their plans.

11/18/11 Meeting w/ APP

Ton Davis
Bruce King

- Al Uners
- Jeff Kerner
- SCA
- Andy

Give
Problems w/ water injection need to get into compliance

Corrosion
Steam to fuel ratio
Combustion dynamics - vibration

Have been meeting the limit since 12/98.

In operation for 6 years

1) continue to safely operate
below limit

2) stop operations + collect.

Would like Temporary operation w/ 25 ppm,
then Add SCR then go to 15 ppm.

Can't get SCR installed for a year because of catalyst.
W/SCR could have ↑CO, ↑PM and new ammonia slip

Short term

Don't want to damage the unit again.

Let district know of their plans then operate under a consent order.

to exceed the 15 ppmvd

Consent order • by 12/2000 comply w/ 15 ppmvd submit compliance plan

Long term

SCR limit? Al wants to get limit lower w/ SCR

Todo

Automake to discuss w/ SW district situation ASAP.
We'll look into whether or not TV permit revision req'd. for compliance plan.

352/332-0444 Tom Davis, ECT

Appendix N

Condition 9.

Plant operation problems
required to notify us

44.

The compliance plan provisions in Rule 62-213, L.A.C. only apply at the time of permit application. This provision allows us to issue a permit to a source out of compliance at the time of application.

Todo

Let Al & Jeff know.

A.40. Malfunction Reporting. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[Rule 62-210.700(6), F.A.C.]

Miscellaneous Requirements

A.41. Definitions. For the purposes of Rule 62-204.800(7), F.A.C., the definitions contained in the various provisions of 40 CFR 60, shall apply except that the term "Administrator" when used in 40 CFR 60, shall mean the Secretary or the Secretary's designee.
[40 CFR 60.2; and, Rule 62-204.800(7)(a), F.A.C.]

A.42. Circumvention. No owner or operator subject to the provisions of 40 CFR 60 shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.
[40 CFR 60.12]

A.43. In order to comply with the lower NO_x limit by December 31, 1998, the permittee shall make appropriate combustion technology improvements or install a selective catalytic reduction (SCR) system.
[Revised BACT Determination dated June 20, 1994; PSD-FL-185]

A.44. The following information shall be submitted with the AOR: the sulfur content and lower heating value of the fuel fired, fuel usage, and hours of operation.
[PSD-FL-185, Condition number 27.]

INTEROFFICE MEMORANDUM

Sensitivity: COMPANY CONFIDENTIAL

Date: 03-Nov-1999 07:45am

From: Alvaro Linero TAL
LINERO_A

Dept: Air Resources Management

Tel No: 850/921-9523

To: Scott Sheplak TAL (SHEPLAK_S)

Subject: FWD: CT Projects

Scott. can you attend the November 18 meeting with the person who is handling
Auburndale request? Thanks. Al.

Yes, w/ Wendy
Scott
11/3

INTEROFFICE MEMORANDUM

Date: 02-Nov-1999 05:08pm

From: Tom Davis
tdavis@ectinc.com

Dept:

Tel No:

To: Al Linero

(LINERO_A@dep.state.fl.us)

Subject: CT Projects

Al,

This is to confirm our meeting scheduled for Thursday, November 18th at 2:00 PM to discuss the Auburndale Cogeneration Facility. Myself, Bruce Franco of APP, and probably Neal Pospisil of Calpine Corporation will attend.

Also, plan on calling you tomorrow with Michael Vogt of LS Power around 10:00 AM to discuss their Hardee County simple-cycle CT project and proposed permitting approach.

EPA comments (WordPerfect file) on Kentucky project is attached as we discussed.

Tom Davis
Environmental Consulting & Technology, Inc.

Voice: (352) 332-6230, Ext. 351

Fax: (352) 332-6722



Environmental Consulting & Technology, Inc.

RECEIVED

SEP 29 1999

BUREAU OF AIR REGULATION

September 27, 1999

Mr. A.A. Linero, P.E.
Administrator, New Source Review Section
Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

Re: Auburndale Power Partners, L.P.

Dear Mr. Linero:

Auburndale Power Partners, L.P. (APP) operates a nominal 156 megawatt (MW) electric cogeneration facility located near Auburndale, Polk County, Florida. The Auburndale Cogeneration Facility (Facility ID No. 1050221) was originally constructed in 1993 and issued a final Title V operation permit (Final Permit No. 1050221-002-AV) on December 31, 1997.

