Florida Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE:

Perma-Fix of Florida, Inc.
1940 NW 67th Place
Gainesville, Florida 32653

Authorized Representative:
Raymond Whittle

Air Permit Number: 0010113-006-AO
Date of Issue: April 5, 2011
Expiration Date: April 5, 2016

Perma-Fix of Florida, Inc. Gainesville Plant
Non-Title V Air Operation Permit
AO Renewal

PROJECT AND LOCATION

This is the air operating permit renewal, which authorizes the continued operation of the Regenerative Thermal Oxidizer (EU001) and associated Perma-Fix II Process Reactor Vessel and a Liquid Scintillation Vial Process. Emissions such as Volatile Organic Compounds, (VOC) and Hazardous Air Pollutants, (HAPs) from the Perma-Fix II Process Reactor Vessel and the Liquid Scintillation Vial Process are routed to the Regenerative Thermal Oxidizer (RTO) for destruction.

The facility is a Hazardous Waste Treatment Facility (Standard Industrial Classification No. 4953). The facility is located in Alachua County, 1940 NW 67th Place Gainesville, Florida. The UTM coordinates are Zone 17, 369.50 km East; and 3288.00 km N.

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 operation 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 operate the facility in accordance with the conditions of this permit.

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.

Executed in Jacksonville, Florida.

Christopher L. Kirts, P. E.
District Air Program Administrator

4/5/2011
Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Notice 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 April 5, 2011to the persons listed below.

Kurt Fogleman, Facility Contact Perma-Fix of Florida, Inc. kfogleman@permafix.com

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.

(Clerk)

4/5/2011
(Date)

FACILITY AND PROJECT DESCRIPTION

The facility operates a hazardous waste treatment plant that consists of two processes: The Perma-Fix II Process Reactor and the Liquid Scintillation Vial Process (LSV). The Perma-Fix II process primarily uses organic aqueous evaporation (steam stripping) and an optional oxidation of residual compounds to treats soils, debris and other solids contaminated with organic solvents. The Liquid scintillation vial process removes organic scintillation fluid, trace amounts of debris and radioactive materials (containing toluene and xylene) from vials. The contaminated solids are size reduced and washed with Rule 66 Mineral Spirits to decontaminate the solids for non-hazardous waste disposal. Emissions from both processes are routed to the emissions control system consisting of a Regenerative Thermal Oxidizer (RTO) and HEPA/Carbon filters for the control of VOC emissions.

The Perma-Fix II Process:

The existing perma-Fix II batch process consists of a 6000 lb/day capacity reactor vessel, absorber, condenser and accumulator. The unit treats mixed waste (soils, debris and other contaminated solids) primarily by steam stripping or aqueous extraction and by optional means of chemical oxidation. Waste is mixed with heated water in the reactor vessel to form a homogeneous mixture of slurry. Steam and vaporized solvents (VOC) are collected condensed and the vapor and condensate are collected into an accumulator tank. The vapor phase is immediately drawn into an absorber tank where the vapor is mixed with a high boiling point solvent which absorbs the organic constituents contained in the vapor phase. Once thermal desorption is complete the solid waste ,condensate and liquid treatment residuals are collected containerized and tested before shipment to a disposal/recycling off-site location. Waste residuals determined as not successfully treated undergo chemical oxidation/reduction.

Emissions from the resulting Perma-Fix II process is routed to the emissions control system.

Liquid Scintillation Vial Process:

Drums of LSV brought onsite via truck are transported to the processing area at the facility. Each drum's lid is removed and the drum is visually inspected to confirm its contents. Next the drum is mechanically lifted and the content is dumped into a conveyor that separates the vials from packing materials/bags which are collected into drums for testing and transferred to recycle/disposal off site location. The LSVs continue along the conveyor to a fully enclosed grinder/screw that crushes the vials. The crushed material is collected into a catch basket where the solid is separated from the liquid scintillation fluid. The liquid is pumped into a fines removal system which consists of a holding tank grinder screw and ancillary piping. The fines removal system removes fines and other small solids from the liquid scintillation fluid. The collected solid material is then conveyed to a three step rinsing system that consist of two inclined conveyors that wash the solids in Rule 66 Mineral Spirit. The washed solids are then gravity drained and deposited into containers for off-site disposal by incineration or used for heat recovery.

During the rinsing process, the solvent is continuously re-circulated through the system. When the mineral spirit becomes spent and unusable it is pumped to a holding /test tank. After testing the rinsate is containerized and stored on-site to decay or transferred to the 3000 gallon storage tank for off-site disposal.

Emissions from the resulting Liquid Vial scintillation Process is routed to the emissions control system.

Emissions Control System:

The organic emissions control system consists of a Turner Envirologic thermal Regenerative Oxidizer (RTO) and HEPA Filters. Emissions from the Perma-Fix II Process and the LSV are routed to the RTO for the control of VOCs. The two heat recovery chambers of the RTO contain ceramic media to provide heat transfer with a recovery of up to 95% thermal energy. As the air stream travels up through the ceramic media it is preheated by the recovered heat to a temperature of ~ 1,300 °f prior to entry into the combustion chamber. In the combustion chamber the temperature is raised to ~ 1,500 ° f by a burner which has a 95% VOCs destruction efficiency. The air stream then passes downward through the second heat recovery chamber where the heat is absorbed by the ceramic media. The cooled air stream then discharges to the exhaust stack.

