Arizona Chemical Company
Panama City Facility

Facility ID No. 0050001
Bay County

Title V Air Operation Permit Renewal

Permit No. 0050001-022-AV
(Renewal of Title V Air Operation Permit No. 0050001-021-AV)

Permitting and Compliance Authority:

State of Florida
Department of Environmental Protection
Air Resource Management, Northwest District

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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

August 23, 2013

PERMITTEE:
Arizona Chemical Company
2 South Everitt Avenue
Panama City, Florida 32401

Permit No. 0050001-022-AV
Panama City Facility
Facility ID No. 0050001
Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V air operation permit for the above referenced facility. The existing Arizona Chemical Panama City Facility is located in Bay County at 2 South Everitt Avenue, Panama City, Florida. UTM Coordinates are: Zone 16, 633.10 km East and 3335.40 km North; and, Latitude: 30° 08' 40" North and Longitude: 85° 37' 05" West.

The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

Effective Date: August 23, 2013
Renewal Application Due Date: Exp. January 10, 2018
Expiration Date: August 23, 2018

/s/
J. Charles Harp
Program Administrator
Waste Management/Air Resources

JCH/ha/m

Section I. Facility Information.

This is a renewal of Title V air operation permit 0050001-021-AV, effective January 7, 2009.

Subsection A. Facility Description.

Arizona Chemical manufactures products that are made from by-products purchased from Kraft pulp mills. The facility processes black liquor soap (BLS), crude tall oil (CTO) and crude sulfate turpentine (CST) into chemical intermediates and resins which are sold into commerce and used as ingredients in the production of adhesives, plastics, inks, paints, rubber products, roofing material, chewing gum, fragrances, household cleaners, and soap.

Tall Oil Operations

Tall oil operations consist of three major operations: crude tall oil production, tall oil refining and rosin upgrading and flaking operations.

Crude Tall Oil Plant

CTO is produced by reacting BLS with sulfuric acid and subsequently processing the oil by filtering, decanting, washing and drying. The major equipment in the CTO plant includes reaction vessels, process tanks, storage tanks, decanting vessels, and screen filters. Exhaust gases from the CTO reactor, screen filter, and decanter tanks are vented to a packed bed scrubber that uses white liquor from the adjoining pulp mill as the scrubbing fluid. Total Reduced Sulfur (TRS) scrubbing is performed with white liquor or an aqueous caustic soda solution. The minimum white liquor make-up flow rate shall be four gallons per minute, with less than 75% carbonation to control TRS emissions. If utilized, the aqueous caustic soda solution flow rate shall be four gallons per minute, with a caustic concentration of no less than 6%. This emissions unit is regulated in accordance with Rule 62-296.404(3)(b)1., F.A.C., Tall Oil Plants. The unit is not subject to the Compliance Assurance Monitoring (CAM) requirements of 40 CFR 64 because the pre-controlled potential emissions of TRS are less than 100 TPY (approximately three tons per year). The CTO plant does not have a control device for VOC, but the emissions are controlled by a production limitation. The facility is required to maintain monthly VOC emission records to demonstrate compliance.

Tall Oil Refinery

The Tall Oil Refinery was constructed and placed into operation in 1949. CTO is distilled into various fractions in the refinery. The refinery consists of Nos. 1, 2 and 3 distillation units, wiped film type evaporators, ancillary equipment, process tanks, three hot wells and an oily water closed system. The oily water closed system is a closed loop cooling water system that cools steam utilized by the vacuum jet system that creates vacuum for the tall oil distillation towers. The condensed steam and oils from the system are collected, separated and removed from the system. Emissions from the three tall oil refinery hot wells, the oily water closed system and rosin treaters (G350, G360, G370 and G380) are routed to the thermal oxidizer system (EU034) for incineration.

Rosin Upgrading

The rosin fraction from the CTO distillation is either modified to make it more stable to air oxidation and sold as a product, disproportionated rosin (DR), or is used to make rosin esters, DR soaps and aqueous dispersions. Rosin acids from the tall oil distillation process are treated with caustic solutions to produce rosin esters.

DR and surfactants are produced in the treater kettles using heat, steam, nitrogen and a catalyst. Rosin esters are produced in treater kettles by reacting rosin with alcohol and a catalyst. The kettles operate under a vacuum. Emissions from the treater kettles are controlled by the thermal oxidizer (EU034).

Rosin esters are either pumped to storage tanks, tank cars, tank trucks, or drummed. A portion of the rosin esters from the storage tanks is pumped to a flaker and cooled. The flakes are then collected in hoppers and are bagged. Emissions from the “hot end” of the cooling belt are uncontrolled. Emissions from the “cold end” are in the form of particulate matter from the hoppers, weigh scales and bag collection hood, and are controlled by a Dust Collector. The dust collector contains filter cartridges and is designed to remove 98% of the fugitive Particulate

Matter (PM) during the product recovery operation. The collected dust is recycled back into the raw material for reprocessing or bagged and sold. Because this dust collector is used for product recovery purposes, this emissions unit is not subject to CAM. The flaking operation is regulated in accordance with Rule 62-297.620(4), F.A.C. (5% opacity with waiver of PM testing)

DR soaps are produced by reacting DR with either caustic soda or caustic potash; the mixture is heated to boil off the water. The water vapor carries out a small quantity of soap emissions that are not controlled. The DR soap reactor is an unregulated emissions unit.

The Aqua-Tac process takes rosin ester and disperses it in water with the aid of a surfactant. The Aqua-Tac process is an unregulated emissions unit.

