FLORIDA DEPARTMENT OF Environmental Protection

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Tallahassee, FL 32399-2400

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Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

(Sent by Electronic Mail – Return Receipt Requested)

Mr. Steven Marchigiano, Station Manager
Duke Energy Florida, LLC
1928 Mowry Road, Building 82
Gainesville, Florida 32611-2078

Re: Title V Air Operation Permit Renewal
Proposed Permit No. 0010001-023 -AV
University of Florida Cogeneration Plant

Dear Mr. Marchigiano:

One copy of the proposed permit determination for the renewal of the Title V air operation permit for the University of Florida Cogeneration Plant located in Alachua County at 1928 Mowry Road, Building 82, Gainesville, Florida is enclosed. This letter is only a courtesy to inform you that the draft permit has become a proposed permit.

An electronic version of this proposed permit determination and the proposed permit documents have been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. Interested persons may view the proposed permit package by visiting the following website: https://fldep.dep.state.fl.us/air/emission/apds/default.asp and entering the permit number shown above.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the proposed Title V air operation permit is made by the USEPA within 45 days, the proposed permit will become a final permit no later than 55 days after the date on which the proposed permit was mailed (posted) to US EPA. If US EPA has an objection to the proposed permit, the final permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Janelle C. Brown, at 850/717-9032, or by email at Janelle.C.Brown@FloridaDEP.gov.

Sincerely,

John P. Dawson, Ph.D., P.E., Deputy Director
Division of Air Resource Management

JD/jcb

Copies sent by electronic mail to the following:

Mr. Chris Bradley, Duke Energy Florida, LLC: Chris.Bradley@duke-energy.com
Mr. Thomas W. Davis, TD Air Quality Consulting, LLC: TomDAir1@gmail.com
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Ms. Lynn Scearce, DEP OPC: Lynn.Scearce@dep.state.fl.us
Ms. Barbara Friday, DEP OPC: Barbara.Friday@dep.state.fl.us

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.

Permit No. 0010001-023-AV

I. Public Notice.

An Intent to Issue Air Permit issued to Duke Energy Florida, LLC for the University of Florida Cogeneration Plant located in Alachua County at 1928 Mowry Road, Building 82 in Gainesville, Florida, was clerked on October 4, 2019. The Public Notice of Intent to Issue Air Permit was published in The Gainesville Sun on October 15, 2019. The draft Title V air operation permit was available for public inspection at the permitting authority's office in Tallahassee. Proof of publication of the Public Notice of Intent to Issue Air Permit was received on October 21, 2019.

II. Comments.

No Comments were received from the public during the new 30-day public comment period; however, comments were received from the applicant. The comments were not considered significant enough to reissue the draft Title V air operation permit and require another Public Notice. The draft Title V air operation permit was revised with minor changes, corrections and clarifications.

Applicant Comments.

On November 14, 2019, the Department received comments from the applicant. The following summarizes the comments and the Department's response. To illustrate changes made in some of the conditions, the Department used ~~strikethrough~~ to denote the deletion of text and double-underlines to denote the addition of text. All changes are emphasized with yellow highlight.

1. **Comment.** *Cover Page:* the applicant requested to change the designation of the company from "Inc." to "LLC".

   Response. The Department made the minor revision.

2. **Comment. Response.** The Department made the minor correction.

3. **Comment.** *Section I, Subsection C (Applicable Regulations):* **Response.** The Department made the minor revision.

4. **Comment.** *Section II, Condition FW10.b.(2)(a):* The applicant requested to reduce the fuel oil lb/MMBtu NO_X emission rate value for Boiler No. 5 to three decimal places since this emissions rate is provided as an option by Duke Energy.**Response.** Since the NO_X emission rate was provided by the applicant based on the most recent stack test, the Department made the minor revision in air construction Permit No. 0010001-022-AC.**Comment**. *Section III, Subsection A, Emission Unit Description:* The applicant requested to make a minor revision in the description for Steam Boiler Nos. 5 and 6 to revise the language to clarify the boilers do not have fuel firing rate permit limits. In addition, revise language in the permitting note to clarify when 40 CFR 63 Subpart JJJJJJ becomes applicable to the boilers.

