Florida Department of Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

Herschel T. Vinyard, Jr.
Secretary

Date

Sent by Electronic Mail – Received Receipt Requested
comm-cole@santarosa.fl.gov

PERMITTEE

Santa Rosa County Board of County Commissioners
6495 Caroline Street, Suite M
Milton, Florida 32570

Authorized Representative:
Honorable Robert A. "Bob' Cole, Chairman

Air Permit No. 1130172-005-AC
Permit Expires: five years

Santa Rosa Central Landfill
Minor Source Air Construction Permit
Open Flare

This is the final air construction permit, which authorizes construction of an open flare. The proposed work will be conducted at the Santa Rosa Central Landfill, which is a Refuse System (Standard Industrial Classification No. 4953). The facility is located in Santa Rosa County at 6337 DaLisa Road in Milton, Florida. The UTM coordinates are Zone 16, 494.3 km East, and 3382.7 km North. As noted in the Final Determination provided with this final permit, (no changes / only minor changes and clarifications) were made to the draft permit.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C., and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

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Executed in Pensacola, Florida

_____
J. Charles Harp
Program Administrator
Waste Management/Air Resources
Northwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Honorable Robert A. "Bob' Cole, Chairman, Santa Rosa County BOCC, comm-cole@santarosa.fl.gov
Ron Hixson, Santa Rosa County, ronh@santarosa.fl.gov
Clifford Koenig, HDR Engineering, Inc., ckoenig@hdrinc.com
Ms. Natasha Hazziez, U.S. EPA Region 4, hazziez.natasha@epa.gov

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.

_____ _____
Clerk

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FACILITY AND PROJECT DESCRIPTION

Existing Facility

This facility consists of a municipal solid waste landfill (Class I and Class III) and a stationary air curtain incinerator. The Air Curtain Incinerator is permitted under 1130172-004-AO, issued May 29, 2009.

The stationary air curtain incinerator, a Phelps Fan company Model B-61, utilizes a blower, manifold and a 10 foot wide by 30 foot long by 10 foot deep fabricated pit (fabricated by Simonds Manufacturing Corporation.) to dispose of collected vegetative waste and untreated wood. The air supply system is a squirrel case type fan driven by a diesel engine.

The 214 acre sanitary landfill, owned and operated by Santa Rosa County, includes a portion (24.47 acres) designated as a Class III disposal area. The air curtain incinerator is an ancillary part of the Class III operations.

Other activities occurring at the landfill includes wood waste processing and temporary storage, whit goods temporary storage, household hazardous waste collection and temporary storage, used oil collection and temporary storage, diesel fuel storage tanks, scrap tire temporary storage, asbestos disposal pit, equipment maintenance building with hydraulic and motor oil storage, electronic waste collection and temporary storage, oil, gas, and battery removal from lawn mowers and similar equipment, and lead-acid battery temporary storage.

Facility ID No. 1130172	
ID No.	**Emission Unit Description**
001	Air Curtain Incinerator

Proposed Project

This project will construct an open flare. The open flare combusts landfill gas up at a rate of 750 scfm. This project will add the following emissions unit.

Facility ID No. 1130172	
ID No.	**Emission Unit Description**
002	**Open Flare**

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northwest District Air Resource Management Program, Florida Department of Environmental Protection (Department). The District's mailing address is 160 W Government Street, Suite 308, Pensacola, Florida 32502-5740. All documents related to applications for permits to operate an emissions unit shall be submitted to the District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office at the above address or nwdair@dep.state.fl.us.

3. Appendices: The following Appendices are attached as part of this permit:
   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements
   e. Appendix E. O and M Plan - January 24, 2013

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. Asbestos: This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

7. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

8. Source Obligation:
   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall

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apply to the source or modification as though construction had not yet commenced on the source or modification.

(b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

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A. -Open Flare

This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
002	Open Flare

This facility is an operating Class I Municipal Solid Waste (MSW) Landfill and Class III Landfill in Santa Rosa County. The Class I Landfill disposal area started operating in 1978 and is approximately 39.03 acres, of which 18.02 acres are new and 21.01 acres high-rise over an existing closed Class I Landfill with a single liner. The Class III Landfill disposal area is approximately 44.27 acres of which 24.47 acres are operating and 19.8 acres are new.

The landfill design capacity is 2.56 million Mg by mass as reported in the Initial Design Capacity Report dated October 5, 2006. Tier 1 Non Methane Organic Compounds (NMOC) emissions rates using LandGem modeling exceeded the 50 megagram per year threshold in 40 CFR 60.752(b)(1)(ii)(A). NMOC emissions greater than 50 megagrams per year require installation of a landfill gas collection and control system (GCCS). Tier 2 testing can be performed every five years to further determine applicability of 40 CFR 60 Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills.