Thermal Oxidizer

The thermal oxidizer is a natural gas fired unit with a maximum heat input of 10.0 MM Btu per hour and a minimum control efficiency of 90% or greater for VOC (50% for TRS). Emissions from the rosin treaters G350, G360, G370, G380, the oily water closed system and the three tall oil refinery hot wells are routed to the thermal oxidizer system for incineration. The thermal oxidizer has been tested and was achieving 96% control efficiency. Based on compliance tests, the facility is required to maintain a minimum temperature of 1,100 degrees Fahrenheit to ensure compliance. The thermal oxidizer temperature is continuously monitored and recorded. The thermal oxidizer is subject to the CAM requirements of 40 CFR 64 and Rule 62-213.440(4)(b)4., F.A.C. This emissions unit is regulated in accordance with Rule 62-296.401, F.A.C., Incinerators.

Terpene/Resin Operations

The terpene/resin operation consists of two major operations: the Terpene Refinery and the Terpene Resin Plant.

Terpene Refinery

The Terpene Refinery was placed into production in 1957. Crude sulfate turpentine is separated into four major fractions using distillation columns and batch treaters. The products from the Terpene Refinery are used as feed materials for other processes at the facility or are sold as products. The Terpene Refinery is an unregulated emissions unit.

Terpene Resin Plant

Terpene monomer blends from the terpene refinery are polymerized in xylene to produce crude resin solution. Crude resin solution is then processed using flash vaporization and steam sparging to separate the resin from the solvent. Resins are sold in bulk, drummed or flaked.

In the resin warehouse there are four resin hold tanks, a drumming station where hot resin is drummed and two flaker belts where hot resin is poured in pastilles (droplets) on top of a moving belt. Water is sprayed on the bottom of the belt to cool the hot resin. The pastilles are conveyed to hoppers for bagging. A Monsanto Brinks Mist Eliminator controls fugitive visible emissions (VE), HAP and VOC from the hot ends of the flaker belts, the hold tanks, and the drumming station. Dust emitted from each flaker belt, conveyer, and bagging operation is collected and controlled by a dust collector. The dust collectors contain filter cartridges and are designed to remove 98% of the fugitive particulate matter during the product recovery operation. The collected dust is recycled back into the raw material for reprocessing or bagged and sold. Because the dust collectors are used for product recovery purposes, this emissions unit is not subject to CAM. The facility has a production capacity (drumming operation and both flaker belts) of 20,000 pounds of rosin per hour: 5,000 pounds per hour per each flaking belt and 10,000 pounds per hour for drumming. The resin flaking area is regulated in accordance with Rule 62-297.620(4), F.A.C. (5% opacity with waiver of PM testing).

The air strippers (EU012) remove HAP to meet the OCPSF water discharge standards (regulations for producers of organic, chemicals, plastics and synthetic fibers). The emissions from these strippers are vented to a one MM

Btu per hour regenerative thermal oxidizer (RTO) with a control efficiency of 96%. This destruction efficiency equates to the RTO emitting 11.7 tons per year of VOC (including 216 hours of allowed RTO downtime). Removal of oil from the terpene resin process wastewater before it reaches the air strippers is done with a deep bed filter (filtration system) in conjunction with the induced gas flotation unit. The filtration system utilizes a technology called a walnut shell filter. The walnut shell filter collects the oil from the process wastewater prior to the air strippers, and the oil is reclaimed from the shells and reused in the process. Vapors or emissions from process storage tanks and other process equipment listed in Table 1 are collected in vacuum headers and sent to the RTO.

Table 1 – Terpene Resin Process Equipment Routed to RTO (EU036)

Source ID	Source Description
130-04A & B	Quench Decanters
130-06A & B	Reactor Vent Tanks
140-01A & B	Wash Tower Feed Tanks
140-04A & B	Wash Tower Separators
140-05A & B	Wash Storage Tanks
150-09A & B	Pre-Skimmer Tank & Skim Oil Tank
160-03 A, B & C	Rundown Tanks
160-12 & 13	Light Oil Tanks
160-20	A-Hot well
170-03 & 04C	Wet Solvent & Dry Solvent Tanks
170-08	Solvent Recovery Tower
170-11	A Solvent Decanter
170-12	Reflux Tank
130-01A & B	Primary Reactors
130-01C&150-01A	Wash Tower Separator
180-15	B Hot well
180-20	B Solvent Decanters
180-32 & 34	Light Oil Tanks
190-01B&190-03A	Wash Water Decanters
190-04 & 180-02	Rundown Feed Tank
190-14	A Hot well
ABM-1000	IGFU Tank
TNK–440 & 441	Resin Plant Sump & Decanter
TNK-443 & 444	Skimmed Oil Tanks

In the production of terpene and terpene/styrene resins, the plant utilizes styrene and xylene solvent. These are the main sources of HAP emissions, which occur at a variety of emission points from the Terpene Resin. The RTO, which is used to control these emissions, has a VOC/HAP destruction efficiency greater than 96% and uses natural gas as an auxiliary fuel.

Pinene Process

Crude Sulfate Turpentine is a dark yellow liquid that is predominately a mixture of unsaturated, bicyclic, monoterpene hydrocarbons ($C_{10}H_{16}$). Alpha-pinene is the main constituent at 55-60% of the CST. In addition, CST contains a complex mixture of other constituents including pine oils, anetholes, monocyclic terpenes, aromatics, oxygenated compounds, sulfur compounds and polymeric materials.

CST is a by-product of the Kraft papermaking process. The volatile terpenes are steam distilled from wood chips during the early stages of the Kraft pulping process and are condensed along with the steam and volatile sulfur compounds. After the water is removed, the remaining material is CST.

CST is fed continuously to a distillation tower where a heads cut is taken for odor removal. The remaining stream is fractionated into low boiling distillates and high boiling residues. The distillates are further fractionated to produce refined alpha-pinene and beta-pinene products.

