



Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor

James Jennings, Director

217/785-1705

CONSTRUCTION PERMIT

PERMITEE

Pullman Innovations
Attn: Peter Rnich, Facility Manager
2701 East 100th Street
Chicago, Illinois 60617

I.D. No.: 031600FDK

Application No.: 25120002

Subject: RTO Addition

Date Received: December 1, 2025

Date Issued: June 1, 2026

Expiration Date: See Condition 1.

Location: 2701 East 100th Street, Chicago, Cook County

This permit is hereby granted to the above-designated Permittee to CONSTRUCT emission unit(s) and/or air pollution control equipment consisting of:

One (1) 21.0 mmBtu/hr Regenerative Thermal Oxidizer (RTO) connected in series after two Caustic Scrubbers to control the existing Soapstock Acidulation Process and odor, which consists of the following affected emission units:

- Twenty-four (24) 15,000-gallon Process Reactors (R1 – R24) controlled by a scrubber;
- Two (2) Sulfuric Acid Tanks (C1 – 9,300 gallons & C2 – 8,900 gallons) controlled by a scrubber;
- Three (3) Vegetable Oil Soapstock Tanks (T41 – T43);
- Four (4) Decanted Vegetable Oil Soapstock Tanks (T31 – T34);
- Six (6) Pre-Acidulation Wastewater Tanks (T24 – T27 and T45 – T46);
- Five (5) Interphase Tanks (T28 & T29 and T131 – T133) controlled by a scrubber;
- Six (6) Post-Acidulation Wastewater Tanks (W1 – W6) controlled by a scrubber;
- One (1) Pre/Post Acidulation Wastewater Blending Tank (T00) controlled by a scrubber;
- Eleven (11) Finished Oil Tanks (T10 – T13, T17R, T18 – T20, T21R – T23R) controlled by a scrubber;

For purposes of clarification under this permit:

The collection of units in the Soapstock Acidulation Process described above are referred to as the “affected process.”

“Capture system” shall refer to all equipment (including, but not limited to, ducting and all hard piping) used to contain, collect and transport an air contaminant to the RTO.

Pursuant to the above-referenced application, this Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit is issued based on the construction of the RTO not constituting a new major source or major modification pursuant to Title I of the Clean Air Act, specifically 35 Ill. Adm. Code Part 203, Major Stationary Sources Construction and Modification. The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the emissions of Volatile Organic Materials (VOM) from the above-listed equipment below the levels that would trigger the applicability of these rules.

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- b. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, the source is not required to obtain a Clean Air Act Permit Program (CAAPP) Permit.
- c. The operation of the RTO is allowed under this construction permit until the Agency takes final action on an application for operating permit for the source, provided the Permittee completes the required emission testing in accordance with Condition 8.

Applicability - State Emission Standards

- 2a. The RTO associated with the affected process is subject to 35 Ill. Adm. Code Part 212 Subpart B (Visible Emissions). Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
- 3. The RTO associated with the affected process is subject to 35 Ill. Adm. Code Part 214 Subpart K (Process Emission Sources). Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- 4a. The affected process controlled by the RTO is subject to 35 Ill. Adm. Code Part 218 Subpart G (Use of Organic Material). Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code Part 218 Subpart G shall only apply to photochemically reactive material.
- b. Pursuant to 35 Ill. Adm. Code 218.302(a), emissions of organic material in excess of those permitted by Section 218.301 of this Part are allowable if such emissions are controlled by thermal incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.
- c. The affected process and associated RTO are subject to 35 Ill. Adm. Code Part 218 Subpart TT (Other Emission Units). Pursuant to 35 Ill. Adm. Code 218.986, every owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 218 Subpart TT shall comply with the requirements of 35 Ill. Adm. Code 218.986(a), (b), (c), (d), or (e):
 - i. Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit; or

- ii. Any leaks from components subject to the control requirements of 35 Ill. Adm. Code Part 218 Subpart TT shall be subject to the following control measures:

Repair any component from which a leak of VOL can be observed. The repair shall be completed as soon as practicable but no later than 15 days after the leak is found, unless the leaking component cannot be repaired until the next process unit shutdown, in which case the leaking component must be repaired before the unit is restarted.

