

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY
ORDER OF APPROVAL
NOTICE OF CONSTRUCTION

IN THE MATTER OF APPROVING A NEW)
CONTAMINANT SOURCE FOR) March 2014 Draft **Approval Order**
ACCESS BUSINESS GROUP, LLC)
NUTRILITE, QUINCY PROJECT)

TO: Mr. Julien Ollivierre, EH&S Supervisor
Nutrilite, Quincy
10448 NW Road R
Quincy, WA 98848

Equipment Evaluated for this approval consists of the following:

1. 2450 T/Y Plant Material Feed Rate Herbal Extraction and Concentration Facility with the following:
 - a. Bagged Plant Material Receiving Building
 - b. 2 Extractor Charging Bag- Dump Stations
 - c. 2 Dump Station to Extractor Receiver pneumatic conveyors controlled with integral 50 cfm filters vented to indoor air
 - d. 1- Low Demand Dry Powder Product Extraction and Concentration Line with:
 - i. 1- 20 Gallon Steam Kettle with Mixer
 - ii. 1- 50 Gallon Steam Kettle with Mixer
 - iii. 1- 100 Gallon Steam Kettle with Mixer
 - iv. 1- Screw Press
 - v. 1- Disintegrator
 - vi. 1- 20HP Urshel Mill, Slant 3600
 - vii. 1- Centritherm
 - viii. 1- Licutex Shaker/Screen
 - e. 2- 1100 Gallon Vacuum Extraction Vessels (Extractor 1 & 2)
 - f. 2- 2000 Gallon Extract Holding Tanks
 - g. 1- 4000 gallon Rototherm Feed Tank
 - h. 2- Extract Evaporators
 - i. 2- Vacuum Distillation Columns
 - j. 2- 500 Gallon Extract Concentrate Holding Tanks (T4 and T5)
 - k. Refractance Window Dryer Line (T5 either feeds this line or the spray dryer mix tank) with:
 - i. 225 Gallon mix tank (T100)
 - ii. 225 Gallon Feed Tank (T102)
 - iii. Screener
 - iv. Votator Feed Pasteurizer (Hot)
 - v. Votator Feed Pasteurizer (Cool)
 - vi. 30 Gallon Hold Tank
 - vii. Refractance Window Dryer

- viii. Auger
- ix. Fitz Mill
- x. Jet Mill
- xi. Screener
- xii. Metal Detector
- xiii. Packaging
- xiv. 8.37 mmBTU/hr Natural Gas boiler (Seller's Ygnis, Model No. SY-200HP-150)
- l. 1- 750 Gallon Spray Dryer Mix Tank
- m. 1- 750 Gallon Spray Dryer Feed Tank
- n. 1- Spray Dryer with 0.68 mmBTU/hr natural gas-fired heater
- o. 2- Product Recovery Cyclones
- p. 1- Spray Dryer Scrubber – 0.005 gr/dscf
- q. 2- Pneumatic extractor charge conveyors with integral 50 acfm filters
- r. 1- 7200 acfm Fabric Filter
- s. 1- Electrically Heated Catalytic Oxidizer, 700 acfm, 626 degrees F minimum
- t. 2- 7 mmBTU/hr natural gas-fired boilers, Superior Boiler Works Mohican, equipped with ultra-low NOx burners (NOXmatic brand)
- u. 1- 8,000 gallon fresh alcohol storage tank, controlled by vapor recovery on delivery vehicles
- v. 1- 8,000 gallon recovered alcohol storage tank vented to the catalytic oxidizer
- w. 1- 110 HP Emergency diesel-powered fire pump, Clarke JU4H-UFAD5G

DETERMINATIONS

In relation to the above equipment and the evaluation outlined in the Technical Support Document associated with this Order, the Department of Ecology, State of Washington, pursuant to RCW 70.94.152, WAC 173-400-110, and WAC 173-460-040, makes the following determinations:

1. The proposed new source of air contaminants, if operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and 173-460 WAC and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.
2. The proposed modifications and changes, if operated as herein required, will provide all known, available, and reasonable methods of emission control.