Tier 2 testing was conducted on May 7-9, 2007. Estimated Tier 2 NMOC emissions were 14.6 megagrams per year in 2007 and 16.4 megagrams per year in 2012. A landfill GCCS was not required at that time. Five-year Tier 2 testing was again conducted on March 25 & 26, 2013 and April 29, 2013. The Tier 2 NMOC emissions are 19.20 megagrams per year in 2013 and projected to be 23.18 megagrams per year in 2018. Because the Tier 2 NMOC emission rate is estimated to be below 50 megagrams per year over the next five years, Santa Rosa County Board of County Commissioners is not required to install a landfill GCCS at the Santa Rosa Central Landfill at this time. [40 CFR 60.754(a)(2)(ii)]. The landfill owner is voluntarily installing an Open Flare to control collected landfill gas. A landfill gas collection system is being installed under a permit from solid waste permitting.

The next Tier 2 test will be due in 2018. [40 CFR 60.754, 40 CFR 60.757].

The landfill is an active asbestos waste disposal site subject to 40 CFR 61.154 Subpart M - Standard for Active Waste Disposal Sites (Asbestos).

40 CFR 60 Subparts Cc - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills and WWW - Standards of Performance for Municipal Solid Waste Landfills are applicable. The facility is not subject to 40 CFR 63 Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, because the facility is not a major source of HAP as defined in 40 CFR 63.2 Subpart A, it is not collocated with a major source, it does not include a bioreactor and the uncontrolled NMOC emission rate is projected to be less than 50 megagrams per year through 2018. [40 CFR 63.1935 Subpart AAAA]

The following specific conditions apply to the emissions unit(s) listed above:

1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

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EQUIPMENT

3. Open Flare: The permittee is authorized to install an open flare designed with a maximum heat input rate of 24.75 MMBtu/hr and a maximum process throughput rate of 750 scfm of landfill gas. [Application No. 1130127-005-AC]

PERFORMANCE RESTRICTIONS

4. Restricted Operation: The hours of operation for the Open Flare System are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

5. Visible Emissions. Visible emissions from the Open Flare shall not exceed 20 percent opacity. [[Rule 62-296.320(4)(b)1, F.A.C.]

TESTING REQUIREMENTS

6. Open Flare Initial Compliance Tests: The Open Flare shall be tested to demonstrate initial compliance with the emissions standards for Visible Emissions. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

7. Open Flare 5-Year Compliance Tests: During the federal fiscal year (October 1 to September 30) preceding the Air Operation Permit Renewal, the Open Flare shall be tested to demonstrate compliance with the emissions standards for Visible Emissions. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rule 62-297.310(7)(a)4, F.A.C.]

8. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

[Rule 62-296.310(4)(b)4.a, F.A.C.]

9. NMOC Emissions - 40 CFR 60.754 - Test methods and procedures. A site-specific test for NMOC concentration will not be required upon completion of construction of the Open Flare System. Permittee shall test for the site-specific NMOC concentration during the federal fiscal year (October 1 to September 30) preceding each Air Operation Permit Renewal in order to include the test results with each operating permit renewal application.

(a)

(1) The landfill owner or operator shall calculate the NMOC emission rate using either the equation provided in paragraph (a)(1)(i) of this section or the equation provided in paragraph (a)(1)(ii) of this section. Both equations may be used if the actual year-to-year solid waste acceptance rate is known, as specified in paragraph (a)(1)(i), for part of the life of the landfill and the actual year-to-year solid waste acceptance rate is unknown, as specified in paragraph (a)(1)(ii), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k, 170 cubic meters per megagram for L_O, and 4,000 parts per million by volume as hexane for the C_{NMOC}. For landfills located in geographical areas

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with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorologic site, the k value to be used is 0.02 per year.

(i) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known.

$$M_{NMOC} = \sum_{i=1}^{n} 2\ k\ L_o M_i \left(e^{-kt_i}\right)\left(C_{NMOC}\right)\left(3.6\times10^{-9}\right)$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year
K = methane generation rate constant, $year^{-1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of solid waste in the ith section, megagrams
t_i = age of the ith section, years
C_{NMOC} = concentration of NMOC, parts per million by volume as hexane
3.6×10^{-9} = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value for M_i if documentation of the nature and amount of such wastes is maintained

(ii) The following equation shall be used if the actual year-to-year solid waste acceptance rate is unknown.

$$M_{NMOC} = 2\ L_o\ R\ (e^{-kc} - e^{-kt})\ C_{NMOC}\ (3.6 \times 10^{-9})$$

Where:

M_{NMOC} = mass emission rate of NMOC, megagrams per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
t = age of landfill, years
C_{NMOC} = concentration of NMOC, parts per million by volume as hexane
c = time since closure, years; for active landfill c = O and $e^{-kc}1$
3.6×10-9 = conversion factor

The mass of nondegradable solid waste may be subtracted from the total mass of solid waste in a particular section of the landfill when calculating the value of R, if documentation of the nature and amount of such wastes is maintained.

