



Department of Environmental Protection

FILE COPY

Lawton Chiles
Governor

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Virginia B. Wetherell
Secretary

PERMITTEE:

Monsanto Chemical Company

AIRS I.D. Number: 0330040
Air Permit Number: 0330040004AC
Emission Units: 040
Date of Issue: December 17, 1996
Expiration Date: December 17, 2001
County: Escambia

Project: "B" DCH Stripper Distillation Column for the Hexamethylene Diamine Synthesis process

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 62-296, 62-297 and 62-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Construction of modifications to the "B" DCH Stripper Distillation Column for the Hexamethylene Diamine Synthesis process (B Column). Adiponitrile is hydrogenated to yield crude Hexa Methylene Diamine (HMD). The HMD is then refined by stripping in vacuum distillation columns. Column vacuum is achieved by staged steam jets with an intercondenser, which serves to control HMD emissions.

Modifications including increasing the size of the vacuum jet system and installing a reconstructed column will increase the production capacity of the HMD refining area. B Column will thus be subject to 40 CFR Part 60 Subpart NNN, Standards of Performance for Volatile Organic Compound Emissions for Synthetic Organic Chemical Manufacturing Industry Distillation Operations. B Column head pressure will be used as a surrogate parameter to control HMD emissions.

Construction shall be consistent with the construction permit application signed August 28, 1996, and additional information submitted by letters dated September 30, 1996 and October 27, 1996. This column is now part of emission unit 040. After construction is completed, B Column will be grouped with EU 041, the "C" Stripper Column, because of similarities in emissions, testing and state and Federal rules applicability. AO17-210893 will be modified by changing the definitions of EU 040 and EU 041.

Located: 3000 Old Chemstrand Road, Gonzales, North of Pensacola

0330040004AC

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"Protect, Conserve and Manage Florida's Environment and Natural Resources"

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SPECIFIC CONDITIONS:

General

1. The attached General Conditions are part of this permit. [FAC Rule 62-4.160]

Construction

2. The Department shall be notified upon commencement of construction, and within 15 days of completion of construction. Annual status reports shall be provided no later than March 1 of each year reviewing the status of construction during the preceding year up to completion of the project. [FAC Rule 62-4.070]
3. The Department shall be notified and prior approval shall be obtained of any changes or revisions made during construction. [FAC Rule 62-4.030]
4. Satisfactory ladders, platforms and other safety devices as well as necessary parts shall be provided/made available to facilitate an adequate inspection program. [FAC Rule 62-297.310(6)]

Operation

5. The maximum allowable operating rate, the column feed rate for the B Stripper Column is 25,000 lb/hr of HMD feed material. This is the operating rate at which compliance with standards shall be demonstrated. Permittee may request a higher operating rate after compliance testing demonstrates that compliance with standards is not compromised at the higher operating rate. [FAC Rule 62-4.070, construction permit application signed August 12, 1996, letter of October 27, 1996]
6. The B Stripper Column may operate continuously, i.e., 8760 hrs/yr, based on 24 hours/day, 7 days/week and 52 weeks per year. [FAC Rule 62-4.070 and construction permit application]
7. All equipment, pipes, hoses, lids, fittings, etc., shall be operated/maintained in such a manner as to minimize leaks, fugitive emissions and spills of VOC materials. [FAC Rule 62-296.320(1)(a)]

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8. All applicable requirements of 40 CFR Part 60 Subpart NNN, Standards for Performance for Volatile Organic Compound (VOC) Emissions for Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, shall be adhered to for the B Stripper Column. [FAC Rule 62-204.800(7)(b)61., 40CFR60.660] Subpart NNN requirements that apply include the following:

- a. A total resource effectiveness (TRE) index shall be maintained at a value greater than or equal to 1.0 [paragraph 60.662(c)]. Details of the calculation(s) shall be submitted with any testing required and when any process changes that may impact the TRE index are made.
- b. Continuous monitoring of B Stripper column head pressure is required and serves as a surrogate parameter to control HMD emissions. The column head pressure shall be maintained at or below a maximum of 100mm Hg. Records of B Stripper Column head pressure logged hourly shall be maintained for at least one year with summaries maintained for at least 5 years. Records shall be available for inspection by the Department [DEP approved alternative to paragraph 60.663(d)(2)(1)].
- c. HMD emissions tests shall be conducted in accordance with Specific Condition 11.