   Response. The Department made the requested revisions for clarity.

6. **Comment.** *Condition A.8 (PM and SO_2 Emissions):* The applicant requested to clarify that the natural gas fuel sulfur limit is based on an annual average based on vendor data as identified in Condition A.3.a(1).

   Response. The Department made the following revision to clarify that the natural gas fuel sulfur limit is based on an annual average:

   A.8. PM and SO2 Emissions. Emissions of PM and SO_2 from Steam Boiler No. 5 shall be controlled firing only natural gas with a maximum sulfur content of 2 gr S/100 scf as annual average based on vendor data or No. 2 fuel oil with a maximum sulfur content of 0.5%, by weight. [Rule 62-296.406(2) & (3)(BACT), F.A.C.; and Permit No. 0010001-018-AC]

7. **Comment.** *Condition A.9 (PM and SO_2 Emissions):* The applicant requested to clarify that the natural gas fuel sulfur limit is based on an annual average based on vendor data as identified in Condition A.3.b(1). In addition, revise the phrase "These sulfur contents ensure compliance with NSPS Subpart Dc…..." implies

Subpart Dc includes a sulfur content limit for natural gas. The requested change to the language clarifies that the Subpart Dc does include a "liquid fuel" sulfur limit, however the subpart does not include a sulfur content limit for natural gas.

Response. The Department made the following revisions to clarify that the natural gas fuel sulfur limit is based on an annual average and 40 CFR 60 Subpart Dc limit is for the No. 2 fuel oil:

A.9. PM and SO2 Emissions. Emissions of PM and SO_2 from Steam Boiler No. 6 shall be controlled by firing natural gas with a maximum sulfur content of 2 gr S/100 scf as annual average based on vendor data or No. 2 fuel oil with a maximum sulfur content of 0.1%, by weight. ~~These sulfur contents ensure~~The sulfur content limit for No. 2 fuel oil ensures compliance with the NSPS Subpart Dc maximum sulfur content limit of 0.5%. [Rules 62-204.800(8)(b) and 62-296.406(2) & (3)(BACT), F.A.C.; 40 CFR 60.42c(d); and Permit Nos. 0010001-018-AC and 0010001-022-AC]

8. Comment. *Condition A.11 (PM and SO_2 Emissions):* The applicant requested to clarify that the natural gas fuel sulfur limit is based on an annual average based on vendor data as identified in Condition A.3.c.

Response. The Department made the following revision to clarify that the natural gas fuel sulfur limit is based on an annual average:

A.11. PM and SO2 Emissions. Emissions of PM and SO_2 from Steam Boiler No. 7 shall be controlled by firing only natural gas with a maximum sulfur content of 2 gr S/100 scf as annual average based on vendor data. [Rule 62-296.406(2) & (3)(BACT), F.A.C.; and Permit No. 0010001-020-AC]

9. Comment. *Condition A.15 (Test Methods):* The applicant requested to make a minor revision to reflect the complete description of test Method ASTM D7039.

Response. The Department made the minor revision to include the entire name of the test method.

10. Comment. *Condition A.18 (Compliance Test Prior to Renewal):* The applicant requested to add language to clarify the intent of 62-297.310(8)(b), F.A.C. and confirmed in discussions with the Department. The intent of the permitting note is to clarify NOx compliance stack testing for NO_X on Boiler No. 6 would occur only a maximum of once during a permit cycle; *i.e.*, once every 5 years.

Response. The Department did not revise the rule language. However, the applicant can revisit and address language to clarify the intent of the rule at a later date.

11. Comment. *Condition A.19 (Operation of Steam Boiler No. 6):* The applicant requested to make a minor revision in the condition language and remove incorrect references in the equation.

Response. The Department made the minor revision in air construction Permit No. 0010001-022-AC and the Title V permit for clarity.