Compliance Requirements and Work Practices

- 5a. The RTO shall be in operation at all times when the affected units associated with the affected process are in operation.
- b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the RTO associated with the affected process such that the RTO is kept in proper working condition and does not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.
- c. RTO combustion chamber shall be preheated to, and operating temperature maintained at, at least the manufacturer's recommended temperature of 1500°F, but no less than the temperature at which compliance was demonstrated in the most recent compliance test. The source shall maintain a rolling hourly average combustion chamber temperature at or above the minimum temperature, while the RTO is in operation.
- d. The RTO shall only be operated with natural gas as the fuel. The use of any other fuel in the RTO requires that the Permittee first obtain a construction permit from the Illinois EPA and successfully perform stack testing to verify compliance with all applicable requirements

Operational and Emission Limits

- 6a. Emissions from and operation of and the affected process controlled by RTO shall not exceed the following limits:

- i. Maximum Raw Soapstock Processed: 21,262 ton/month, 212,615 ton/year
- ii. Emissions:

Pollutant	Emission Rate (lbs/hr)	Monthly Emissions (Tons/Mo)	Annual Emissions (Tons/Yr)
Hydrogen Sulfide (H ₂ S)	0.764	0.69	6.92
Sulfur Dioxide (SO ₂)	0.126	0.06	0.56

These limits are based on emission factors derived from previous third-party testing at the source and the maximum hours of operation at 8,760 hours/year and 85% control efficiency for the RTO for the soapstock acidulation process.

iii. VOM emission

Criteria Pollutant	Emission Rate (lbs/hr)	Monthly Emissions (Tons/Mo)	Annual Emissions (Tons/Yr)
Volatile Organic Material (VOM)	3.810	0.75	7.5

These limits are based on emission factors derived from previous third-party testing at the source and the maximum hours of operation at 8,760 hours/year and 85% control efficiency for the RTO for the soapstock acidulation process.

b. Emissions from and operation of the two existing (2) 11.9 mmBtu/hr natural gas-fired steam generators, and the RTO (Combined) shall not exceed the following limits:

i. Natural Gas Usage: 21.0 mmscf/month, 208.5 mmscf/year

ii. Emissions from combustion:

Criteria Pollutant (Abbreviations)	Emission Factors (lbs/mmscf)	Monthly Emissions (Combined) (Tons/Mo)	Annual Emissions (Combined) (Tons/Yr)
Carbon Monoxide (CO)	84.0	0.88	8.76
Nitrogen Oxide (NO _x)	100.0	1.04	10.42
Particulate Matter (PM)	7.6	0.08	0.79
Sulfur Dioxide (SO ₂)	0.6	0.01	0.06
Volatile Organic Material (VOM)	5.5	0.06	0.57

These limits are based on the maximum fuel usage, maximum annual operating hours at 8,760 hours/year and standard emission factors derived from (Tables 1.4-1 and 1.4-2 of AP-42 Fifth Edition, Volume I, Supplement D, April 2026).

c. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

Testing Requirements

7a. Pursuant to 35 Ill. Adm. Code 218.105(d)(1), the RTO efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOM concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified in 35 Ill. Adm. Code 218.105(f).

b. Pursuant to 35 Ill. Adm. Code 218.105(e)(1), the overall efficiency of the emission control system shall be determined as the product of the capture system efficiency and the control device efficiency. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency used to calculate the product of the capture and control efficiency is the total capture efficiency over the entire line.

8a. Within 90 days after initial startup of the RTO, stack testing shall be conducted during conditions which are representative of maximum emissions from the affected process controlled by the RTO.

During the stack test capture and control efficiencies of the control system shall be measured by an approved testing service. These tests shall determine the VOM destruction, capture and overall control efficiency to demonstrate compliance with conditions 4 and 6(a)(iii). Thereafter, this testing shall be conducted once every five (5) years from the preceding testing date.

- b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 51, Appendix M and 40 CFR Part 60, Appendix A for USEPA test methods.

