



April 30, 2015

Mr. David Read  
Environmental Administrator  
Division of Air Resource Management  
Permitting and Compliance Section  
Florida Department of Environmental Protection  
2600 Blair Stone Road, MS# 5505  
Tallahassee, Florida 32303

RE: *Draft Permit Comments (Air Construction Permit No. 0970092-001-AC)*  
*Sabal Trail Transmission, LLC, Reunion Compressor Station*

Dear Mr. Read:

Sabal Trail Transmission, LLC (Sabal Trail) is providing comments to the draft permit (Permit No. 0970092-001-AC) issued by the Florida Department of Environmental Protection (DEP) for the Reunion compressor station on April 7, 2015. The public notice of intent was published by Sabal Trail in the Osceola News Gazette on April 18, 2015. Sabal Trail is submitting the following written comments within the 14-day public comment period after publishing of the notice of intent as required by Rule 62-210.350(1)(c). The specific permit conditions requested for each proposed permit change are included in each subsequent section. Permit condition language for which Sabal Trail requests removal is shown as strikethrough italics text and the requested added language is shown in bold italics text.

#### **REQUESTED PERMIT CHANGE #1– CERTIFICATE OF SERVICE (PAGE 2 OF 14)**

Please correct the name for Mr. Reagan Mayces in the certificate of service. It is incorrectly listed as “Regan” instead of “Reagan”.

#### **REQUESTED PERMIT CHANGE #2 – FACILITY AND PROJECT DESCRIPTION (PAGE 3 OF 14)**

The Sabal Trail Pipeline will consist of a 36 inch diameter pipeline ***which in Florida will run from the running from the Florida/Georgia state line to the Reunion Compressor Station.*** Sabal Trail is proposing two ***compressor stations in Florida, in addition to the Reunion Station, additional compressor stations*** as part of the overall pipeline construction.

Sabal Trail is requesting the above clarification of the project description to clarify the proposed compressor station construction specific to Florida as part of the Sabal Trail pipeline.

**REQUESTED PERMIT CHANGE #3 – ADMINISTRATIVE REQUIREMENTS CONDITION 11 (PAGE 5 OF 14)**

11. Volatile Organic Compounds: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. *No such devices or systems are deemed necessary or ordered by the Department.*

Sabal Trail is requesting the addition of the statement that the Department deems no vapor emission control devices or systems necessary at the Reunion Station for compliance with this condition.

**REQUESTED PERMIT CHANGE #4 – EU NO. 001 AND 002 EMISSIONS UNIT DESCRIPTIONS (PAGE 6 OF 14)**

**EU ID No. 001 –**

Capacity: At a heat input rate of ~~144.47~~ *approximately 118* million British thermal units per hour (MMBtu/hr), *lower heating value (LHV)*, the combustion turbine produces approximately 15,900 bhp (*nominal rating per ISO*)

Stack Parameters: When operating at ~~capacity~~ *100% power output and at the annual average ambient conditions*, exhaust gases will exit a 9.0 foot *equivalent* diameter, ~~59.15~~ foot tall stack at a velocity of approximately 50 feet per second (fps) at a temperature of approximately 917-~~3~~ degrees Fahrenheit (°F).

**EU ID No. 002 –**

Capacity: At a heat input rate of ~~174.92~~ *approximately 144* MMBtu/hr, *LHV*, the combustion turbine produces approximately 20,500 bhp (*nominal rating per ISO*)

Stack Parameters: When operating at ~~capacity~~ *100% power output and at the annual average ambient conditions*, exhaust gases will exit a 9.0 foot *equivalent* diameter, ~~59.42~~ foot tall stack at a velocity of approximately 60 fps at a temperature of approximately 955-~~7~~ °F.

Sabal Trail is requesting the capacity description shown above be updated to reflect the turbine capacity parameters at consistent ISO conditions.<sup>1</sup> The previously listed heat input does not match ISO conditions, but was instead based on site-specific vendor data for operation at 0.01 °F, submitted in Table B-1c and Table B-2c of the Appendix C in permit application.

Sabal Trail is requesting clarification of the stack parameter description for both EU Nos. 001 and 002. The exhaust gas parameters listed in the description are for when the turbine is operating at 100% power and at the annual average ambient conditions as both power output and the ambient conditions will change depending on weather. Additionally, the stack diameter is an equivalent diameter, as the turbine

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<sup>1</sup> Heat input for the Titan 130 derived from heat rate provided in the mechanical drive spec sheets found at: <https://mysolar.cat.com/cda/files/126861/7/ds100md.pdf> and <https://mysolar.cat.com/cda/files/126849/7/ds130md.pdf>.

exhaust stacks will have a rectangular cross-section. Further, Sabal Trail is requesting that the number of significant figures used to describe the stack height and temperature be reduced to reflect “approximates”, as shown above. These requested changes apply to both the Mars 100 turbine (EU No. 001) and the Titan 130 turbine (EU No. 002).