A.19. Operation of Steam Boiler No. 6. To ensure compliance with the facility-wide NO_X cap in Condition Error! Reference source not found., Steam Boiler No. 6 may ~~only~~ fire fuel oil only for the number of operational hours determined by the below equations.

$$Allowable\ Hours_{oil\ firing} = \frac{80{,}600-(3.64\times Hours_{firing\ NG})}{12.6} \quad EQ.1^{a}$$

$$8{,}760\,\frac{hours}{year} \geq Hours_{firing\ NG} + Allowable\ Hours_{oil\ firing} \quad EQ.2^{a}$$

$$185.3\ NO_X\,\frac{tons}{year} \geq CT_{NOx\frac{tons}{year}}{}^{b} + Boiler\ No.5_{NOx\frac{tons}{year}} + Boiler\ No.6_{NOx\frac{tons}{year}} + Boiler\ No.7_{NOx\frac{tons}{year}} \quad EQ.3^{a}$$

a. Annual NO_X emissions from the backup steam boilers shall be determined based on the annual fuel consumption rates and the appropriate NO_X emissions factors in Condition **FW10.b.**Error! Reference source not found..
b. CT emissions include emissions from the HRSG DB system and shall be determined by data collected from the NO_X CEMS (see Condition **FW10.**Error! Reference source not found.**(1)**.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C; and Permit No. 0010001-022-AC.]

12. Comment. *Condition A.20 (Fuel Sulfur Content):* The applicant requested language to clarify compliance with the 2 gr S/100 scf limit for natural gas can be demonstrated by employing sulfur content data obtained from the natural gas supplier/vendor and remove the 30-day rolling average since it only applies to the sulfur limit in 40 CFR Subpart Dc. The addition of the permitting note provides clarity that the submission of the Semi-Annual Monitoring Report and Annual Statement of Compliance that the facility is in compliance with conditions of the Title V Permit is considered submission of the Responsible Official certification.

Response. The Department revised the condition to clarify the intent for natural gas and 40 CFR 60 Subpart Dc as follows:

A.20. Fuel Sulfur Content.

a. *Vendor Specifications.* The permittee may demonstrate compliance with the No. 2~~liquid~~ fuel sulfur limit by the vendor providing a fuel analysis, tariff or fuel specification sheets, upon each fuel delivery. For natural gas a Responsible Official certification and vendor data may be used to demonstrate compliance with the natural gas 2 gr S/100 scf sulfur limit.

b. *Sampling and Analysis*. If fuel sampling and analysis is used to demonstrate compliance with the fuel sulfur limits for natural gas and fuel oil, the permittee shall use the fuel analysis methods in Condition **A.15**. For fuel oil sampling, a sample shall be taken of each fuel oil delivery, or the sampling of the oil shall be immediately after the fuel tank is filled~~.~~ or i~~I~~f a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank is required upon filling. ~~Results shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received.~~

[Rule 62-204.800(8)(b), F.A.C.; 40 CFR 60.44c(g) and 60.46c(d)(2); and Permit Nos. 0010001-018-AC and 0010001-020-AC]

13. Comment. *Condition A.22 (Fuel Sulfur Records):* The applicant requested language to clarify compliance with the 2 gr S/100 SCF limit for natural gas can be demonstrated by employing sulfur content data obtained from the natural gas supplier/vendor. The addition of the Permitting Note provides clarity that the submission of the Semi-Annual Monitoring Report and Annual Statement of Compliance that the facility is compliance with conditions of the Title V Permit is considered is considered submission of the Responsible Official certification.

Response. The Department revised the condition to clarify the intent for natural gas and 40 CFR 60 Subpart Dc as follows:

A.22. Fuel Sulfur Records.

a. *Vendor Specification Sheets*. If fuel supplier certification, tariff or fuel specification sheets, is used to demonstrate compliance with the fuel sulfur limits for natural gas and No. 2 distillate fuel oil, the permittee shall maintain records of the fuel supplier certification. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the permittee that the records of fuel supplier certifications submitted represent all of the fuel oil combusted during the reporting period. For natural gas, such information may be provided by the natural gas pipeline vendor. A Responsible Official certification and vendor data may be used to demonstrate compliance with the natural gas 2 gr S/100 scf sulfur limit.

b. *Fuel Sampling*. Records of fuel sampling and analysis performed in Condition **A.20.b** shall be kept on site for 5-years and made available to the Department if requested.

c. *Reports*. The submission of the of the Annual Statement of Compliance and Semi-Annual Monitoring Report required by Specific Conditions **FW7** and **FW9**, respectively, shall be considered demonstrating compliance with the requirement of the Responsible Official certification.

