# Attachment 1

Decision AM-05-200, dated February 24, 2005

.



# State of Wisconsin \ DEPARTMENT Or NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary 101 S. Webster St. Box 7921 Madison, Wisconsin 53707-7921 Telephone 608-266-2621 FAX 608-267-3579 TTY Access via relay - 711

File Ref: 4530-4

February 24, 2005

Glenn P. Preisler, Plant Manager Cook Composites and Polymers Co. 340 Railroad Street Saukville, WI 53080-2100

Subject: Decision, Thermal Oxidizer System as Equivalent Control Technology, Cook Composites and Polymers Co. FID# 246004330

Dear Mr. Preisler:

The Department of Natural Resources has completed its review of your request, dated January 9, 2004, for approval of a thermal oxidizer system as an equivalent system or approach for meeting the emissions control requirements in s. NR 421.05(2)(a), Wis. Adm. Code, for your facility located in Saukville, WI. The Department is hereby approving the thermal oxidizer and process vent header system installed at the facility as an equivalent system in accordance with s. NR 421.05(2)(a)2., Wis. Adm. Code.

Enclosed is an administrative decision, numbered AM-05-200, issued to Cook Composites and Polymers Co. ("CCP") for this purpose. This decision authorizes CCP to use the thermal oxidizer and process vent header system as a method of complying with s. NR 421.05(2)(a)2., Wis. Adm. Code, in regards to Volatile Organic Compound (VOC) emissions from all reaction, thinning, and blending tanks at your synthetic resin manufacturing facility.

This decision will be submitted to, and will not become effective for federal purposes until approved by, the Administrator or designee as a source-specific revision to the Department's State Implementation Plan for ozone. The USEPA may require additional information, or may seek to impose conditions or requirements in addition to those of the Department.

If you have any questions pertaining to this letter or attached decision, please contact Bill Yantawood at (262) 574-2123.

Respectfully,

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Llovd Eagan, Director Bureau of Air Management

Enclosures

cc: Michael Gromacki—Cook Composites and Polymers Co. Tom Steidl - LS/5 Robert Eckdale - AM/7 Bill Yantawood - SER-Waukesha Ron Dillahunt - SER-Plymouth



## BEFORE THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

In the matter of a request for approval of ) a thermal oxidizer and process vent ) header system located at the Cook ) Composites and Polymers Co. facility at ) 340 Railroad Street, Saukville, ) Wisconsin, as an equivalent VOC ) control technology. )

DECISION AM-05-200

#### FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

#### FINDINGS OF FACT

The Department of Natural Resources (Department) finds that:

- 1. Cook Composites and Polymers Co. (CCP) is located at 340 Railroad Street, Village of Saukville, County of Ozaukee, Wisconsin.
- 2. CCP owns and operates synthetic resin manufacturing process vessels, including reaction tanks, thinning tanks, and blending tanks, at the facility which result in the emission of volatile organic compounds (VOCs) to the ambient air. These process vessels are collectively identified as part of "Process P11".
- 3. CCP's facility has maximum theoretical emissions of VOCs from the synthetic resin manufacturing process vessels greater than 25 tons per year.
- 4. CCP's facility constitutes a synthetic resin manufacturing facility, and the reaction tanks, thinning tanks, and blending tanks operated at the facility are subject to the requirements of s. NR 421.05, Wis. Adm. Code.
- 5. Section NR 421.05(2)(a), Wis. Adm. Code, requires that the owner or operator of a synthetic resin manufacturing facility to equip each vent from reaction tanks, and all blending tanks and thinning tanks, with an emission control system and requires that the emission control system shall be one of the following:
  - a. A surface condenser, or equally effective control device approved by the department, and a vapor recovery or control system that reduces emissions from the surface condenser or equally effective device by 85%.
  - b. An equivalent system or approach demonstrated to reliably control emissions from a process that does not include a condenser by not less than 90% as approved by the department.