THEREFORE, IT IS ORDERED that the project as described in the Notice of Construction application and more specifically detailed in plans, specifications, and other information

submitted to Ecology is approved for construction and operation, provided the following conditions are satisfied:

APPROVAL CONDITIONS

1. Administrative:
 - a. Upon issuance of this approval, Approval Order No. 13AQ-E524 is rescinded and replaced with the conditions and evaluations of this approval.
2. Plant Material Receiving:
 - a. Plant material received by this facility shall not exceed 2,450 tons (as received) in any 12 month period.
 - b. There shall be no (zero) visible emissions generated by receiving activities, including vehicle traffic to and from the receiving building and transfer(s) into the extractor charging stations.
 - c. All dried material conveyors, screens, and transfer points shall be enclosed to minimize fugitive dust emissions
3. Extraction, Alcohol Recovery, Evaporation
 - a. The following equipment shall be exhausted through the catalytic oxidizer:
 - i. The recovered alcohol storage tank
 - ii. Extractors 1 & 2 vacuum pumps
 - iii. Extract Holding Tanks 1 & 2 and the rototherm feed tank
 - iv. Evaporators 1 & 2 Vacuum Pumps
 - b. At any time that any of the equipment in 3(a)(i) through 3(a)(iv) is operating, the catalytic oxidizer shall be operating in good mechanical condition at or above its minimum bed temperature.
 - c. All valves, connectors, and pump seals in VOC liquid service shall be inspected for leaks using methodology and on a frequency described in the facility O & M manual.
4. Dry Material Handling and Processing
 - a. The following equipment shall be exhausted through the 7200 cfm fabric filter:
 - i. Extractor 1 & 2 charge stations
 - ii. T100 RWD mix tank
 - iii. RWD Product Auger
 - iv. RWD Product Packaging Station
 - v. Spray dryer mix tank
 - vi. Spray dryer weigh up stations 1,2, and 3
 - vii. The Spray dryer fill room
 - viii. All Semi Works dry material handling equipment

- b. At any time that any of the equipment in 4(a)(i) through 4(a)(v) is operating, the 7200 cfm fabric filter shall be operating in good mechanical condition (as designed).
- 5. Spray Dryer:**
 - a. The following equipment shall be exhausted through the wet scrubber:
 - i. Main Cyclone
 - ii. Cooling Cyclone
 - iii. Spray Dryer Exhaust
 - b. At any time that any of the equipment in 5(a)(i) through 5(a)(iii) is operating, it shall be vented through the wet scrubber which shall be operating and in good mechanical condition (as designed).
- 6. Spent Plant Material Handling:**
 - a. Following extraction, the spent plant material shall be conveyed in enclosed conveyors and stored in sealed containers until removed from the facility. There shall be no (zero) visible emissions from any portion of the shipping activities, including material transfers and vehicle traffic.
- 7. Diesel Driven Emergency Fire Water Pump:**
 - a. The Clarke (JU4H-UFAD5G) Fire Pump shall be equipped with a non-resettable operating hours meter.
 - b. The diesel engine shall be operated for no more than 29 hours per year for reliability and maintenance testing. Operation in an emergency is not limited.
 - c. There shall be no operation of the fire pump except for readiness and maintenance testing, and for fire suppression.
 - d. Diesel fuel for the fire pump shall be ultra-low sulfur (15 ppmw Sulfur).
- 8. EMISSION LIMITS:**
 - a. The 2-7 mmBTU/hr Superior boilers exhaust shall not exceed the following pollutant concentrations and mass emission limits, each boiler:
 - i. NO_x: 9 ppmvd @ 3% O₂, 0.143 lb/hr, 0.63 ton/yr measured using EPA Reference Method 7E.
 - ii. CO: 36 ppmvd @ 3%O₂, 0.35 lb/hr, 1.52 ton/yr measured using EPA Reference Method 10.
 - b. The 8.37 mmBTU/hr Sellers Ygnis Boiler shall not exceed the following pollutant concentrations and mass emission limits:
 - i. NO_x: 9 ppmvd @ 3% O₂ , 0.142 lb/hr, 0.62 tons per year measured using EPA Reference Method 7E.
 - ii. CO: 36 ppmvd @ 3% O₂, 0.288 lb/hr, 1.27 ton/yr measured using EPA Reference Method 10.
 - c. The spray dryer wet scrubber exhaust shall not exceed the following pollutant concentrations and mass emission limits:

- i. Particulate Matter: an exhaust concentration of 0.005 grains particulate matter per dry standard cubic foot (corrected to 15% O₂), measured using EPA Reference Methods 5 and 202.
 - ii. Particulate Matter: an exhaust particulate matter mass loading of 0.12 pounds per hour, or 0.52 tons per year, measured using EPA Reference Methods 5 and 202.
 - iii. **Visible emissions** from the spray dryer wet scrubber are limited to five percent (5%) opacity, averaged over a 6-minute interval.
 - iv. An initial performance test of the wet scrubber exhaust shall be performed to determine compliance with Conditions 6(b)(i), (ii) and (iii) within 180 days of facility start-up. Testing shall be conducted in accordance with Condition 9 below.
 - v. Once every five calendar years following the initial performance test, the wet scrubber exhaust shall be tested for compliance with Conditions 7(b)(i), (ii) and (iii). The testing shall be conducted in accordance with Condition 9, below.
 - d. The 7200 cfm fabric filter shall not exceed the following pollutant concentrations and mass emission limits:
 - i. Particulate Matter: an exhaust concentration of 0.005 grains particulate matter per dry standard cubic foot (corrected to 15% O₂), measured using EPA Reference Methods 5 and 202.
 - ii. Particulate Matter: an exhaust particulate matter mass loading of 0.30 pounds per hour, or 1.3 tons per year, measured using EPA Reference Methods 5 and 202.
 - iii. **Visible emissions** from the fabric filter are limited to five percent (5%) opacity, averaged over a 6-minute interval.
 - e. The catalytic oxidizer exhaust shall not exceed the following VOC concentrations and mass emission rates:
 - i. VOC: an exhaust concentration of 172 ppmv (corrected to 6% O₂), as ethanol, measured by EPA Reference Method 25A.
 - ii. VOC: an exhaust mass loading of 0.42 pounds per hour or 1.83 tons per year (as ethanol), measured using EPA Reference Method 25A.
 - iii. An initial performance test of the catalytic oxidizer exhaust shall be performed to determine compliance with Conditions 7(d)(i) and (ii) within 180 days of start-up of this facility. Testing shall be conducted in accordance with Condition 9, below.
 - f. The catalytic oxidizer bed temperature shall not be allowed to drop below 626 degrees Fahrenheit at any time that VOC laden exhaust is routed to it.

- g. Visible emissions from the fire pump engine shall not exceed five percent opacity (5 %), averaged over a 6 minute interval, measured in accordance with Condition 9.b.i., below.

9. TESTING REQUIREMENTS

- a. Performance testing shall be performed at such times and frequencies specified in a condition of approval in this Order and at other times in accordance with WAC 173-400-105(4).
- b. Performance testing shall utilize the following test methods unless an alternative method is requested by the permittee and approved by Ecology in writing:
 - i. Visual determination of the opacity emissions from stationary sources per Title 40 Code of Federal Regulations, Part 60, Appendix A, Method 9. (referenced as Method 9).
 - ii. VOC per 40 CFR 60, Appendix A, Method 25A.
 - iii. PM10 per 40 CFR 60, Appendix A, Method 5 with 40 CFR 51, Appendix M, Method 202.
 - iv. NOx per 40 CFR 60, Appendix A, Method 7E
 - v. CO per 40 CFR 60, Appendix A, Method 10
 - vi. Plant surveys for the presence of opacity shall be performed using the techniques and procedures in 40 CFR 60, Appendix A, Method 22.
- c. Testing Logistics - The permittee shall provide testable emission points, sampling ports, safe access to sampling points and ports, and utilities for sampling and testing.
- d. Number of Test Runs - Performance or compliance testing of each piece of pollution control equipment shall consist of three separate runs of at least 60-minutes each.
- e. Throughput during Testing - During testing, the process shall be operated at a minimum of ninety percent (90%) of rated capacity for equipment with less than 12 months operating history, or 90 to 110% of the maximum process rate recorded during the preceding 12 month period for equipment operated for 12 months or more. Operation of the process during testing outside of the specified range may be proposed, but may result in an operational restriction that will be amended to this Approval Order.
- f. Submittal of Performance Test Plan - A written test protocol that includes a description of the equipment to be tested, the process and control device operating information to be collected during the test, and the sampling and analytical method(s) proposed, shall be submitted to Ecology at least 30 calendar days prior to the start of any performance test.
- g. Notification of Inability to Conduct Performance Test - If the permittee is unable to conduct any performance test as scheduled, Ecology shall be notified at least 24-hours before the test at the address under "Submittals", Condition 14, or via telephone at 509-329-3400.
- h. Plant Operator during Testing - The plant process equipment shall be operated and controlled by normal plant operators during the period when the performance testers are on-site to conduct testing and during actual testing.