Utilities

Plant utilities consists of one boiler (No. 2 boiler), a cooling tower for cooling process water, heat transfer fluid heaters, wastewater treatment plant facilities, and loading and unloading stations.

No. 2 Boiler

The No. 2 Boiler is a Combustion Engineering Model A-Type #35-A13 water-tube boiler with a nominal rated capacity of 175 MM Btu/hr. This boiler was placed in operation in 1982. In accordance with PSD (Prevention of Significant Deterioration) requirements, a Best Available Control Technology (BACT) determination was made on February 4, 1980 for emissions of NO_x, PM and SO_2. The boiler was fueled by natural gas and tall oil by-products but currently operates only on natural gas. In accordance with the BACT determination, SO_2 emissions are controlled by using low-sulfur fuel (natural gas), PM emissions are controlled by using ashless fuel (natural gas) and NO_x emissions are controlled by the use of low-NO_x burners. This boiler is a regulated emissions unit. NSPS requirements do not apply to this boiler. PSD and BACT reviews were completed on February 4, 1980.

Heat Transfer Fluid Heaters

Heat transfer fluids are heated and circulated as needed to unit operations that require heat. The heat transfer fluid is recirculated and reheated in eight natural gas fired heaters distributed around the facility. The eight heaters have a combined nominal heat input of 78.1 MM Btu/hr. The heaters are an unregulated emissions unit.

Wastewater Treatment

Wastewater is divided into three areas: Resin Plant, Tall Oil Operations, and Terpene Refinery.

The Resin Plant wastewater contains some levels of benzene, ethyl benzene, toluene, and xylene. For this reason, it is pre-treated using two air strippers before discharging to the equalization basin where the pH is adjusted. The volatile organics are vented to the RTO for destruction. The air strippers are regulated in accordance with Rule 62-296.320(1), F.A.C., General Pollutant Emission Limiting Standards.

Process wastewater from the Tall Oil operations and the Terpene Refinery pass through skimmers to remove oils and are then discharged to the equalization basin. The equalization basin discharges to the Military Point Industrial Wastewater System. This area is an unregulated emission unit for purposes of this air permit.

Loading and Unloading

Raw materials and products enter and leave the facility through the loading/unloading operations that include stations for trucks and rail cars. This area is an unregulated emissions unit.

Raw Material and Product Storage Tanks

Tanks are used throughout the facility to store raw materials, products and by-products. Due to their size and the low volatility of chemicals being stored, these storage tanks are only subject to the record keeping provisions of 40 CFR 60.116b(b), Subpart Kb (Volatile Organic Liquid Storage Vessels).

Total potential emissions from the facility are as follows:

Pollutant (tpy)	CO	NOx	PM	PM_{10}	SO_2	VOC	H2S	TRS	HAP*
Insignificant	NA	NA	NA	NA	NA	44.93	NA	NA	0.18
Unregulated	27.41	45.69	2.48	2.48	0.20	812.23	45.93	45.93	6.65
Regulated	95.03	156.39	35.39	35.39	68.16	161.44	9.21	9.21	14.31
Total	**122.45**	**202.08**	**37.87**	**37.87**	**68.36**	**1,018.60**	**55.14**	**55.14**	**21.14**

* Note: Estimated facility-wide total HAP emissions are below the Title V major source threshold of 25 tons/year with the highest individual HAP, xylene, estimated at 8.54 tons/year. Fugitive emissions from insignificant and unregulated emissions sources account for approximately 84% of the total VOC emissions from this facility. Detailed lists of these emissions sources are included in Appendices I & U.

Subsection B. Summary of Emissions Units.

Requested changes to the current Title V air operation permit.

The following emissions unit changes were requested by the Applicant in application 0050001-022-AC, received May 17, 2013:

1) EU032, Process Storage Tanks. Emissions unit 032 has been reclassified as an unregulated emissions unit in accordance with Rule 62-210(324), F.A.C., Unit-Specific Applicable Requirement. The process storage tanks listed in EU032 in the existing Title V permit have no unit-specific applicable requirements. These storage tanks are subject only to recordkeeping required by 40 CFR 60.116b(b).
2) EU018, Semi-Commercial Plant (SCP). EU018 has been reclassified as an unregulated emissions unit in accordance with Rule 62-210.200(324), F.A.C., Unit-Specific Applicable Requirement. The SCP is only used to produce surfactants and is no longer used for research and development.
3) EU035, Terpene Refinery Treater # 6. EU035 has been permanently shut down and is being removed from the Title V permit.
4) EU013, Rosin Treater Kettles. The description for EU013 has been changed from *Rosin Treater Kettles MC-1, 3, 1A, 21, 21A, G350 and G360* to *Rosin Treater Kettles G350 and G360*. Rosin Treater Kettles MC-1, 3, 1A, 21, 21A have been permanently shut down and are being removed from the Title V permit.

Summary of Emissions Units

EU No.	Brief Description
Regulated Emissions Units	
005	Crude Tall Oil Plant
033	Tall Oil Refinery
013	Rosin Treater Kettles G350 and G360
029	Rosin Treater Kettles G370 and G380
019	Rosin Flaking
034	Thermal Oxidizer with Caustic Scrubber
028	Resin Flaking and Drumming
015	No. 2 Boiler
012	Two Air Strippers in Terpene Wastewater Treatment
036	Regenerative Thermal Oxidizer
Unregulated Emissions Units and Activities (see Appendix U for detailed listing of unregulated emissions units and activities)	
030	Miscellaneous Unregulated Emissions Units
032	Process Tanks (Subject only to Recordkeeping pursuant to 40 CFR 60.116b(b))
018	Semi-Commercial Plant (Used only to produce surfactants; not used for research & development)

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

Please reference the Permit No., Facility ID No., and appropriate Emissions Units ID Nos. on all correspondence, test report submittals, applications, etc.