Sample and Velocity Traverses for Stationary Sources	USEPA Method 1
Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)	USEPA Method 2
Gas Analysis for the Determination of Dry Molecular Weight	USEPA Method 3
Determination of Moisture Content in Stack Gases	USEPA Method 4
Determination of Total Gaseous Nonmethane Organic Emissions as Carbon	USEPA Method 25; or
Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer	USEPA Method 25A (if outlet VOM cont. <50 ppmv as C Non CH ₄)
Determination of Capture Efficiency	USEPA Method 204, 204a-f

- c. At least sixty (60) days prior to the actual date of testing, the Permittee shall submit a written test plan to the Illinois EPA, Bureau of Air, Compliance Section Manager. The Illinois EPA may at the discretion of the Compliance Section Manager (or designee) accept a written test plan less than sixty (60) days prior to testing provided it does not interfere with the Illinois EPA's ability to review and comment on the written plan and does not deviate from the applicable state or federal rules and test methods. This plan shall include at a minimum:

- i. The name (or other identification) of the emission unit(s) to be tested and the name and address of the facility at which they are located;
- ii. The name and address of the independent testing service(s) performing the tests, with the names of the individuals who may be performing sampling and analysis and their experience with similar tests;
- iii. The specific determinations of emissions and/or performance which are intended to be made, including the site(s) in the ductwork or stack at which sampling will occur;
- iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions, maximum operating rate, minimum control performance, the levels of operating parameters for the emission unit, including associated control equipment, at or within which compliance is intended to be shown, and the means by which the operating parameters will be determined;
- v. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods. The specific sampling, analytical and quality control procedures which will be used, with an identification of the standard methods upon which they are based;

- vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justifications;
 - vii. Any proposed use of an alternative test method, with detailed justification; and
 - viii. The format and content of the Source Test Report.
- d. The Permittee shall provide the Illinois EPA with written notification of testing at least thirty (30) days prior to testing and again five (5) days prior to the testing to enable the Illinois EPA to have an observer present. This notification shall include the name of emission unit(s) to be tested, scheduled date and time, and contact person with telephone number. The Illinois EPA may at the discretion of the Compliance Section Manager (or designee) accept notifications with shorter advance notice provided such notifications will not interfere with the Illinois EPA's ability to observe testing.
- e. If testing is delayed, the Permittee shall promptly notify the Illinois EPA by e-mail or facsimile, at least five (5) days prior to the scheduled date of testing or immediately, if the delay occurs in the five (5) days prior to the scheduled date. This notification shall also include the new date and time for testing, if set, or a separate notification shall be sent with this information when it is set.
- f. The Permittee shall submit the Final Source Test Report(s) for these tests accompanied by a cover letter stating whether or not compliance was shown, to the Illinois EPA, Bureau of Air, Compliance Section Manager within thirty (30) days after the test results are compiled, but no later than sixty (60) days after the date of testing or sampling. The Final Source Test Report shall include at a minimum:
- i. General information describing the test, including the name and identification of the emission source which was tested, date of testing, names of personnel performing the tests, and Illinois EPA observers, if any;
 - ii. A summary of results;
 - iii. Description of test procedures and method(s), including description and map of emission units and of sampling points, sampling train, testing and analysis equipment, and test schedule;
 - iv. Detailed description of test conditions, including:
 - A. List and description of the equipment (including serial numbers or other equipment specific identifiers) tested and process information (i.e., mode(s) of operation, process rate or throughput, fuel or raw material consumption rate, and heat content of the fuels);
 - B. Control equipment information (i.e., equipment condition and operating parameters) during testing; and
 - C. A discussion of any preparatory actions taken (i.e., inspections, maintenance and repair).
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration. Identification of the

applicable regulatory standards and permit conditions that the testing was performed to demonstrate compliance with, a comparison of the test results to the applicable regulatory standards and permit conditions, and a statement whether the test(s) demonstrated compliance with the applicable standards and permit conditions;

- vi. An explanation of any discrepancies among individual tests, failed tests or anomalous data;
 - vii. The results and discussion of all quality control evaluation data, including a copy of all quality control data; and
 - viii. The applicable operating parameters of the pollution control device(s) during testing (temperature, pressure drop, scrubbant flow rate, etc.), if any.
- g. Satisfactory completion of this test so as to demonstrate compliance with applicable emission standards is a prerequisite to issuance of an operating permit, pursuant to 35 Ill. Adm. Code 201.160(b).

Monitoring Requirements

- 9a. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(A)(i), an owner or operator that will use an RTO to comply with any Section of 35 Ill. Adm. Code Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use except as provided in 35 Ill. Adm. Code 218.105(d)(3). The continuous monitoring equipment must monitor for each RTO, the combustion chamber temperature of the RTO.

For the purpose of this permit, the term continuous means a data point at least once per minute.