#### **REQUESTED PERMIT CHANGE #5 – EU NOS. 001 AND 002 PERMITTED CAPACITY (PAGE 7 OF 14)**

- a. *Turbine 1*: The nominal maximum heat input rate to compressor Turbine 1 is ~~145~~ **approximately 118** MMBtu per hr, *LHV*, while producing approximately 15,900 bhp at *International Organization for Standardization (ISO)* conditions based on: a compressor inlet air temperature of 59 °F; a compressor inlet pressure of 1 atmosphere and 60% humidity; 100% load; and a ~~higher~~ **lower** heating value (*HHV*) of ~~1,020~~ **940** British thermal unit per standard cubic foot (Btu/scf) for natural gas.
- b. *Turbine 2*: The nominal maximum heat input rate to compressor Turbine 2 is ~~175~~ **approximately 144** MMBtu/hr, *LHV*, while producing approximately 20,500 bhp at *ISO* conditions based on: a compressor inlet air temperature of 59 °F; a compressor inlet pressure of 1 atmosphere and 60% humidity; 100% load; and a ~~higher~~ **lower** heating value (*HHV*) of ~~1,020~~ **940** British thermal unit per standard cubic foot (Btu/scf) for natural gas.

The permitted capacities listed for turbines 1 and 2 in Specific Conditions 3.A.3.a and 3.A.3.b., respectively are based on vendor data for various ambient conditions specific to the Reunion Station. The values in the draft permit do not represent ISO conditions, and thus the heat input listed is inconsistent with the power output and atmospheric conditions listed in the descriptions. As currently written, the heat input referenced as the maximum heat input capacity is the maximum heat input capacity at 0.01 °F and 100% load while the power output referenced is the brake horsepower at ISO conditions. Tables B-1c and Tables B-2c contain the site-specific ratings for EU No. 001 and 002, respectively and were included in Appendix C of the air construction permit application. Sabal Trail requests that the turbine capacity be updated to reflect the ISO conditions, and the site-specific predicted performance curve will determine the actual maximum heat input based on actual ambient conditions at any given time.

#### **REQUESTED PERMIT CHANGE #6 – PERFORMANCE CURVES (PAGE 7 OF 14)**

Specific Condition 3.A.3.c. describes a requirement to submit manufacturer’s performance curves within 45 days of the “initial testing.” Sabal Trail understands that the initial testing referenced here is the initial stack testing required for compliance with the emissions standards in Specific Condition 3.A.6.

#### **REQUESTED PERMIT CHANGE #7 – INITIAL COMPLIANCE TESTS (PAGE 8 OF 14)**

7. Initial Compliance Tests: The turbines shall be tested to demonstrate initial compliance with the emission standards for NO<sub>x</sub> and opacity and to verify the CO and VOC emissions rates. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup of the turbine. Pursuant to Rule 62-297.310(2), F.A.C., permitted capacity is defined as 90% to 100% of the maximum operation rate (heat input rate) allowed by the permit. Pursuant to 40 CFR 60.4400, the performance tests must be done at any load condition within plus or minus 25% of peak load. The NO<sub>x</sub> performance test shall consist of three, 1-hour test runs. The CO and VOC performance tests shall be conducted concurrently with

the NO<sub>x</sub> performance tests at peak load. ***No further CO or VOC testing is required.*** Actual SO<sub>2</sub> emissions shall be reported based on the fuel sulfur content and actual natural gas firing rate for each test run. [Rules 62-4.070(3) and 62-297.310(7)(a)1(8)(b)3., F.A.C.; and 40 CFR 60.8 and 40 CFR 60.4400]

Sabal Trail is requesting additional clarification to confirm that CO and VOC tests are only required for the initial emissions performance tests and that no further CO or VOC stack tests are required. Additionally, due to recent rule revisions, Sabal Trail believes the citation of Rule 62-297.310(7)(a)1, F.A.C. should be updated to cite Rule 62-297.310(8)(b)3., F.A.C.

#### **REQUESTED PERMIT CHANGE #8 – VE AND NO<sub>x</sub> ANNUAL COMPLIANCE TESTS (PAGE 8 OF 14)**

8. VE and NO<sub>x</sub> Annual Compliance Tests: ~~During each federal fiscal year (October 1 – September 30)~~ ***During each calendar year***, the turbines shall be tested to demonstrate compliance with the emissions standards for NO<sub>x</sub> and opacity. [...] [Rules 62-4.070(3) and 62-297.310(7)(a)4(8)(a), F.A.C.; and 40 CFR 60.4400]

Pursuant to recent rule revisions, Rule 62-297.310(8)(a) now defines “annual” as no less frequently than once every calendar year (January 1 – December 31). Sabal Trail is requesting the above condition be updated accordingly.