- 6. CCP submitted a variance request dated May 8, 1995, to request an alternate compliance schedule and alternate limitations to meet the requirements under s. NR 421.05, Wis. Adm. Code. In a revised variance request received by the Department in June 1996 CCP proposed to meet the VOC emissions control requirement under s. NR 421.05(2)(a), Wis. Adm. Code, by June 30, 1997, using a thermal oxidizer control system.
- 7. CCP installed a thermal oxidizer and process vent header system at the facility to reduce VOC emissions from synthetic resin manufacturing process vessels. This system has been in operation since June 30, 1997.
- 8. The following process vessels are identified collectively as "Process P11", and their vents are interconnected and manifolded to a common header which is, in turn, ducted to the thermal oxidizer: 9 reaction kettles, 40 thinning, blending and adjusting tanks; and 12 other process and storage tanks. The process vent header system was designed to operate at a minimum negative pressure of 10 inches water column. This system is assumed, accordingly, to achieve 100% capture efficiency.
- 9. Compliance emissions testing of the thermal oxidizer was performed on September 25, 1997, and showed that the thermal oxidizer has a VOC destruction efficiency of 99.7% on average, adjusted for methane.
- 10. In a letter to the Department dated January 9, 2004, CCP requested approval to use the existing thermal oxidizer system as an equivalent system or approach under s. NR 421.05(2)(a)2., Wis. Adm. Code, for demonstrating compliance with the VOC emissions control requirement applicable to each vent from reaction tanks, blending tanks, and thinning tanks at CCP's facility.
- 11. CCP has demonstrated to the satisfaction of the Department that the thermal oxidizer and process vent header system is capable of reliably controlling VOC emissions from synthetic resin manufacturing operations at CCP's facility to a level at or above the 90% VOC emissions control requirement in s. NR 421.05(2)(a)2., Wis. Adm. Code.

#### CONCLUSIONS OF LAW

The Department concludes that:

- 1. The Department has the authority under s. 285.11, Stats., to promulgate rules to establish control techniques or operating procedures for a synthetic resin manufacturing facility.
- 2. The Department has the authority to approve an equivalent system for meeting VOC emission limitations under s. NR 421.05(2)(a), Wis. Adm. Code.
- 3. The issuance of this decision is reasonable and necessary to accomplish the purposes of ss. 285.01 to 285.87, Wis. Stats., and s. NR 421.05(2)(a) and s. NR 421.05(2)(a)2., Wis. Adm. Code.

### DECISION

Subject to the following conditions, the Department hereby approves the thermal oxidizer and process vent header system at the CCP facility as an equivalent system<sup>1</sup> under s. NR 421.05(2)(a), Wis. Adm. Code, for demonstrating compliance with the VOC emissions control requirement under s. NR 421.05(2)(a)2., Wis. Adm. Code, which applies to the CCP facility's 9 reaction kettles, 40 thinning, blending and adjusting tanks:

- 1. CCP shall control volatile organic compound emissions from the vents of each reaction tank, blending tank, and thinning tank to achieve at least 90.0% destruction efficiency through the use of a thermal oxidizer. CCP shall achieve a destruction efficiency consistent with that required under the facility's Title V Federal Operating Permit<sup>2</sup>. [s. 285.65(7), Wis. Stats.]
- 2. CCP shall achieve 100% capture of volatile organic compound emissions from the vents of each reaction tank, blending tank, and thinning tank through the use of a thermal oxidizer and process vent header system. [s. 285.65(7), Wis. Stats.]
- 3. CCP shall operate the process vent header system under negative pressure at all times during emission unit P11's reaction, blending, and thinning activities, including, but not limited to, transfers between vessels and residual venting of volatile organic compound emissions from idle vessels. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]
- 4. CCP shall monitor each valve, pump, sealed agitator, compressor, flange and relief valve used with a process stream which contains at least 10.0% VOCs by weight and shall monitor each flange, joint, and connection along the process vent header system using Method 21 of Appendix A, 40 CFR part 60, incorporated by reference in s. NR 484.04. The monitoring schedule shall be as follows:
  - a. Monitor each valve, pump, sealed agitator, compressor and relief valve that is located within 2.0 meters (6.6 feet) of a permanent support surface once during each calendar quarter.
  - b. Monitor all other valves, pumps, sealed agitators, compressors and relief valves, and flanges, and monitor each flange, joint, and connection along the process vent header system once during each calendar year.
  - c. Notwithstanding condition 4.a., if less than or equal to 2% of the valves monitored pursuant to condition 4.a. are found to leak for 5 consecutive quarters, monitoring of valves under condition 4.a. will not be required for the following 3 consecutive quarters. Monitoring shall be conducted during the next quarter and every fourth quarter thereafter. If, during monitoring required under this condition, more than 2% of valves monitored are found to leak, quarterly monitoring under condition 4.a. shall be reinstituted in the next quarter.