Subsection C. Applicable Regulations.

Based on the Title V air operation permit renewal application received May 17, 2013, this facility is not a major source of hazardous air pollutants (HAP). The existing facility is a PSD major stationary source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table.

Regulation	EU No(s).
40 CFR 64 – Compliance Assurance Monitoring	034, 036
62-213.440(1), Standard Permit Requirements	005, 012, 013, 015, 029, 033, 034, 036
62-213.440(1)(b)1.a., Compliance Assurance Monitoring	034, 036
62-213.440(4)(a), Periodic Monitoring	012, 013, 029, 033, 034, 036
62-213.440(4)(b)4, Continuous Compliance Determination Method	036
62-296.320(4), General Particulate Emission Limiting Standards	028
62-296.401, Incinerators	034, 036
62-296.401(1)(a), 5% opacity, 20% for one 3-minute period during any hour	034, 036
62-296.404(3)(b)1., Tall Oil Plants, TRS	005
62-296.404(5), TRS, Surrogate parameters	005
62-296.404(6), TRS, Surrogate Parameter Data Report	005
62-296.406(1), (2), (3) & (5), Boiler Emission Limitations & Standards	015
62-297.620(4) – 5% Opacity with waiver of PM testing	019, 028
40 CFR 60.116b(b), Recordkeeping, Subpart Kb, NSPS Volatile Organic Storage Vessels	Unreg EU032

The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. The permittee shall comply with all documents identified in Section IV Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. Not federally Enforceable. Objectionable Odor Prohibited. No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.
[Rule 62-296.320(2) and 62-210.200(Definitions), F.A.C., and permit 0050001-007-AC]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to 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.
[Rule 62-296.320(1), F.A.C.]
{Permitting Note: Nothing is deemed necessary and ordered at this time.}

FW4. General Visible Emissions. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. [Rule 62-296.320(4)(b)1. & 4., F.A.C.]

FW5. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. Paving and maintenance of roads, parking areas and yards.
b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
e. Landscaping or planting of vegetation.
f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
g. Confining abrasive blasting where possible.
h. Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c), F.A.C., and permit 0050001-006-AC]

Annual Reports and Fees

See Appendix RR, Facility-wide Reporting Requirements for additional details.

FW6. Annual Operating Report. The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by April 1st of each year. A copy of the form and instructions may be obtained electronically at http://www.dep.state.fl.us/air/rules/forms/aor.htm. If the report is submitted using the

Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office. [Rule 62-210.370(3), F.A.C.]

FW7. Annual Emissions Fee Form and Fee. The annual Title V emissions fees are due (postmarked) by March 1st of each year. The completed form and calculated fee shall be submitted to: Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070. The forms are available for download by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rule 62-213.205, F.A.C.]

FW8. Annual Statement of Compliance. The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit within 60 days after the end of each calendar year during which the Title V permit was effective. [Rules 62-213.440(3)(a)2. & 3. and (3)(b), F.A.C.]

FW9. Prevention of Accidental Releases (Section 112(r) of CAA). If, and when, the facility becomes subject to 112(r), the permittee shall:

a. Submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent electronically through EPA's Central Data Exchange system at the following address: https://cdx.epa.gov. Information on electronically submitting risk management plans using the Central Data Exchange system is available at: http://www.epa.gov/osweroe1/content/rmp/index.htm. The RMP Reporting Center can be contacted at: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650..

b. Submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
005	Crude Tall Oil Plant

This emissions unit consists of reaction vessels, process tanks, storage tanks, decanting vessels, and screen filters. Exhaust gases from the CTO reactor, screen filter, and decanter tanks are vented to a packed bed scrubber to remove TRS emissions. TRS scrubbing is performed using either white liquor from the adjoining pulp mill or an aqueous caustic soda solution. This emissions unit is regulated in accordance with Rule 62-296.404(3)(b)1., F.A.C., Tall Oil Plants. The unit is not subject to the Compliance Assurance Monitoring requirements of 40 CFR 64. The Plant has a Volatile Organic Compounds emissions limitation for the purpose of avoiding Prevention of Significant Deterioration issues. The CTO plant does not have a control device for VOC, but the emissions are controlled by a production limitation, and the facility is required to maintain monthly VOC emission records to demonstrate compliance.

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum allowable operating rate shall be 6.0 tons per hour of crude tall oil based on a 12-hour average. The maximum annual rate shall be limited to 32,500 tons of crude tall oil per year based on a rolling 12-month total.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permits 0050001-007 & 011-AC]

A.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

A.3. Hours of Operation. This emissions unit is allowed to operate continuously; i.e., 8,760 hours per year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

A.4. Total Reduced Sulfur. TRS shall not exceed 0.05 pounds per ton of crude tall oil produced as a 12-hour average. [Rule 62-296.404(3)(b)1., F.A.C.]

A.5. Volatile Organic Compounds. VOC emissions shall not exceed 81 tons per year based on a rolling 12-month total. Emissions calculations shall be conducted monthly to demonstrate compliance with the VOC limit. Emissions records shall be maintained and available for inspection by the Department.. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permits 0050001-007 & 011-AC]

Monitoring of Operations

A.6. Total Reduced Sulfur, Surrogate Parameters. Make-up white liquor flow rate to the scrubber shall not be less than 4 gallons per minute and shall not contain greater than 75% carbonation. An aqueous caustic soda solution (NaOH) may be utilized in lieu of or in addition to white liquor. If utilized, the aqueous caustic soda solution flow rate shall be four gallons per minute with a caustic concentration of no less than 6%. These parameters shall be recorded every 2 hours. If results require white liquor make-up adjustment, the percent carbonation shall be conducted every 15 minutes until stable results are assured. [Rules 62-296.404(5) and 62-213.440(1), F.A.C.; permits 0050001-007 & 011-AC; and application 0050001-022-AV]

A.7. TRS, Surrogate Parameter Data Report. Permittee shall submit a quarterly written total reduced sulfur emissions and surrogate parameter data report postmarked by the 30th day following the end of each calendar quarter. The report shall include, but not limited to, the following information:

1. The magnitude of excess emissions and the date and time of commencement and completion of each time period in which excess emissions occurred.