The 0.9 MMBtu Perma-Fix II Process boiler and the RTO combust propane to operate; the facility is requesting the addition of natural gas as an alternative fuel for propane. The addition of natural gas as an alternative fuel is exempt from permitting per Rule 62-210.300(3)33.

The facility consists of the following emissions units with a single emissions point.

Facility ID No. 0010113	
EU No.	Emission Unit Description
001	Regenerative Thermal Oxidizer (RTO)

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.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northeast District Air Program, Florida Department of Environmental Protection (Department). The Northeast District's mailing address is 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256-7590. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the North East District Office. The mailing address and phone number of the District Office is: 7825 Baymeadows Way, Suite B200, Jacksonville, Florida 32256. The Permitting Authority's telephone number is 904/256-1700.

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;
   d. Appendix D. Common Testing Requirements

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the 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. 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.]

6. Modifications: 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.]

7. A completed **Application for Non Title V Air Permit Renewal** (DEP Form No. 62-210.900(4), F.A.C.), shall be submitted to the Department at least 60 days prior to the expiration date of this operation permit. To properly apply for an operation permit, the permittee shall submit the appropriate application form, processing fee, and compliance test reports as required by this permit.

   [Rule 62-4.090, F.A.C.] [Rules 62-4.055 and 62-4.220, F.A.C.]

SECTION 3. EMISSIONS UNITS SPECIFIC CONDITIONS

The following specific conditions apply to the RTO and associated equipments listed below:

EU No.	Emission Unit Description	
001	Regenerative Thermal Oxidizer (RTO)	
	Associated Equipments	
	[1]Perma –Fix II Process Reactor Vessel	[2]Liquid Scintillation Vial Process

ESSENTIAL POTENTIAL TO EMIT (PTE) PARAMETERS

1. Hours of Operation: The hours of operation are not restricted, i.e. 24 H/D; 7 D/W; 52 W/Y, and 8760 hours per year.

   [Rules 62-4.160(2), F.A.C, and Rule 62-210.200(PTE), F.A.C., Definitions- Potential to Emit (PTE)]

2. Estimated Capacity. The estimated maximum operating rate is listed below:

EU No.	Emission Unit Description	
001	Regenerative Thermal Oxidizer (RTO)	
	Associated Equipments	
	[1]Perma –Fix II Process Reactor Vessel	[2]Liquid Scintillation Vial Process
Rate	6000 (lb/day)	464,954 (gal/yr.)

[1] contaminated solids, soils and debris

[2] gallons solvent throughput (rule 66 mineral spirit) and waste solvent content

   [Air Operation Application for renewal received February 8, 2011]

3. Control Unit: Control unit shall remain in place at all times and the appropriate temperature maintained during operation. If there is a malfunction on the control unit, the owner or operator shall immediately take corrective actions to minimize emissions.

   [Rule 62-4.070(3) F.A.C]

EMISSIONS STANDARDS

4. Visible emissions Visible emissions shall not exceed 5 percent opacity except that visible emissions not exceeding fifteen (15) percent opacity are allowed for up to six (6) minutes in any (1) one-hour period.

   [Rule 62-296.401(1)(a), F.A.C.]

TEST METHODS AND PROCEDURES

5. Visible Emissions Test: Test method for Visible Emissions shall be EPA Method 9, as described at 40 CFR, Part 60, Appendix A, adopted and incorporated by reference at Rule 62-204.800, F.A.C.

   Visible emissions test shall be conducted on an annual basis

   The test shall be conducted by an observer certified in accordance with the requirements of Rule 62-297.320, F.A.C. – Standards for Persons Engaged in Visible Emissions Observations.

   [Rule 62-296.401(1)(b)(c), F.A.C.]

NOTIFICATION, RECORDKEEPING AND REPORTING REQUIREMENTS

6. Recordkeeping: Compliance shall be determined by recording the following data for each material used (see Specific Condition No. 2):

   a. Amount of material used per day by maintaining a file of plant usage log (pounds)
   b. Gallons of solvent throughput and waste solvent content per year

   [Air Operation Application for renewal received February 8, 2011]

7. 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.]

8. Control Unit/Temperature Record: The temperature of the control unit shall be recorded on a daily basis on each day treatment is performed. The record(s) shall be kept on site for at least 5 years, and shall be made available upon Department's request.

   [Rule 62-4.070(3) 62-210.700(1), F.A.C]

9. Control Unit/Maintenance Record: The owner or operator shall maintain the malfunction and maintenance records of the control unit. The record(s) shall be kept on site for at least 5 years, and shall be made available upon Department's request.

   The following information shall include but not limited to:

   a. Date and type of malfunctions that occurred.
   b. Duration of the malfunction and correction action taken.
   c. Maintenance conducted on as a result of malfunction

   [Rule 62-4.070(3) 62-210.700(1), F.A.C]