<sup>&</sup>lt;sup>1</sup> Consistent with s. NR 421.05(2)(a), Wis. Adm. Code, this equivalent system approved by the Department shall be submitted to, and will not become effective for federal purposes until approved by, the USEPA administrator or designee as a source-specific revision to the Department's state implementation plan for ozone.

<sup>&</sup>lt;sup>2</sup> The facility's current Title V operating permit requires 99.0% control efficiency, based on an assumed 100% capture efficiency and a demonstrated destruction efficiency that exceeds 99.0%.

[s. NR 421.05(2)(e), Wis. Adm. Code, and ss. NR 424.03(2), and NR 424.03(1)(b), Wis. Adm. Code (LACT)]

- CCP shall check bimonthly by visual inspection for indications of dripping liquid each valve, pump, sealed agitator, compressor, flange and relief valve and shall visually check for indications of dripping liquid, bimonthly, each flange, joint, and connection along the process vent header system.
  [s. NR 421.05(2)(f), Wis. Adm. Code, and ss. NR 424.03(2), and NR 424.03(1)(b), Wis. Adm. Code (LACT)]
- 6. CCP shall repair all leaks detected as soon as practicable, but not later than 15 calendar days after leak detection unless the repair is technically infeasible without a process unit shutdown. In the case of such infeasibility, repair shall occur before the end of the next process unit shutdown. [s. NR 421.05(2)(g), Wis. Adm. Code, and ss. NR 424.03(2), and NR 424.03(1)(b), Wis. Adm. Code (LACT)]
- 7. CCP shall operate the thermal oxidizer at all times during emission unit P11's reaction, blending, and thinning activities, including, but not limited to, transfers between vessels and residual venting of volatile organic compound emissions from idle vessels. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]
- CCP shall install, calibrate, maintain, and operate a device capable of measuring the temperature of the primary chamber of the thermal oxidizer. [ss. NR 439.055(1)(d), NR 407.09(4)(a)3.b., Wis. Adm. Code]
- 9. CCP shall maintain the temperature of the primary chamber of the thermal oxidizer at a minimum of 1,400 °F. [ss. NR 407.09 (1)(a) and NR 439.11(4), Wis. Adm. Code]
- CCP shall select and install a temperature monitoring device that has an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or ± 5°F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater. [s. NR 439.055(3)(a), Wis. Adm. Code]
- 11. All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly, at a frequency based on good engineering practice as established by operational history, or as recommended by the manufacturer of the equipment, whichever is more frequent. [s. NR 439.055(4), Wis. Adm. Code]
- 12. CCP shall document to the Department all repairs of detectable leaks of VOCs for each calendar quarter. This documentation shall include a description of the equipment that leaked, date of detection, date of repair, dates of follow-up inspection, and an explanation of what caused the leak. This documentation is to be submitted to the Department within one month after the close of the calendar quarter during which the leaks were detected and repaired. [ss. NR 421.05(2)(h), and NR 407.09(4)(a)3.b., Wis. Adm. Code.]
- 13. CCP shall conduct a test consistent with s. NR 439.07, Wis. Adm. Code, to document the VOC emissions destruction efficiency of the thermal oxidizer as follows:

- a. The test shall be conducted within 120 days after receipt of approval of this decision by the USEPA administrator or designee as a source-specific revision to the Department's state implementation plan for ozone, using USEPA Method 18, 25, or 25A, while operating at 100% capacity.
- b. If operation at 100% capacity is not feasible, the source shall operate at a capacity level that is approved by the Department in writing.
- c. The Department shall be informed in writing at least 20 working days prior to any emission testing so a Department representative can witness the testing. At the time of notification an emission test plan shall also be submitted to the Department for approval. When approved by the Department, another USEPA approved Method may be substituted for the recommended test method.
- d. If the compliance emission tests cannot be conducted by the dates required in this condition, CCP may request and the Department may approve, in writing, an extension of time to conduct the test(s).
- e. Two copies of the report on the tests shall be submitted to the Department for evaluation within 60 days after the tests.
- [s. NR 439.075(1)(b), NR 439.07(1) and (2), Wis. Adm. Code]
- CCP shall conduct periodic emission testing consistent with s. NR 439.07 and s. NR 439.075, Wis. Adm. Code, to demonstrate compliance with the VOC emissions destruction efficiency requirement as follows:
  - a. The testing shall be conducted at the beginning of each 60-month operation permit term, within 180 days of the issuance date of the renewed operation permit, using USEPA Method 18, 25, or 25A, while operating at 100% capacity.
  - b. If operation at 100% capacity is not feasible, the source shall operate at a capacity level that is approved by the Department in writing.
  - c. The Department shall be informed in writing at least 20 working days prior to any emission testing so a Department representative can witness the testing. At the time of notification an emission test plan shall also be submitted to the Department for approval. When approved by the Department, another USEPA approved Method may be substituted for the recommended test method.
  - d. If the compliance emission tests cannot be conducted by the dates required in this condition, CCP may request and the Department may approve, in writing, an extension of time to conduct the test(s).
  - e. Two copies of the report on the tests shall be submitted to the Department for evaluation within 60 days after the tests.

[ss. NR 439.075(1)(c), NR 439.07, Wis. Adm. Code]

- 15. The temperature of the primary chamber of the thermal oxidizer shall be monitored and recorded on a continuous basis. [ss. NR 439.055(2) (a) and NR 439.04(3), Wis. Adm. Code]
- 16. CCP shall maintain a log of operating time for the thermal oxidizer and monitoring equipment. [s. NR 439.04(3), Wis. Adm. Code]
- 17. CCP shall keep a maintenance log for the thermal oxidizer and monitoring equipment, detailing all routine and non-routine maintenance performed including the date and duration of any outages or equipment failure. [s. NR 439.04(1)(b) and (d), Wis. Adm. Code]
- Whenever any testing is required to measure the organic compound emission concentrations or emission rates for the purpose of demonstrating compliance, CCP shall use Method 18, 25, 25A or 25B in 40 CFR part 60, Appendix A. [s. NR 439.06(3)(a), Wis. Adm. Code]
- 19. Whenever any testing of a material to determine the organic solvent content, the volume of solids, the weight of solids, the water content or the density is required for the purpose of demonstrating compliance, CCP shall use U.S. EPA Method 24 in 40 CFR part 60, Appendix A. [s. NR 439.06(3)(b), Wis. Adm. Code]
- 20. CCP shall submit the documentation required under condition 12. to the Department within one month after the close of the calendar quarter during which the leaks were detected and repaired. [s. NR 421.05(2)(h), Wis. Adm. Code]
- 21. CCP shall submit an annual certification of compliance report with the requirements of this decision to the Department every 12 calendar months.
  - a. The time period to be addressed by the report is the January 1 to December 31 period which precedes the report.
  - b. The report shall be submitted to Wisconsin Department of Natural Resources, Plymouth Service Center Air Compliance, P.O. Box 408, Plymouth, WI 53073, within 45 days after the end of each reporting period.
  - c. The information included in the report shall comply with the requirements of ss. NR 439.03(1)(c), (8), (9), and (10), Wis. Adm. Code.
  - d. Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report.
  - [s. NR 439.03(1)(b) and (c), NR 407.09(4)(a)3.b., Wis. Adm. Code]

#### NOTICE OF APPEAL RIGHTS

If you believe you have a right to challenge this decision, you should know that Wisconsin Statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition shall name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 285.81, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30 day filing period for filing a petition for judicial review.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES For the Secretary

Lloyd Eagan, Director

Bureau of Air Management

Dated: 2/24/05