

STATEMENT OF BASIS

Title V Air Operation Permit Revision
Permit No. 0310039-021-AV

APPLICANT

The applicant for this project is Renessenz LLC. The applicant’s responsible official and mailing address are: Timothy Eberle, Sr. VP Operations, Renessenz LLC, Jacksonville facility, 601 Crestwood Street, Jacksonville, Florida 32208.

FACILITY DESCRIPTION

The applicant operates the Jacksonville facility, which is located at 601 Crestwood Street, Jacksonville, Florida, 32208.

This facility processes Crude Sulfate Turpentine, gum turpentine, and other chemicals to produce synthetic flavor and fragrance chemicals and also chemical intermediates. The facility operates three (3) steam-generating boilers on site, as well as four emergency engines.

ID No.	Emission Unit Description
006	Boiler No. 6: Fired by NG, ULSD, PDF, or any combinations of the fuels with a maximum design rate of 117.0 MMBtu per hour heat input.
011	Boiler No. 7: Fired by NG, Ultra Low Sulfur Distillate fuel oil, process derived fuel, or any combinations of the fuels with a maximum design rate of 49.0 MMBtu per hour heat input.
032	Boiler No. 1 fired by NG, ULSD No. 2 Fuel Oil, and Process Derived Fuel; or any combination of these fuels with maximum design rate of 99 MMBtu per hour.
034	Emergency Engines

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

PROJECT DESCRIPTION

The purpose of this permit is to revise the Title V air operation permit for the above referenced facility to add the emergency engines as an emissions unit and incorporate the engine conditions, and to incorporate project 0310039-017-AC, which authorized an alternate mode of operation for the No. 6 column Crude Sulfate Turpentine sulfur removal; the derating of Boiler No. 1, the removal of the NOx CEMS, the trial run of processing imported raw material, and various miscellaneous other changes located at the Jacksonville Facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Revision received September 29, 2014.
Notice of Intent to Issue Air Permit issued October 22, 2014
Revised Notice of Intent to Issue Air Permit issued November 20, 2014
Public Notice Published [Month day, year]

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is not identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

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NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

PROJECT REVIEW

The following changes were incorporated:

1. Incorporation of conditions and changes authorized by Construction Permit 0310039-017-AC
2. Moving the emergency engines from the list of insignificant emissions unit into the permit and incorporating conditions from NESHAP Subpart ZZZZ
3. Reformatting and removal of references to deadlines that have passed

In addition to the changes listed above, the applicant has requested changes to various permit conditions. The following section addresses the requested changes. Red text indicates language from the application and black text indicates the Department's response.

The following changes were incorporated:

“5.2.1. Requested Permit Change #1 - Insignificant / Unregulated Equipment (Appendix I)

15. Natural Gas Fired Auxiliary Heater

In a determination from the DEP dated August 15, 2012, a natural gas fired auxiliary heater was determined to be exempt from the requirement to obtain an air construction permit as it will not adversely impact air quality and it will comply with all appropriate provisions of Rule 62-4.040(1), F.A.C.³ As such, Renaissance is requesting this natural gas fired auxiliary heater be added to the list of insignificant emissions units and/or activities in Appendix I of the Title V permit.

³ Letter sent via electronic mail addressed to Mr. Brian Zielinski, Renaissance, from Mr. Khalid Al-Nahdy, DEP Northeast District Office. *Re: Exemption from the Requirement to Obtain an Air Construction Permit; Renaissance, LLC; Natural Gas Fired Auxiliary Heater, Column O, 3.1 MMBtu per hour.*”

This unit has been added to Appendix I as requested.

The following requested changes were altered and incorporated:

“5.1.2. Requested Permit Change #2 - NOX CEMS Removal (Condition III.A.8)

The permittee agrees to continue operation of the NOX CEMS for a minimum period of three months after demonstration of the maximum capacity of the derated Boiler No. 1. NOx CEMS data may be used in lieu of an annual stack test for NOx provided appropriate documentation of fuels is available for correlation with the recorded emission rate data.

Because the Jacksonville facility is longer be subject to NSPS Subpart Db, and thus is not required to operate the NOX CEMS, the Jacksonville facility is not required to use NOX CEMS data to report the actual NOX emissions from Boiler No. 1. Instead of using NOX CEMS data for the actual emissions reporting, Renaissance will utilize the three (3) months of NOX CEMS data after the Boiler No. 1 derating as the emission factor for future actual emissions report(s). This data is included in Appendix C of the permit application.”

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“5.1.4. Requested Permit Change #4 – Boiler No. 1 NOX Compliance Testing (Condition III.D.1.d.i)

The permittee shall use the procedures listed below to determine and report the actual annual emissions of NOX for the No. 1 Boiler. *NOX CEMS data may be used in lieu of an annual stack test for NOx as specified within Condition A.8. The three months of NOX CEMS data for the derated Boiler No. 1 will be used to determine the actual annual emissions of NOX.*

See Section 5.1.2 requested change description.”