The Auburndale Cogeneration Facility was initially permitted with a phased approach with respect to NO_x emission limits during natural gas combustion. The initial phase established a NO_x limit of 25 parts per million by volume (ppmvd) corrected to 15 percent oxygen (15 % O₂). The second, and final, phase imposed a limit of 15 ppmvd at 15 % O₂ effective December 31, 1998. APP is presently complying with the 15 ppmvd NO_x limit by injecting both steam and water into the combustion turbine.

APP is considering the installation of a 19% aqueous ammonia SCR NO_x control system due to concerns that the long-term injection of large amounts of moisture may adversely affect turbine operations; e.g., result in increased maintenance and downtime. In order to effectively evaluate the economics of such a system, certain design criteria must be premised:

- The permitted NO_x concentration limit will remain at 15 ppmvd at 15% O₂.
- The ammonia slip will be limited to 10 ppm.
- No additional monitoring requirements will be required.

Use of a SCR control system to comply with the current NO_x concentration limit of 15 ppmvd at 15% O₂ was an option previously approved by the Department; reference Specific Condition No. 15 of Construction Permit AC53-208321 dated December 14, 1992 and footnote B) of Table 1 - Allowable Emission Rates - of Construction Permit AC53-208321 as amended on May 19, 1997. The ammonia slip level of 10 ppm is consistent with the recent July 21, 1999 permit issued to Seminole Electric Cooperative, Inc. for the Hardee Power Station Unit 3 (Payne Creek Generating Station); reference Specific Conditions, Section B., Emission Limits, Condition 3.

APP has also investigated the availability of retro-fit dry low-NO_x (DLN) combustors for the Auburndale Cogeneration Facility Westinghouse 501 D5 combustion turbine (CT). The response from Westinghouse was that a retro-fit DLN is not available for this particular model CT. Note that DLN combustors available for the Westinghouse 501 D5A model CT are not applicable to the 501 D5 model.

3701 Northwest
98th Street
Gainesville, FL
32606

(352)
332-0444

FAX (352)
332-6722

Mr. A.A. Linero, P.E.
September 27, 1999
Page -2-

As requested, and in the event APP proceeds with this activity, four copies of the first four pages of the Department's Application for Air Permit - Title V Source are attached. Your review and written concurrence with the SCR design criteria mentioned above, should SCR be installed at the Auburndale Cogeneration Facility, would be appreciated. APP would like to complete its evaluation and reach a decision on this issue in the immediate future. Accordingly, your prompt review and response will be greatly appreciated. Please contact me at (352) 332-6230, Ext. 351 or e-mail at tdavis@ectinc.com if you have any questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.



Thomas W. Davis, P.E.
Principal Engineer

cc: Mr. Bruce Franco, APP

Attachments

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Auburndale Power Partners, Limited Partnership	
2. Site Name: Auburndale Cogeneration Facility	
3. Facility Identification Number: 1050221 <input type="checkbox"/> Unknown	
4. Facility Location: Street Address or Other Locator: 1501 Derby Avenue City: Auburndale County: Polk Zip Code: 33823-4079	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Name and Title of Application Contact: Bruce L. Franco, P.E. Executive Director	
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033	
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Emissions Unit Information Section 1 of 1

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Initial Title V air operation permit for an existing facility which is classified as a Title V source.
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Current construction permit number: _____

- ☐ Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

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Operation permit number to be revised: _____

- ☐ Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

- ☒ Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: 1050221-002-AV

Reason for revision: Addition of air pollution control equipment

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Air construction permit to construct or modify one or more emissions units.
- ☐ Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
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Emissions Unit Information Section 1 of 1

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Date

9/24/99

* Attach any exception to certification statement.

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

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Emissions Unit Information Section 1 of 1

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Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- ☐ Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

- ☐ Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

- ☐ Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

- ☒ Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: 1050221-002-AV

Reason for revision: Addition of air pollution control equipment

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Air construction permit to construct or modify one or more emissions units.
- ☐ Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- ☐ Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Bruce L. Franco, P.E. Executive Director
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [✓], if so) or the responsible official (check here [], if so) of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit.</i>  Signature  Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Thomas W. Davis Registration Number: 36777
2. Professional Engineer Mailing Address: Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 Northwest 98th Street City: Gainesville State: FL Zip Code: 32606

Emissions Unit Information Section 1 of 1

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

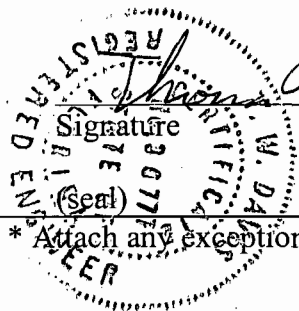
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions 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.