- i. Performance or Compliance Testing Results - The results of all initial performance testing and all other periodic performance testing shall be sent to the address at APPROVAL CONDITION 14. One copy of the completed test report shall be submitted no later than 60-days after the last day of the testing.

10. MONITORING REQUIREMENTS

- a. Boilers: Each boiler shall be equipped with a totalizing fuel meter.
- b. Catalytic Oxidizer: The temperature of the catalyst bed in the catalytic oxidizer shall be monitored continuously. The low temperature set point shall be established at 626 degrees Fahrenheit plus the absolute value of the sensitivity (degrees Fahrenheit) of the instrument.
- c. Fabric Filter: the 7200 cfm fabric filter shall be equipped with manufacturer's approved filter failure instrumentation. Upon failure, the instrumentation shall produce an audible or visual alarm in a location normally occupied by operating personnel (e.g. the control room).
- d. Wet scrubber: the wet scrubber shall be equipped with manufacturer's recommended instrumentation to measure make up water flow, blowdown flow, and pressure differential across the scrubber media.
- e. The Clarke (JU4H-UFAD5G) Fire Pump engine shall be equipped with a non-resettable operating-hours meter.

11. RECORDKEEPING REQUIREMENTS

- a. The following records shall be maintained, shall be readily accessible at the facility for a minimum period of 60 months, and shall be made available to Ecology on request:
 - i. Monthly records and 12 month rolling totals of the quantity of plant material received by the facility.
 - ii. Records of the details of the leak detection and repair program, including dates of inspections, determinations made during inspections, and length of time until repair is attempted on components determined to be leaking. In no case shall components determined to be leaking be operated longer than 15 days without repair.
 - iii. Records of the quantity of natural gas combusted each calendar month in each boiler.
 - iv. Records of any maintenance performed on the boilers, fabric filters, catalytic oxidizer, or wet scrubber, including date and time of procedure, and a description of the maintenance activity.
 - v. Monthly records of the time the fire pump engine has operated and the reason it was operated.

12. REPORTING REQUIREMENTS

The following reports shall be sent to the address in APPROVAL CONDITION 14, Submittals, within 30 days following the end of the calendar year pursuant to WAC 173-400-101(2) unless otherwise noted below:

- a. Summary annual report on total receipt of plant material, fuel consumed by each boiler, hours of operation of the fire pump engine, fire pump engine fuel certifications showing sulfur content, annual emission estimates for NO_x, CO, SO_x, and VOCs. Fugitive VOC emissions shall be based on LDAR data.
- b. The results of any performance testing shall be sent no later than 60 days following such testing.

13. OPERATION AND MAINTENANCE MANUALS

A site-specific O&M manual for the boilers, fire pump engine, fabric filters, wet scrubber, catalytic oxidizer, the leak detection and repair program, monitoring equipment, monitoring procedures and monitoring schedules for the extraction facility shall be developed and followed. The manual shall be prepared within 90 days of start-up of the facility.

The manual shall be reviewed no less frequently than annually, and updated as necessary. Manufacturers' operating instructions and design specifications for the boilers, fire pump engine, and pollution control equipment (fabric filters, wet scrubber, and catalytic oxidizer) shall be included in the manual.