2. Specific identification of each period of excess emissions that occurs including startups, shutdowns, and malfunctions of the affected emissions unit. An explanation of the cause of each period of excess emissions, and any corrective action taken or preventive measures adopted. Excess emissions shall be all 12-hour periods for which the appropriate surrogate parameter data indicates that an applicable 12-hour average total reduced sulfur emission limiting standard for the emissions unit was exceeded.

3. The date and time identifying each period during which each continuous emissions monitoring system used to measure total reduced sulfur emissions or surrogate parameters was inoperative except for zero and span checks, and the nature of the system repairs or adjustments.

4. When no excess emissions have occurred or the continuous emissions monitoring system(s) have not been operative, or have been repaired or adjusted, such information shall be stated in the report.
[Rule 62-296.404(6), F.A.C.]

A.8. Permittee shall maintain a complete file of any measurements, including continuous emissions monitoring system, monitoring device, and performance testing measurements; any continuous emissions monitoring system performance evaluations; any continuous emissions monitoring system or monitoring device calibration checks; any adjustments and maintenance performed on these systems or devices; and any other information required, recorded in a permanent legible form available for inspection by the Department.
[Rule 62-296.404(6)(b), F.A.C.]

Test Methods and Procedures

A.9. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
16	Semicontinuous Determination of Sulfur Emissions from Stationary Sources
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in 40 CFR 60, Appendix A, 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.
[Rule 62-297.401, F.A.C. and permits 0050001-007 & 011-AC]

A.10. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

A.11. Compliance Tests Prior To Renewal. Compliance tests shall be performed for TRS and VOC once every 5 years. The testing shall be scheduled within 12 months of the facility's Title V permit renewal application due date so the results can be included with the submission of the application. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

Recordkeeping and Reporting Requirements

A.12. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline
TRS, Surrogate Parameter Data Report	Quarterly

[Rule 62-296.404(6), F.A.C.]

A.13. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements.

A.14. Records of monthly and rolling 12-month totals for crude tall oil production and VOC emissions shall be maintained and available for inspection by the Department.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., permits 0050001-007 & 011-AC]

Subsection B. Emissions Unit 033

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
033	Tall Oil Refinery

This emissions unit consists of Nos. 1, 2 and 3 distillation units, wiped film type evaporators, ancillary equipment, process tanks, three hot wells and an oily water closed system. The emissions from the refinery hot wells and oily water closed system are collected and routed to the caustic scrubber for removal of reduced sulfur compounds and then to the thermal oxidizer (EU 034) for incineration.

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum annual rate shall be limited to 130,000 tons per year. The annual rate shall be based on a rolling 12-month total. For testing purposes only, the maximum allowable operating rate shall be 20 tons per hour of crude tall oil based on a 24-hour average.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., permits 0050001-007, -011 and -018-AC]

B.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

B.3. Method of Operations. Emissions or off gases from the hot wells and oily water closed system shall be collected and routed to the existing thermal oxidizer system (EU 034) for incineration.
[Rules 62-4.070(3), 62-213.440(1) and 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

B.4. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Monitoring of Operations

B.5. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Recordkeeping and Reporting Requirements

B.6. Records of monthly and rolling 12-month totals for crude tall oil processed shall be maintained and available for inspection by the Department.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., permits 0050001-007, -011 and -018-AC]

Subsection C. Emissions Unit 013

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
013	Rosin Treater Kettles G350 & G360

Rosin Treater Kettles are heated vessels used to process rosin esters and other rosin products. Emissions from the treater kettles are controlled by the thermal oxidizer (EU034).

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity. The maximum allowable operating rate shall be 27,000 tons per year of rosin processed based on a rolling 12-month total.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-017-AC]

C.2. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours per year.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Recordkeeping and Reporting Requirements

C.3. Records of monthly and rolling 12-month totals for rosin processed shall be maintained and available for inspection by the Department. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-017-AC]

Subsection D. Emissions Unit 029

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
029	Rosin Treaters G370 & G380

Rosin Treater Kettles are heated vessels used to process rosin esters and other rosin products. Emissions from the treater kettles are controlled by the thermal oxidizer (EU034).

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum allowable operating rate shall be 27,000 tons per year of rosin based on a rolling 12-month total. Production records shall be maintained and available for inspection by the Department.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., permit 0050001-017-AC, and to escape PSD]

D.2. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours per year.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Recordkeeping and Reporting Requirements

D.3. Records of monthly and rolling 12-month totals for rosin processed shall be maintained and available for inspection by the Department.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., permit 0050001-017-AC, and to escape PSD]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
019	Rosin Flaking

Rosin esters are either pumped to storage tanks, tank cars, tank trucks, or drummed. A portion of the rosin esters from the storage tanks is pumped to a flaker and cooled. The flakes are then collected in hoppers and are bagged.

Particulate emissions from the hoppers, weigh scales and bag collection hood are controlled by a cartridge type dust collector. The collected dust is recycled back into the raw material for reprocessing or bagged and sold. Because this dust collector is used for product recovery purposes, this emissions unit is not subject to CAM. The flaking operation is regulated in accordance with Rule 62-297.620(4), F.A.C.