“5.1.5. Requested Permit Change #5 - Boiler No. 1 Compliance Testing (Condition III.D.3)...

~~Oxides of Nitrogen (NOX) while firing PDF shall be conducted on an annual basis using EPA RM 7 or 7E. NOX while firing NG shall be conducted on an annual basis using EPA RM 7 or 7E. NOX while firing fuel oil (if fuel oil was combusted during the previous 12 months other than for standby purposes) shall be conducted on an annual basis using EPA RM 7 or 7E....~~

See Section 5.1.2 requested change for NOX emissions regarding using NOX CEMS data for the derated boiler...”

The three months of NOx CEMS data were intended to replace the initial required stack test, but not subsequent stack tests. Using these results as the emissions factor for future calculations does not account for potential variability in the future operation of the unit. The emission factor should be the limit specified in the permit, while an annual stack test is required to confirm that the unit is staying below the limit. However, references to the use of CEMS data in lieu of the initial stack test are being removed from the permit, as the event described has been concluded.

“5.1.3. Request Permit Change #3 – Boiler Nos. 6 and 7 Visible Emissions Testing (Condition III.B.11; Condition III.C.10)

B.11. Compliance Testing – Visible Emissions. The test method for visible emissions for this emissions unit shall be EPA Method 9 as stated in Rule 62-297.401(9)(c), F.A.C. *Boiler No. 6 shall be tested and the results of the compliance test shall be used to demonstrate compliance with the visible emissions limitation for both Boiler Nos. 6 and 7.*

C.10. Compliance Testing – Visible Emissions. The test method for visible emissions for this emissions unit shall be EPA Method 9 as stated in Rule 62-297.401(9)(c), F.A.C. *Boiler No. 6 shall be tested and the results of the compliance test shall be used to demonstrate compliance with the visible emissions limitation for both Boiler Nos. 6 and 7.*

Renessenz is requesting these permit changes to add clarity for demonstrating compliance with the testing requirements. Boiler Nos. 6 and 7 share a common exhaust stack and are similar boilers based on fuel types and design; however, Boiler No. 6 is rated at 117.0 MMBtu/hr maximum heat input capacity and Boiler No. 7 is rated at 49.0 MMBtu/hr maximum heat input capacity. By completing compliance testing only for Boiler No. 6 and utilizing the results for both boilers, Renessenz has determined the compliance demonstration will be provided to the DEP.”

Although Boiler Nos. 6 and 7 share a stack, each one should be tested for opacity. However, language has been incorporated allowing for the visible emissions tests for these units to be waived if only natural gas was fired for the previous year.

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“5.1.5. Requested Permit Change #5 - Boiler No. 1 Compliance Testing (Condition III.D.3)

PM on an annual basis (each calendar year) using EPA RM 5 while firing PDF. PM on an annual basis (each calendar year) using EPA RM 5 while firing fuel oil (if fuel oil was combusted during the previous 12 months other than for standby purposes). *If only natural gas is fired during the permit term, PM compliance testing for PM emissions will be completed prior to the Title V permit renewal application submittal...*

Renessenz also requests for PM emissions testing to be completed less frequently if only natural gas combustion is completed in the boiler.”

“5.1.6. Requested Permit Change #6 - Boiler Nos. 6 and 7 Compliance Testing (Condition III.D.4)

PM on an annual basis (each calendar year) using EPA RM 5 while firing PDF. PM on an annual basis (each calendar year) using EPA RM 5 while firing fuel oil (if fuel oil was combusted during the previous 12 months other than for standby purposes). *If only natural gas is fired during the permit term, PM compliance testing for PM emissions will be completed prior to the Title V permit renewal application submittal.* Testing is for the purpose of insuring that emissions of PM are equal to or less than the Emission Factor in Condition A.9...

For Boiler Nos. 6 and 7, the same requested testing changes for PM emissions from Boiler No. 1 is also requested for these units when combusting only natural gas.”

These changes are incorporated into the permit, but have been rephrased to allow for compliance tests to be waived on a year-by-year basis rather than on a permit term-by-permit term basis.

The following requested changes were not incorporated:

“5.1.1. Requested Permit Change #1 – Derated Boiler No.1 (Condition III.A.2)

Permitted Capacity: Boiler No. 1 shall be limited to a maximum heat input of ~~99~~ **95** MMBtu per hour.”

“5.1.7. Requested Permit Change #7 – Derated Boiler No.1 (Condition III.D.8)

A mass emission reduction (from fuel combustion of natural gas, ultra-low sulfur fuel oil, and processed derived fuel) is expected from Boiler No. 1 since it will be derated to a maximum heat input capacity of ~~99~~ **95** MMBtu per hour. In order to provide operational flexibility to the facility simultaneous operation of Boiler Nos. 1, 6 and 7 shall be allowed subject to the following emission based conditions to insure continued compliance with previous permitted requirements in lieu of CEM(s) monitoring...”