If the purpose of this application is to obtain a Title V source 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 schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit 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.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision 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.



Date

9/24/99

*Attach any exception to certification statement.

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Auburndale Power Partners, Limited Partnership	
2. Site Name: Auburndale Cogeneration Facility	
3. Facility Identification Number: 1050221 <input type="checkbox"/> Unknown	
4. Facility Location: Street Address or Other Locator: 1501 Derby Avenue City: Auburndale County: Polk Zip Code: 33823-4079	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Name and Title of Application Contact: Bruce L. Franco, P.E. Executive Director	
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033	
3. Application Contact Telephone Numbers: Telephone: (703) 222-0445 Fax: (703) 222-0516	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Emissions Unit Information Section 1 of 1

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- ☐ Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- ☐ Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

- ☐ Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

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Operation permit number to be revised/corrected: _____

- ☒ Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: 1050221-002-AV

Reason for revision: Addition of air pollution control equipment

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Emissions Unit Information Section 1 of 1

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1. Name and Title of Owner/Authorized Representative or Responsible Official: Bruce L. Franco, P.E. Executive Director
2. Application Contact Mailing Address: Organization/Firm: Auburndale Power Partners, Limited Partnership Street Address: 12500 Fair Lakes Circle, Suite 200 City: Fairfax State: VA Zip Code: 22033
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2. Professional Engineer Mailing Address: Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 Northwest 98th Street City: Gainesville State: FL Zip Code: 32606

Emissions Unit Information Section 1 of 1

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(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.

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Emissions Unit Information Section 1 of 1

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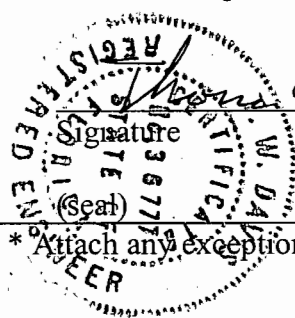
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

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 Signature Thomas M. Jones Date 9/24/99

* Attach any exception to certification statement.

Facility Name: Auburndale Power Partners, Ltd.
Initial Title V Draft Permit Number: 1050221-002-AV
County: Polk County
Permit Engineer: Scott Sheplak

3/21/2000

Title V Permit Application: Available in File Area on Bookshelf

1. Permitting Application Event Page
2. Letter to Scott Sheplak from Bruce L. Franco dated December 17, 1999, received December 20, 1999 in re: Auburndale Power Partners, Limited Partnership review and approval of APP's Title V Operation Permit revision request.
3. Letter to Scott Sheplak from Bruce L. Franco dated March 19, 1997, received March 20, 1997 in re: Auburndale Cogeneration Facility – DRAFT Title V Permit No.: 1050221-002-AV.
4. Interoffice Memorandum to Scott Sheplak from Carolyn Salmon dated November 17, 1999
5. Interoffice Memorandum to Mike Hewett from Tom Cascio dated November 3, 1999
6. Interoffice Memorandum to Nevin Zimmerman from Tom Cascio dated November 2, 1999
7. Letter to C. H. Fancy from Nevin Zimmerman dated October 28, 1999, received October 29, 1999 in re: Bay County Resource Recovery Facility – Bay County's comment to the Draft Permit
8. Interoffice Memorandum to Al Linero from Mike Hewett dated October 22, 1999
9. Letter to Tom Cascio from Nevin Zimmerman dated October 13, 1999, received October 15, 1999 in re: Bay County Resource Recovery Facility – formal request for minor modification Title V Permit Application.
10. Interoffice Memorandum to Bruce Mitchell from Mike Hewett dated October 6, 1999
11. P.E. Seal Page
12. Statement of Basis
13. Intent:
Intent to Issue clerked October 20, 1999
Notice to Public
14. Draft Permit
Referenced attachments made a part of this permit:
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX TV-1, TITLE V CONDITIONS (version dated 12/02/97)
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)
FIGURE 1 - SUMMARY REPORT-GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE (version dated 7/96)

TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96)
Phase II Acid Rain Application/Compliance Plan received December 26, 1995
W501D5 ECONOPAC SYSTEM PERFORMANCE GRAPH - FIGURE 2
ORDER EXTENDING PERMIT EXPIRATION DATE dated 11/19/97