

Date: 6/1/98 13:07
From: Jonathan Holtom TAL
Subject: Proposed permit for City of Tallahassee - Purdom Plant
To: curtisj@mail.ci.tlh.fl.us@in
To: dfulle@fwenc.com@in
To: Ed Middleswart PEN
To: Gerry Neubauer TAL

Attached are electronic copies of the Proposed permit for the City of Tallahassee - Purdom Generating Station. This permit is an amendment to the initial Title V permit that became effective on January 1, 1998, to include the conditions of permit PSD-FL-239/PA97-36. This is the construction permit and power plant siting certification that authorizes the installation of a new combined cycle combustion turbine designated as "Unit 8". If there are no objections from EPA, this amendment will become a Final permit on July 23, 1998. The distribution of this Proposed permit is merely a courtesy notification of the permitting action between the Department and EPA, it does not provide any "point of entry" rights to the permittee or interested parties. Missing from this electronic copy of permit are a few of the attachments. Not available in electronic form are the Acid Rain application, the construction permit and BACT for the auxiliary boiler. These attachments were distributed in hard copy form with the DRAFT Title V permit for this project, they have not changed since that time. If you have any questions, please contact me at (850) 921-9531.

STATEMENT OF BASIS

City of Tallahassee
Sam O. Purdom Generating Station
Facility ID No.: 1290001
Wakulla County

Initial Title V Air Operation Permit
PROPOSED Permit No.: 1290001-003-AV

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This facility currently consists of three fossil fuel-fired steam generators (boilers number 5, 6 and 7), two simple cycle combustion turbines and one auxiliary boiler. One of the steam generators, Boiler Number 7, is an Acid Rain Phase II Unit. The current total combined electrical generating capacity from the facility is a nominal 112.6 megawatts (MW), of which a nominal 88 megawatts are provided by the steam generators and a nominal 24.6 megawatts are provided by the combustion turbines. The fuels used at this facility are natural gas and fuel oil. The auxiliary boiler (unit 11) is only used as a source of steam for plant operations when none of the other steam generating units are operating. Also included in this permit are miscellaneous unregulated/exempt emissions units and/or activities.

This project, 1290001-003-AV, is an amendment to the existing Title V permit, 1290001-001-AV, that became effective on January 1, 1998. This amendment incorporates permit number PSD-FL-239/PA97-36, which authorizes the construction of a new combined cycle combustion turbine. It is expected to begin operation during the spring/summer of 2000 and will be subject to Acid Rain, Phase II. This new unit will be designated as Unit 8. It will provide an additional 250 megawatts (nominal rating) of electrical output by burning natural gas and/or No. 2 fuel oil. After the initial compliance testing is completed on unit 8, units 5 and 6 will permanently cease operations, leaving the facility with a combined electrical output of 318.6 megawatts (nominal rating). With the operation of this new unit, the facility-wide emissions of nitrogen oxides and sulfur dioxide will be capped at 467 and 80 tons per year, respectively. The remaining emissions units that will be operating under these facility caps are as follows:

Unit 7 is a Riley Stoker Corporation model RX-33 steam generator designated as "Boiler Number 7". It is rated at a maximum heat input of 621 MMBtu/hour while being fueled with natural gas and/or No. 2 thru No. 6 fuel oil. It nominally produces 500,000 pounds of steam per hour to run a nominal 44 MW turbine-generator.

The Department has determined by rule that the appropriate particulate matter testing frequency for fossil fuel steam generators is annually whenever fuel oil is used for more than 400 hours in the preceding year. This frequency is justified by the low emission rate documented in previous emissions tests while firing fuel oil. Unit 7 is subject to a steady-state PM emission limit of 0.1 lb/mmBtu, and 0.3 lb/mmBtu for soot blowing. The Department has determined that sources with steady-state emissions less than 0.075 lb/mmBtu shall test annually. Documented historical PM test results for Unit 7 show that the steady-state average results are less

than 0.075 lb/mmBtu. A summary of results of particulate emission testing in lb/mmBtu for Unit 7 is 0.035 (steady-state) and 0.075 (soot-blowing).

Units 8 and 9 are simple cycle combustion turbines manufactured by Westinghouse (model number W171G) and are designated as "Combustion Turbine Number 1" and "Combustion Turbine Number 2". They are each rated at a maximum heat input of 228 million Btu per hour (MMBtu/hour) while being fueled by natural gas and/or No. 2 fuel oil. Each of these combustion turbines run a nominal 12.3 MW generator. Emissions from the combustion turbines are uncontrolled.

Unit 11 is a Kewanee model H3S-400-G steam generator (auxiliary boiler) rated at a maximum heat input of 16.74 MMBtu/hour while being fueled with natural gas.

Unit 12 is a combined cycle combustion turbine (CT) system designated as "Unit 8". It consists of a 160 MW (nominal rating) GE Series 7FA combustion turbine with DLN-2.6 (or later version) dry low NO_x (gas) and water injection (diesel) burners and a non-fired heat recovery steam generator (HRSG) with a nominal 90 MW steam turbine. The turbine can be fired either by natural gas or No. 2 fuel oil. The compressor inlet air will be conditioned by an evaporative cooler when needed. The turbine will be started using its generator and a static start system. Unit 8 also includes a new cooling tower. Pursuant to the BACT determination for this unit, PM and SO₂ emissions are controlled by the combustion of natural gas or fuel oil with a sulfur content less than 0.05%, by weight. Compliance with the sulfur limit is by retention of the fuel oil vendors' delivery receipt. No other PM limit applies, therefore, no annual testing for PM is required. Compliance with the NO_x limit is through the use of a CEMS.

Also included in this permit are miscellaneous unregulated/exempt emissions units and/or activities.

Based on the initial Title V permit application received June 14, 1996, this facility is a major source of hazardous air pollutants (HAPs).

Florida's PROPOSED Permit Electronic Notification Cover Memorandum

TO: Gracy Danois, U.S. EPA Region 4
CC: Carla E. Pierce, U.S. EPA Region 4
THRU: Scott M. Sheplak, P.E., Tallahassee Title V Section
FROM: Jonathan Holtom, P.E., Permit Engineer
DATE: 5/29/98
RE: U.S. EPA Region 4 PROPOSED Title V Operation Permit Review

The following PROPOSED Title V operation permit(s) and associated documents have been posted on the DEP World Wide Web Internet site for your review. Please provide any comments via Internet E-mail, within fifty five (55) days of receiving this notice, to Scott M. Sheplak, P.E., at "Sheplak_S@dep.state.fl.us".

<u>Applicant Name</u>	<u>County</u>	<u>Method of Transmittal</u>	<u>Electronic File Name(s)</u>
City of Tallahassee Sam O. Purdom Generating Station	Wakulla	INTERNET	purdom8p.zip

This zipped file contains the following electronic files:

purd8prop.sob
propdtrm.doc
prd8prop.doc
tbl1prop.xls
tbl2prop.xls

(Form Updated: 7/2/97 JKH)

c:\jonathan\permits\purdom#8\proposed\fednot_p.doc

Date: 5/29/98 3:42:20 PM
From: Mary Fillingim TAL
Subject: New Posting #1290001
To: See Below

There is a new posting on Florida's website.

1290001001AV
TALLAHASSEE CITY PURDOM GENERATING STATI

Proposed

The notification letter is encoded and attached. If you have any questions,
please feel free to contact me.

Thanks,
Mary

To: adams yolanda
To: pierce carla
To: Barbara Boutwell TAL
To: Scott Sheplak TAL
To: Terry Knowles TAL
To: danois gracy
To: Elizabeth Walker TAL
CC: Jonathan Holtom TAL