A construction permit would be required to change the permitted capacity of an emissions unit.

“5.1.6. Requested Permit Change #6 - Boiler Nos. 6 and 7 Compliance Testing (Condition III.D.4)...

Oxides of Nitrogen (NOX) while firing PDF (if PDF was combusted during the previous 12 months) shall be conducted on an annual basis using EPA RM 7 or 7E. ~~NOX while firing NG shall be conducted on an annual basis using EPA RM 7 or 7E.~~ NOX while firing fuel oil (if fuel oil was combusted during the previous 12 months other than for standby purposes) shall be conducted on an annual basis using EPA RM 7 or 7E. Testing is for the purpose of insuring that emissions of NOX are equal to or less than the Emission Factor in Condition A.9. *If only natural gas is fired during the permit term, NOX compliance testing for NOX emissions will be completed prior to the Title V permit renewal application submittal...*

...Also, for NOX emissions, Renessenz is requesting the same change as identified for the PM emission testing.”

Unlike PM and visible emissions, firing only natural gas may still cause significant NOx emissions.

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“5.2.2. Requested Permit Change #2 – Rule 5 Regulated Substances

Jacksonville Environmental Protection Board (JEPB) Rule 5.102.O. defines a regulated substance as follows: *“Regulated Substances’ are crude sulfate turpentine (CST), those intermediate products from CST requiring TRS removal in further processing, the TRS - rich organic liquid, vapor and TRS fouled wastewater streams resulting from the storing, handling and processing of those substances and any liquid or gaseous substances produced by blending with the preceding substances.”*

Recessenz is requesting that the specific regulated substances that the Jacksonville facility processes be defined in the Title V permit to clarify which process units at the facility are regulated under JEPB Rule 5. Recessenz is proposing that the following substances be identified as regulated substances at the Jacksonville facility: 4

- CST
- CST Lights (TRS-rich organic liquid)
- DMS (TRS-rich organic liquid)
- Glidfuel (aka PDF) (liquid fuel made by blending TRS rich liquids)
- Heavies / Anethol before bleach treatment (intermediate product requiring further processing to remove TRS)
- Alpha pinenes before carbon units
- Beta pinenes before hypochlorite units
- Foul Wastewater

Only process equipment that is used to process the substances above will be required to adhere to JEPB Rule 5 guidelines as per JEPB Rule 5.101.

⁴ Confirmed by Ms. Lori Tilley, City of Jacksonville, to Brian Zielinski, Recessenz, on February 21, 2013, via electronic mail that Alpha pinenes after carbon units and Beta pinenes after hypochlorite addition are not included as regulated substances under JEPB Rule 5.

5.2.3. Requested Permit Change #3 – Leak Detection Program

Recessenz is requesting a new monitoring schedule that includes quarterly checks for leaks using an infrared absorption camera which operates according to the EPA Method 21 as referenced by JEPB Rule 5.302. This new monitoring schedule is being proposed by Recessenz as per JEPB Rule 5.301E. The Jacksonville facility has completed more than three (3) monthly leak detection checks and is suggesting this revised reporting schedule. Recessenz will continue to perform on-demand monitoring for leaks whenever there is an internal or external odor complaint.

JEPB Rule 5.303.C.1 requires that upon detection of a leaking component, a water-proof and readily visible physical identification tag be attached to the component with the identification number and the date the leak was located. Due to site layout and physical restrictions, it is difficult to place physical tags on all leaking equipment. To alleviate this issue, Recessenz maintains an internal documentation system for monitoring leaks and leak repairs called the SAP system. The SAP system documents each piece of equipment with a virtual tag and produces a work order to fix the leak. Recessenz is requesting that the use of this electronic system for tagging and leak repair tracking instead of physical tagging as required by JEPB Rule 5.303.C.1.

5.2.4. Requested Permit Change #4 – Spill Reporting

Recessenz is requesting that the recordkeeping / reporting requirements for spills of regulated substances in JEPB Rule 5.401.B also apply only to those substances identified as regulated in Section 5.22. Additionally, Recessenz is requesting that spill reporting, which is currently required quarterly for all spills over one quart by JEPB Rule 5.401.B.3, be changed to semi-annual reporting of spills greater than ten (10) gallons.

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5.2.5. Requested Permit Change #5 – Compliance Testing (Condition III.E.2)

Total Reduced Sulfur (TRS) Emissions Test Method [Not Federally Enforceable]. TRS emissions compliance testing shall be done using stack method EPA Method 16 incorporated and adopted by reference in Chapter 62-297, F.A.C., and performed at least *once during the permit term completed prior to the Title V permit renewal application ~~once a year with a frequency base date of 12/31.~~*

These requests all pertain to JEPB Rule 5. As this is the City of Jacksonville's rule, the applicant has been referred to the Jacksonville Environmental Quality Division (EQD) for further consideration of these requests.

CONCLUSION

This project renews Title V air operation permit No. 0310039-016-AV, which was issued on June 11, 2012. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.