[Rules 62-4.160(15) & 62-204.800(8)(b), F.A.C.; and 40 CFR 60.42c(h) and 60.48c(f); and Permit Nos. 0010001-018-AC and 0010001-020-AC]

14. Comment. *Condition A.28 (NESHAP Subpart JJJJJJ Applicability for Boilers):* The applicant requested a minor revision in the language to clarify the applicability of 40 CFR 63 Subpart JJJJJJ does not include maintenance and the use of firing fuel oil for training purposes.

Response. The Department made the minor revision to clarify the intent of the rule.

15. Comment. *Condition B.1 (Design Capacity):* The applicant requested to revise the higher heating value of the combustion turbine to 517.4 MMBtu/hour.

Response. The requested revision requires an air construction permit; therefore, the Department did not revise the condition.

16. Comment. *Condition B.7 (NO_X Emissions):* The applicant requested to revise a permitting note for clarity.

Response. The Department made the following revision for clarity:

B.7. NOx Emissions. Emission of NO_X shall not exceed the following:

a. *CT*.
   (1) 39.6 lb/hour based on a 30-day rolling average, as determined by the equation in Condition **B.23.b(2).** *{Permitting Note: This is equivalent to 25 ppmvd corrected to 15% O_2 as provided by the vendor.}*
   (2) 123 ppmvd corrected to 15% O_2, based on a 4-hour rolling average, pursuant to Condition **B.23**.

b. *HRSG DB*.
   (1) 0.1 lb/MMBtu *{Permitting Note: Demonstrating compliance with the 18.7 lb/hour based on a 30-day rolling average limit, as determined by the equation in Condition **B.23.b(2)** will demonstrate compliance with this limit.}*
   (2) 18.7 lb/hour based on 30-day rolling average, as determined by the equation in Condition **B.23.b(2).**

c. *CT and HRSG DB*.
   (1) 58.3 lb/hour based on a 30-day rolling average, as determined by the equation in Condition **B.23.b(2).**
   (2) Included in the NO_X Cap in Condition **FW10**.

[Rules 62-204.800(8)(b) and 62-212.400, F.A.C.; 40 CFR 60.44b(a); 40 CFR 60.332; and Permit No. 0010001-018-AC]

17. Comment. *Condition B.8 (SO_2 Emissions):* The applicant requested to clarify that the natural gas sulfur limit was based on an annual average based on vendor data.

Response. The Department revised the condition for clarity.

18. Comment. *Condition B.21 (Periodic Tests – CT System):* The applicant requested a minor revision to ensure it is clear the "notification" is specific to a stack test and not any other type of notification.

Response: Air construction Permit No. 0010001-022-AC revised the condition for clarity; therefore, the Department revised the Title V permit accordingly.

19. Comment. *Condition B.23 (NO_X Emissions – Compliance Requirements):* The applicant requested to correct the reference of a SIP limit to a PSD avoidance limit for clarity. In addition, the applicant requested to revise language to clarify that an hour of daily operation of the HRSG DB is considered an hour of HRSG DB operation only. Also, revise the denominator of Equation 5 to clarify the terms "CT_{hours}" plus "DB_{hours}" instead of "CT/DB_{hours}".

Response. The Department changed SIP limit to PSD avoidance limit for clarity. In addition air construction Permit No. 0010001-022-AC revised the equation for clarity; therefore, the Department revised the Title V permit accordingly.

20. Comment. *Condition B.24 (Fuel Sulfur Content):* The applicant requested to revise the condition to state that sulfur content data provided by the natural gas supplier/vendor may be used to demonstrate compliance with the 2 gr S/100 SCF limit.

Response. The Department made the requested revision to clarify compliance with the natural gas sulfur limit.

21. Comment. *Condition B.31 (Federal Rule Requirements):* The applicant requested to revise the condition to include the appendix number.

Response. The Department made the requested revision.

III. Conclusion.

The permitting authority will issue the proposed permit No. 0010001-023-AV, with the changes noted above to be reviewed by the US EPA.