The O&M manual shall be updated to reflect any modifications of the equipment or operating or maintenance or monitoring procedures. Emissions that result from failure to follow the operating procedures contained in the O&M manual or manufacturer's operating instructions may be considered proof that the equipment was not properly installed, operated, and/or maintained. The O&M manual shall at a minimum include:

- a. Normal equipment operating parameters and design specifications.
- b. Maintenance schedules.
- c. Monitoring procedures and schedules.
- d. The wet scrubber operating parameters (fresh water make-up rate, blowdown rate, pressure differential, at a minimum).
- e. Actions to be taken in the event of failure of any of the pollution control devices.

14. SUBMITTALS

All air quality notifications, reports, and other submittals shall be sent to:

Washington State Department of Ecology

Air Quality Program
4601 N. Monroe Street
Spokane, WA 99205-1295

15. GENERAL CONDITIONS

- a. **Commencing/Discontinuing Construction and/or Operations:** This approval shall become void if the construction or operation of this facility is discontinued for a period of eighteen (18) months, unless prior written notification is received by Ecology at the address in Condition 14 above.
- b. **Compliance Assurance Access:** Access to the source by representatives of Ecology or the EPA shall be permitted upon request. Failure to allow such access is grounds for enforcement action under the federal Clean Air Act or the Washington State Clean Air Act, and may result in revocation of this Approval Order.
- c. **Availability of Order and O&M Manual:** Legible copies of this Order and the O&M manual shall be available to employees in direct operation of the feedlot and mill equipment, and be available for review upon request by Ecology.
- d. **Equipment Operation:** Operation of the extraction facility equipment shall be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with the O&M manual, unless otherwise approved in writing by Ecology. At any time that an emission generating device is operating, the pollution control equipment it exhausts through shall be operating in a condition representing good maintenance and operating practices.
- e. **Modifications:** Any modification to the project, contrary to information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modification may require a new or amended NOC Approval Order.
- f. **Activities Inconsistent with the NOC Application and this Approval Order:** Any activity undertaken by the permittee or others, in a manner that is inconsistent with the NOC application and this Approval, shall be subject to Ecology enforcement under applicable regulations.
- g. **Obligations under Other Laws or Regulations:** Nothing in this Approval Order shall be construed to relieve the permittee of its obligations under any local, state or federal laws or regulations.

All plans, specifications, and other information submitted to the Department of Ecology relative to this project and further documents and any authorizations or approvals or denials in relation thereto shall be kept at the Eastern Regional Office of the Department of Ecology in the "Air Quality Controlled Sources" files, and by such action shall be incorporated herein and made a part thereof.

Nothing in this approval shall be construed as obviating compliance with any requirement of law other than those imposed pursuant to the Washington Clean Air Act and rules and

regulations thereunder.

A one-month testing and break-in period is allowed, after any part or portion of this project becomes operational, to make any changes or adjustments required to comply with applicable rules and regulations pertaining to air quality and conditions of operation imposed herein. Thereafter, any violation of such rules and regulations or of the terms of this approval shall be subject to the sanctions provided in Chapter 70.94RCW.

Authorization may be modified, suspended or revoked in whole or part for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this authorization;
- b. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant fact.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of their circumstances, and the remainder of this authorization, shall not be affected thereby.

You have a right to appeal this Approval Order. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the “date of receipt” of this document. Filing means actual receipt by the Board during regular office hours
- Serve your appeal on the Department of Ecology within 30 days of the “date of receipt” of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). “Date of receipt” is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of (1) the permit you are appealing and (2) the application for the permit.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

Deliver your appeal in person to:

The Pollution Control Hearings Board
PO Box 40903
Olympia WA 98504-0903

OR

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
P.O. Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. And send a copy of your appeal to:

Karen K. Wood
Department of Ecology
Eastern Regional Office
4601 N. Monroe Street
Spokane, WA 99205

DATED at Spokane, Washington this 10th day of December, 2013.

PREPARED BY:

APPROVED BY:

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