Essential Potential to Emit (PTE) Parameters

E.1. Permitted Capacity. The maximum allowable operating rate shall be 18,000 pounds of rosin per hour. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-007-AC]

E.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

E.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours per year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

E.4. Visible Emissions. Visible emissions shall not exceed 5% opacity in the dust collector exhaust stack. (Opacity with waiver of PM testing) [Rule 62-297.620(4), F.A.C.]

E.5. Particulate Emissions. Particulate emissions shall not exceed 1.03 pounds per hour. [Rules 62-4.070(3), 62-210.200(PTE) and 62-296.320(4), F.A.C., and permit 0050001-007-AC]

Monitoring of Operations

E.6. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

E.7. Test Methods. When required, tests shall be performed in accordance with the following reference methods:

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

The above methods are described in 40 CFR 60, Appendix A, 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. [Rule 62-297.401, F.A.C. and permit 0050001-007-AC]

E.8. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

E.9. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each EU shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7), F.A.C.]

E.10. Additional Compliance Test Requirements. Particulate matter compliance test requirements are waived for substitution of the visible emissions standard. Compliance testing for particulate matter is required only upon Department request. [Rules 62-297-620(4) and 62-297.310(7)(b), F.A.C.]

Recordkeeping and Reporting Requirements

E.11. Records of monthly and rolling 12-month totals for rosin processed shall be maintained and available for inspection by the Department. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-007-AC]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
034	Thermal Oxidizer with Caustic Scrubber

A caustic scrubber (50% TRS removal efficiency) removes TRS compounds from the vent gases prior to them being routed to the thermal oxidizer (90% VOC/HAP destruction efficiency) for incineration. The thermal oxidizer is used to control VOC and HAP emissions. Emissions from rosin treaters (EU013 and 029) and the tall oil refinery (EU 033) hot wells and the oily water closed system are routed to the caustic scrubber and thermal oxidizer system for incineration.

Essential Potential to Emit (PTE) Parameters

F.1. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours per year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

F.2. Methods of Operation - Thermal Oxidizer Temperature. The thermal oxidizer shall be maintained at a minimum temperature of 1,100 degrees Fahrenheit, unless an alternative temperature is verified through appropriate testing and approved by the Department. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permits 0050001-007, -011, and -018-AC]

F.3. Methods of Operation - Caustic Scrubber Parameters. The caustic scrubber shall utilize a minimum of 6% caustic solution with a circulation rate of no less than 50 gallons per minute (gpm), unless alternative parameters are verified through appropriate testing and approved by the Department. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

F.4. Visible Emissions. Visible emissions shall not exceed 5% opacity except for up to 20% for one 3-minute period during any hour. [Rule 62-296.401(1)(a), F.A.C.]

F.5. Volatile Organic Compounds. VOC emissions shall not exceed 45.8 tons per year based on a rolling 12-month total.[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permits 0050001-007, -011 and 018-AC]

{Permitting Note: This VOC emissions limit is based on a minimum thermal oxidizer destruction efficiency of 90%.}

F.6. Total Reduced Sulfur (TRS). The TRS removal efficiency of the caustic scrubber shall be no less than 50%. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-018-AC]

{Permitting Note: This removal efficiency equates to a potential emissions of 8.4 tons per year of TRS and 15.8 tons per year of SO_2 from the outlet of the thermal oxidizer. The scrubber removes TRS from the vent gases prior to the thermal oxidizer, which reduces odors and SO_2 emissions from the thermal oxidizer (TRS compounds are converted to SO_2 in the thermal oxidizer).}

Monitoring of Operations

F.7. Thermal Oxidizer Temperature. The thermal oxidizer temperature shall be monitored and recorded continuously, and the records made available for Department inspection. The temperature devices shall be certified by the manufacturer to be accurate to within ±1 percent of the temperature being measured. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permits 0050001-007, -011, and -018-AC]

F.8. Caustic Scrubber Parameters. The monitoring of virgin caustic flow to the scrubber and the circulation rate shall be recorded every two hours, or by providing the Distributed Control System (DSC) continuous monitoring printout, with caustic testing conducted at least once per shift, or other Department approved duration. These records shall be made available for Department inspection. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

F.9. Compliance Assurance Monitoring. This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]

Test Methods and Procedures

F.10. Test Methods. When 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
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)
The test method for TRS shall be EPA Method 16, 16A or 16B, incorporated and adopted by reference in Chapter 62-297, F.A.C., as described below:	
16	Semicontinuous Determination of Sulfur Emissions from Stationary Sources
16A	Determination of Total Reduced Sulfur Emissions from Stationary Sources (Impinger Technique)
16B	Determination of Total Reduced Sulfur Emissions from Stationary Sources

The above methods are described in 40 CFR 60, Appendix A, 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. [Rule 62-297.401, F.A.C., and permits 0050001-007, -011 and 018-AC]

F.11. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

F.12. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each EU shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7), F.A.C.]

F.13. Compliance Tests Prior To Renewal. Compliance tests shall be performed for TRS and VOC once every 5 years. The testing shall be scheduled within 12 months of the facility's Title V permit renewal application due date so the results can be included with the submission of the application. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

F.14. Additional VOC Compliance Test Requirements. Compliance tests for VOC shall be conducted on the inlet and outlet of the oxidizer to verify the 90% destruction efficiency and demonstrate compliance with emissions standards for VOC. [Rule 62-4.070(3), F.A.C., and permits 0050001-007, -011 and 018-AC.]

F.15. Additional TRS Compliance Test Requirements. Compliance tests for TRS shall be conducted on the inlet and outlet of the caustic scrubber to verify the 50% removal efficiency and operating parameters of the scrubber, and demonstrate compliance with emissions standards for TRS. [Rule 62-4.070(3), F.A.C., and permit 0050001-018-AC.]