9. Condensation of steam and solution of HMD between stages of a series of steam vacuum jets are determined to be vapor control devices deemed necessary by the Department. The permittee shall maintain operations and maintenance of the jets and condensers sufficient to provide reasonable assurance that HMD emissions remain approximately at the levels of these measured values. [FAC Rule 62-4.070, FAC Rule 62-296.320(1)(a)]

Emissions

10. No objectionable odors shall be allowed off plant property. If the Department determines the facility is emitting objectionable odors, the Permittee shall submit an odor remediation plan within 45 days of receipt of written notification from the Department. The plan shall include, but not be limited to, dispersion modeling analysis, strategies to reduce odorous chemicals utilization, and modifications of operating cycles, operating methods and/or plant exhaust systems. [FAC Rule 62-296.320(2)]

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Testing

11. HMD emissions tests are required to show continuing control efficiency and compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Test methods are specified as EPA Methods 1, 2, 4 and 18, and ASTM Methods D1946-77 and D2382-76. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. Such tests shall be conducted within 90 days after construction is completed of a construction phase when an increase in operating rate is desired. [FAC Rule 62-297.310(2)] The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing, with the application for an operating permit.

Test reports shall comply with F.A.C. Rule 62-297.310(8), Test Reports. Additionally, the compliance test report shall provide the following information:

- a. General condition of equipment, noting any deficiencies or problems with the equipment which occur during testing.
- b. Normal operating parameters of the equipment and the actual operation parameters for each test run, including:

The Department can require special compliance tests in accordance with F.A.C. Rule 62-297.310(7)(b).

Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. [FAC Rule 62-297.310(2)]

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Administrative

12. An annual operating report for air pollutant emitting facility, DEP Form 62-210.990(5), shall be submitted by March 1 of each year. A copy of the form and instructions may be obtained from the Department of Environmental Protection, Northwest District Air Resources Management Program, (904) 444-8364. [FAC Rule 62-210.370(3)]

13. The applicant shall retain a Professional Engineer, registered in the State of Florida, for the inspection of this project. Upon completion the engineer shall inspect for conformity to the permit application and associated documents. An application for an operation permit [Form DEP 62-210.900(1), Long Form or 62-210.900(2), Short Form, as applicable] shall be submitted with the compliance test results and appropriate fee when applicable. These are to be submitted within 75 days of completion of construction. The permittee shall obtain an operating permit for this source before the expiration of this construction permit if the permittee desires to continue operation. [FAC Rule 17-210(300)]

14. In accordance with F.A.C. Rule 62-213, a Major Air Pollution Source Annual Operation Fee Form [DEP Form 62-213.900(1) attached] must be completed and submitted with appropriate fee between January 15 and March 1 of each year. If the Department has not received the fee payment by March 1, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s.220.807, Florida Statutes. The Department may revoke any major air pollution source operation permit if it finds that the permit holder has failed to pay timely and required annual operation license fee, penalty or interest. The completed form and appropriate fees must be submitted to the Department of Environmental Protection, Title V Annual Emissions Fee, Cashiers Office, P.O. Box 3070, Tallahassee, Florida 32351-3070.

15. The emission unit covered by this permit is number 0330040040, the "B" DCH Stripper Distillation Column of the HMD Synthesis process. Please cite the appropriate number on all test reports and other correspondence specific to a permitted emission unit. [FAC Rule 62-297.310(8)] After construction is completed, B Column will be grouped with EU 041, the "C" Stripper Column, because of similarities in emissions, testing and state and Federal rules applicability. AO017-210893 will be modified by changing the definitions of EU 040 and EU 041.

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16. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 444-8364, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 413-9911. For routine business, telephone (904) 444-8364 during normal working hours. [FAC Rule 62-4.130]

Expiration Date:

Issued this 17th day of DEC.,
1996.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



ED K. MIDDLESWART, P.E.
Air Program Administrator