- b. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(B), an owner or operator must install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of ± 1 percent of the temperature measured in degrees Celsius or $\pm 0.5^\circ \text{C}$, whichever is greater.
- c. The Source shall maintain records of combustion chamber temperature monitoring data for all continuous monitoring periods, and of each rolling 1-hour average combustion chamber temperature calculated from the monitoring data.

Recordkeeping Requirements

- 10a. Pursuant to 35 Ill. Adm. Code 218.986(e)(2), for any leak which cannot be readily repaired within one hour after detection, the following records, as set forth below in 35 Ill. Adm. Code 218.986(e)(2), shall be kept. These records shall be maintained by the owner or operator for a minimum of two years after the date on which they are made. Copies of the records shall be made available to the Illinois EPA or USEPA upon verbal or written request.
- i. The name and identification of the leaking component;
 - ii. The date and time the leak is detected;
 - iii. The action taken to repair the leak; and

- iv. The date and time the leak is repaired.
- b. Pursuant to 35 Ill. Adm. Code 218.991(a)(2), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart TT and complying by the use of emission capture and control equipment shall comply with the following: on and after a date consistent with 35 Ill. Adm. Code 218.106, or on and after the initial start-up date, the owner or operator of a subject VOM source shall collect and record all of the following information each day and maintain the information at the source for a period of three years:
 - i. Control device monitoring data;
 - ii. A log of operating time for the capture system, control device, monitoring equipment and the associated affected process;
 - iii. A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- 11a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Records addressing use of good operating practices for the RTO and capture system associated with the affected process:
 - A. Records for periodic inspection and maintenance of the RTO and capture system with date, individual performing the inspection and maintenance, and nature of inspection and maintenance; and
 - B. Records for prompt repair of defects of the RTO and capture system, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair; and
 - C. RTO combustion chamber monitoring data and a maintenance log for the monitoring device detailing all routine and non-routine maintenance performed including the dates and duration of any outages.
 - ii. Natural gas usage of RTO (mmscf/month and mmscf/year); and
 - iii. Monthly and annual emissions of CO, NO_x, PM, SO₂, VOM and H₂S from the RTO, with supporting calculations (tons/month and tons/year).
- b. All records and logs required by Condition 13(a) of this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

Reporting Requirements

12. The Permittee shall submit a written notification to the Illinois EPA, Bureau of Air, Compliance Section Manager, of the initial startup of the capture and control equipment within thirty (30) calendar days of the initial start-up.
- 13a. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit or otherwise, the Permittee shall submit a report to the Illinois EPA's Bureau of Air Compliance Section in Springfield, Illinois, within thirty (30) days after the exceedance or deviation. The report shall identify the duration and the emissions impact of the exceedance or deviation, a copy of the relevant records and information to resolve the exceedance or deviation, and a description of the efforts to reduce emissions from, and the duration of exceedance or deviation, and to prevent future occurrences of any such exceedance or deviation.
- b. One (1) copy of required reports and notifications shall be sent:
 - i. Via mail or overnight delivery:

<u>Via USPS</u> Illinois EPA, Bureau of Air Compliance Section (MC 40) 2520 West Iles Avenue P.O. Box 19276 Springfield, IL 62794-9276	<u>Via Other Means</u> Illinois EPA, Bureau of Air Compliance Section (MC 40) 2520 West Iles Avenue Illinois EPA, Bureau of Air Springfield, IL 62704
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In addition, a copy of notifications and reports required by this permit that concern emission testing and monitoring shall also be sent electronically to the Illinois EPA Request File Upload (<http://epa-smu-file-request.illinois.gov/>). If you are unable to use the Request File Upload, you may email the electronic version to EPA.BOA.SMU@Illinois.gov. The Permittee shall include the facility's ID Number on all correspondence.

If you have any questions about this permit, please call Joseph Odele at 217/785-1705.

William D. Marr

William D. Marr
Manager, Permit Section
Bureau of Air

WDM:JBO:tan



Illinois Environmental Protection Agency

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JB Pritzker, Governor

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STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS

ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act, and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:
 - a. to enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
 - b. to have access to and copy any records required to be kept under the terms and conditions of this permit,
 - c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
 - d. to obtain and remove samples of any discharge or emission of pollutants, and
 - e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
 - b. does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,
 - c. does not release the Permittee from compliance with the other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,

- d. does not take into consideration or attest to the structural stability of any units or parts of the project, and
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.
- b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
- a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or
 - b. upon finding that any standard or special conditions have been violated, or
 - c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