Recordkeeping and Reporting Requirements

F.16. VOC Emissions calculations shall be conducted monthly to demonstrate compliance with the VOC limit. Records of monthly and rolling 12-month totals for VOC Emissions shall be maintained and available for inspection by the Department.
[Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permits 0050001-007, -011 and 018-AC

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
028	Resin Flaking and Drumming

This emission unit consists of a drumming station where hot resin is drummed, and two flaker belts where hot resin is poured in pastilles (droplets) on top of a moving belt. The pastilles are conveyed to hoppers for bagging. A Monsanto Brinks Mist Eliminator controls fugitive visible emissions, HAP and VOC from the hot ends of the flaker belts, the hold tanks and the drumming station. Dust emitted from each flaker belt, conveyer and bagging operation is collected and controlled by a dust collector. Line 1 utilizes a Torit Model DFT3-12 dust collector and line 2 utilizes a Torit Model DFT4-16 dust collector. The dust collectors may be alternated between lines as necessary.

This emissions unit is not subject to the compliance Assurance Monitoring (CAM) requirements of 40CFR 64 because the dust collector is used for product recovery.

Essential Potential to Emit (PTE) Parameters

G.1. Capacity. The maximum operating rate shall be 20,000 pounds of resin per hour (drumming operation and both flaker belts); 5,000 pounds per hour per each flaking belt and 10,000 pounds per hour for drumming. Production records shall be maintained and available for inspection by the Department. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

{Permitting Note: This operating rate limitation has been placed in the permit to identify the capacity of this emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emissions unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability.}

G.2. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

G.3. Visible Emissions. Visible emissions from the two Resin Dust Collectors and Mist Eliminator shall not exceed 5% opacity in the dust collector exhaust stack. [Rule 62-297.620(4), F.A.C., permit 0050001-004-AC]

G.4. Particulate Emissions. Particulate emissions shall not exceed 9.74 pounds per hour. [Rule 62-296.320(4), F.A.C., and initial Title V permit 0050001-003-AV]

Monitoring of Operations

G.5. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

G.6. Test Methods. When required, tests shall be performed in accordance with the following reference methods:

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

The above methods are described in 40 CFR 60, Appendix A, 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. [Rule 62-297.401, F.A.C., and permit 0050001-004-AC]

G.7. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

G.8. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each EU shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7), F.A.C.]

G.9. Additional Compliance Test Requirements. Particulate matter compliance test requirements are waived for substitution of the visible emissions standard. Compliance testing for particulate matter is required only upon Department request. [Rules 62-297-620(4) and 62-297.310(7)(b), F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
015	No. 2 Boiler

The No. 2 Boiler is a Combustion Engineering Model A-Type #35-A13 water-tube boiler with a nominal rated capacity of 175 MM Btu/hr. This boiler was placed into operation in 1982.

This boiler is regulated in accordance with a Best Available Control Technology (BACT) determination published March 3, 1980 (Rule 62-212.400(6), F.A.C., and permit AC03-24383). SO_2 emissions are controlled by using low-sulfur fuel (natural gas), PM emissions are controlled by using ash less fuel (natural gas) and NO_x emissions are controlled by the use of low-NO_x burners.

Essential Potential to Emit (PTE) Parameters

H.1. Permitted Capacity. The maximum heat input of this boiler is 175 MM Btu/hr. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

H.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

H.3. Methods of Operation (fuels). Tall oil by-products are not allowed as fuels in the No. 2 Boiler. This boiler shall be fueled by natural gas only.
[Rules 62-4.070(3) and 62-213.440(1), F.A.C.; and application 0050001-022-AV]

H.4. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

H.5. Visible Emissions. Visible emissions shall not exceed 20% opacity under normal operating conditions except for up to two minutes in any one hour at not more than 40% opacity. [Rule 62-296.406(1), F.A.C., and BACT/permit AC03-24383]

H.6. Particulate Matter Emissions. Particulate emissions shall not exceed 0.10 lb per million Btu of heat input as a three-hour average. [Rule 62-296.406(2), F.A.C., and BACT/permit AC03-24383]

H.7. NOx Emissions. NOx emissions shall not exceed 0.3 lb as nitrogen dioxide per million Btu of heat input as a three-hour average. [Rules 62-212.400(5), F.A.C., and BACT/permit AC03-24383]

H.8. SO_2 Emissions. SO_2 emissions shall not exceed 0.8 lb SO_2 per million Btu of heat input as a three-hour average. [Rule 62-296.406(3), F.A.C., and BACT/permit AC03-24383]

Monitoring of Operations

H.9. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

H.10. Test Methods. When required, tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
5	Determination of Particulate Emissions from Stationary Sources
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in 40 CFR 60, Appendix A, 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. [Rule 62-297.401, F.A.C.]

H.11. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

H.12. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each EU shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7), F.A.C.]

H.13. Compliance Tests Prior To Renewal. Compliance tests shall be performed for NOx once every 5 years. The testing shall be scheduled within 12 months of the facility's Title V permit renewal application due date so the results can be included with the submission of the application. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

Subsection I. Emissions Unit 012

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
012	Two Air Strippers for Terpene Resin Wastewater Treatment

These air strippers remove VOC and HAP from the terpene resin wastewater to meet the OCPSF water discharge standards. Emissions from the strippers are vented to the regenerative thermal oxidizer (EU036) for destruction. The RTO is used to control HAP and VOC emissions from the Air Strippers (EU 012) and several Unregulated Emission Sources (EU 030).