(2) Tier 1. The owner or operator shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC emission rate calculated in paragraph (a)(1) of this section is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in 40 CFR 60.757(b)(1), and shall recalculate the NMOC mass emission rate annually as required under 40 CFR 60.752(b)(1).

(ii) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the landfill owner shall either comply with 40 CFR 60.752(b)(2), or determine a site-

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specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in paragraph (a)(3) of this section.

(3) Tier 2. The landfill owner or operator shall determine the NMOC concentration using the following sampling procedure. The landfill owner or operator shall install at least two sample probes per hectare of landfill surface that has retained waste for at least 2 years. If the landfill is larger than 25 hectares in area, only 50 samples are required. The sample probes should be located to avoid known areas of nondegradable solid waste. The owner or operator shall collect and analyze one sample of landfill gas from each probe to determine the NMOC concentration using Method 25 or 25C of Appendix A of this part. Method 18 of Appendix A of this part may be used to analyze the samples collected by the Method 25 or 25C sampling procedure. Taking composite samples from different probes into a single cylinder is allowed; however, equal sample volumes must be taken from each probe. For each composite, the sampling rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal. Composite sample volumes should not be less than one liter unless evidence can be provided to substantiate the accuracy of smaller volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes. If using Method 18, the owner or operator must identify all compounds in the sample and, as a minimum, test for those compounds published in the most recent Compilation of Air Pollutant Emission Factors (AP-42), minus carbon monoxide, hydrogen sulfide, and mercury. As a minimum, the instrument must be calibrated for each of the compounds on the list. Convert the concentration of each Method 18 compound to C_{NMOC} as hexane by multiplying by the ratio of its carbon atoms divided by six. If more than the required number of samples are taken, all samples must be used in the analysis. The landfill owner or operator must divide the NMOC concentration from Method 25 or 25C of Appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. If the landfill has an active or passive gas removal system in place, Method 25 or 25C samples may be collected from these systems instead of surface probes provided the removal system can be shown to provide sampling as representative as the two sampling probe per hectare requirement. For active collection systems, samples may be collected from the common header pipe before the gas moving or condensate removal equipment. For these systems, a minimum of three samples must be collected from the header pipe.

(i) The landfill owner or operator shall recalculate the NMOC mass emission rate using the equations provided in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in paragraph (a)(1) of this section.

(ii) If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the landfill owner or operator shall either comply with 40 CFR 60.752(b)(2), or determine the site-specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in paragraph (a)(4) of this section.

(iii) If the resulting NMOC mass emission rate is less than 50 megagrams per year, the owner or operator shall submit a periodic estimate of the emission rate report as provided in 40 CFR 60.757(b)(1) and **retest the site-specific NMOC concentration every 5 years using the methods specified in this section.**

(4) Tier 3. The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of Appendix A of this part. The landfill owner or operator shall estimate the NMOC mass emission rate using equations in paragraph (a)(1)(i) or (a)(1)(ii) of this section and using a site-specific methane generation rate constant k, and the site-specific NMOC concentration as determined in paragraph (a)(3) of this section instead of the default values provided in paragraph (a)(1)

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of this section. The landfill owner or operator shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year.

(i) If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the owner or operator shall comply with 40 CFR 60.752(b)(2).

(ii) If the NMOC mass emission rate is less than 50 megagrams per year, then the owner or operator shall submit a periodic emission rate report as provided in 40 CFR 60.757(b)(1) and shall recalculate the NMOC mass emission rate annually, as provided in 40 CFR 60.757(b)(1) using the equations in paragraph (a)(1) of this section and using the site-specific methane generation rate constant and NMOC concentration obtained in paragraph (a)(3) of this section. The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.

(5) The owner or operator may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in paragraphs (a)(3) and (a)(4) of this section if the method has been approved by the Administrator.

(b) After the installation of a collection and control system in compliance with 40 CFR 60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the following equation:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC}$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year
Q_{LFG} = flow rate of landfill gas, cubic meters per minute
C_{NMOC} = NMOC concentration, parts per million by volume as hexane

(1) The flow rate of landfill gas, Q_{LFG}, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of Appendix A of this part.

(2) The average NMOC concentration, C_{NMOC}, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of Appendix A of this part. If using Method 18 of Appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of Appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(3) The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

(c) When calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this Subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures.

MONITORING REQUIREMENTS

10. The permittee shall operate and maintain the open flare in accordance with the Operation and Maintenance Plan submitted with the permit application. [permit application 1130172-005-AC]

RECORDS AND REPORTS

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11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(8), F.A.C.]

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