#### **REQUESTED PERMIT CHANGE #9 – TESTING NOTIFICATION REQUIREMENTS (PAGE 8 OF 14)**

10. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 30 days prior to any initial NSPS performance test and at least 15 days prior to any other required test. If the proposed test schedule must be changed ~~*due to valid issues with equipment shakedown or test team schedule*~~, the Compliance Authority may accept a shorter notice. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit and NSPS Subpart KKKK as applicable. [Rule 62-297.310(7)(a)9(9), F.A.C.; and 40 CFR 60.7, 60.8, and 60.4400]

Recent revisions to Rule 62-297.301(9) allow the source and DEP to agree to a shorter notice than the specified 15 days for the scheduling or re-scheduling of initial tests, for any reason as opposed to the specification that a shorter notice is only allowed for valid issues with equipment shakedown or test team schedule. Sabal Trail is requesting the condition above be changed to reflect this. It should be noted however, that this does not apply to initial NSPS compliance tests, only DEP-required testing requirements. Additionally, Rule 62-297.310(7)(a)9, F.A.C. should be revised to reference Rule 62-297.310(9), F.A.C.

#### **REQUESTED PERMIT CHANGE #10 – TEST METHODS (PAGE 9 OF 14)**

The above methods are described in Appendix A of 40 CFR 60 and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 ~~and 62-297.100~~, F.A.C.; and Appendix A of 40 CFR 60]

Rule 62-297.100, F.A.C. was repealed in 2012. Please update the reference above accordingly.

**REQUESTED PERMIT CHANGE #11 – BEST OPERATIONAL PRACTICES (BOPS) REQUIRED  
(PAGE 9 OF 14)**

Specific Condition 3.A.13 requires Sabal Trail to “train and require all operators to maintain the turbines and monitoring equipment in a manner consistent with best operational practices (BOPs) for minimizing emissions at all times including during startup, shutdown and malfunction.” Sabal Trail understands that the BOPs referenced in this Condition refer to manufacturers’ recommendations and/or industry standards.

**REQUESTED PERMIT CHANGE #12 – SPECIFIC CONDITION 3.A.18 REFERENCES (PAGE 9 OF 14)**

18. Emissions Performance Test Reports: [...] At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(~~8)(c)~~(10)(c), F.A.C. and in Appendix D of this permit. [Rule 62-297.310(~~8)(10)~~, F.A.C., and 40 CFR 60.4375(b)]

Please update the above condition to reflect recent revisions to Rule 62-297.310.

**REQUESTED PERMIT CHANGE #13 – EU NOS. 001 AND 002 COMPONENT REPLACEMENTS  
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b. [...] Within 60 days of restarting the unit after a gas generator replacement, the permittee shall conduct stack tests *of NO<sub>x</sub> and opacity* to demonstrate compliance with the applicable emission standards. [...]

Specific Condition 3.A.19.b. specifies the compliance requirements for the replacement of turbine compressor components. Sabal Trail is requesting DEP to clarify that only NO<sub>x</sub> and opacity must be stack tested after a component replacement to demonstrate compliance with the applicable emission standards. CO and VOC are not subject to an emissions standard and therefore are not required to be stack tested after component replacement.

**REQUESTED PERMIT CHANGE #14 – EU NO. 003 EMERGENCY GENERATOR TESTING  
REQUIREMENTS (PAGE 12 OF 14)**

Emergency Generators Testing Requirements: The certification requirement given in ~~Condition 8~~  
*Condition 3* and *Condition 8* [...]

Condition 8 is referenced twice in the emergency generator testing requirements section description. Please update to the appropriate references of condition 3 and condition 8.

**REQUESTED CHANGE TO TECHNICAL EVALUATION & PRELIMINARY DETERMINATION  
SECTION 1.3 – FACILITY DESCRIPTION (PAGE 2 OF 16)**

The proposed Reunion Compressor Station will be located on Osceola Polk Line Road in Intercession City, Osceola County Florida. The location of ~~Nassau~~ *Osceola* County is shown in Figure 1 while the location of the site is shown in Figure 2. Figure 3 shows a satellite view of the site location. The approximate UTM coordinates for this site are Zone 17; 445.49 kilometers

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(km) East and 3,126.3 km North. The facility is located west of the existing The Kissimmee Utility Authority (KUA) Cane Island Power Park.

The facility description and Location in the Technical Evaluation & Preliminary Determination (TEPD) incorrectly states that the location of Nassau County is shown in Figure 1 of the document. Since the Reunion station will be located in Osceola County, Figure 1 shows the location of Osceola County, FL. Please updated the description accordingly.

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If you have any questions about the information presented in this letter, please do not hesitate to contact me at (407) 982-2891 or mballenger@trinityconsultants.com.

Sincerely,

TRINITY CONSULTANTS



Michael Ballenger, P.E.  
Manager of Consulting Services, Florida

cc: Bobby Bull, Florida DEP  
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