Essential Potential to Emit (PTE) Parameters

I.1. Capacity. The water flow to the two air stripper columns shall not exceed a daily average of 450 gallons per minute. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

{Permitting Note: This flow rate limitation has been placed in the permit to identify the capacity of this emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emissions unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability.}

I.2. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

Method of Operation

I.3. Emissions or off gases from the two air strippers shall be collected and routed to the regenerative thermal oxidizer (EU036) for incineration. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

Monitoring of Operations

I.4. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Subsection J. Emissions Unit 036

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
036	Regenerative Thermal Oxidizer

This emissions unit is a one MM Btu per hour regenerative thermal oxidizer (RTO) with a control efficiency of 96%. VOC and HAP emissions from the terpene resins process tanks, process units, and hot wells; the terpene process wastewater separator, induced gas floatation (filtration system) including the walnut shell filter, and the two air strippers (EU 012) are routed to the regenerative thermal oxidizer (RTO) system for incineration. During the RTO outage, vent gases are sent uncontrolled directly to the atmosphere.

Essential Potential to Emit (PTE) Parameters

J.1. Capacity. The maximum heat input of this unit is 1,000 standard cubic feet per hour (scf/hr) of natural gas usage. The design maximum capacity is 12,000 SCFM of air and emissions from the terpene resins process and the air strippers of EU012. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit 0050001-018-AC]

{Permitting Note: The hourly capacity limitation has been placed in the permit to identify the capacity of this emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emissions unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability.}

J.2. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours per year. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C

J.3. Methods of Operation - Regenerative Thermal Oxidizer Temperature. The thermal oxidizer shall be operated at a minimum temperature of 1,450 degrees Fahrenheit, unless an alternative temperature is verified through testing and approved by the Department. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

J.4. Methods of Operation – Required Operation. The RTO shall be in operation at all times, except for a maximum of 216 operational hours per calendar year. During the RTO outage, vent gases will be sent uncontrolled directly to the atmosphere. [Rules 62-210.700(4) & (6) and 62-4.130, F.A.C., and permit 0050001-018-AC]

Emission Limitations and Standards

Unless otherwise specified, the averaging time-is based on the specified averaging time of the applicable test method.

J.5. Visible Emissions. Visible emissions shall not exceed 5% opacity except for up to 20% for one three-minute period during any hour. [Rule 62-296.401(1)(a), F.A.C.]

J.6. Volatile Organic Compounds. The VOC emissions destruction efficiency of this unit shall be no less than 96%. [Rules 62-4.070(3), 62-210.200(PTE), F.A.C., and permit 0050001-018-AC]

{Permitting Note: This destruction efficiency equates to the RTO emitting a potential of 11.7 tons per year of VOC from vent gases (94% control efficiency including 216 hours of downtime, RTO will provide 96% control when operating).}

Monitoring of Operations

J.7. Regenerative Thermal Oxidizer Temperature. RTO temperature shall be monitored and recorded continuously, and the records made available for Department inspection. The temperature devices shall be certified by the manufacturer to be accurate to within ±1 percent of the temperature being measured. [Rules 62-4.070(3), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0050001-018-AC]

J.8. Permittee shall take all appropriate actions to avoid outages; however, if they occur the Department shall be notified within 24 hours. Such notification shall include pertinent information as to the cause and what steps are being taken to correct the problem and to prevent its recurrence, such notification does not release Permittee from any liability for failure to comply with the Department's rules. A cumulative monthly record of outage hours shall be maintained during each calendar year. These records shall be maintained and available for Department inspection. All RTO outages shall be reported to the Department, per Rule 62-4.130, F.A.C. [Rules 62-210.700(4) & (6) and 62-4.130, F.A.C., and permit 0050001-018-AC]

{Permitting Note: The 216 hours per calendar year are in addition to the startup, shutdown or malfunction emissions allowed for no more than two hours in any 24-hour period allowed by the Department's Excess Emissions Rule (62-210.700(1), F.A.C.). The uncontrolled emissions emitted during these hours have been incorporated in the potential emission calculation for the RTO and were also incorporated in the PSD avoidance determination for this construction project. These emissions were requested because the air stripper (EU012) cannot be shut down, due to the applicability of OCPSF wastewater standards on the strippers. Therefore, the strippers must continue to operate when the RTO is off line. These uncontrolled 216 hours of emissions equate to approximately 4.512 tons of VOC per year.}

J.9. Compliance Assurance Monitoring. This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; Rules 62-204.800 and 62-213.440(1)(b)1.a., F.A.C.]

J.10. Determination of Process Variables. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(5), F.A.C.]

Test Methods and Procedures

J.11. Test Methods. When 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
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in 40 CFR 60, Appendix A, 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. [Rule 62-297.401(25)(a), F.A.C.]

J.12. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

J.13. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each EU shall be tested to demonstrate compliance with the emissions standards for visible emissions. [Rule 62-297.310(7), F.A.C.]

J.14. Compliance Tests Prior To Renewal. Compliance tests shall be performed for TRS and VOC once every 5 years. The testing shall be scheduled within 12 months of the facility's Title V permit renewal application due date so the results can be included with the submission of the application. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

J.15. Additional Compliance Test Requirements. The VOC test shall be conducted on the inlet and outlet of the oxidizer to verify the 96% destruction efficiency and demonstrate compliance with emissions standards for VOC. [Rule 62-4.070(3), F.A.C., and permit 0050001-018-AC.]

SECTION IV. APPENDICES.

The Following Appendices Are Enforceable Parts of This Permit:

IV. Appendices:

Appendix A, Abbreviations, Acronyms, Citations and Identification Numbers
Appendix I, List of Insignificant Emissions Units and/or Activities
Appendix RR, Facility-wide Reporting Requirements
Appendix TR, Facility-wide Testing Requirements
Appendix TV, Title V General Conditions
Appendix U, List of Unregulated Emissions Units and/or Activities
Appendix CAM, Compliance Assurance Monitoring Plan

Referenced Attachment

Table H, Permit History