

24 October 2006

Ms. Joanne Bagley, President  
Kenyon Industries, Inc.  
36 Sherman Avenue  
Kenyon, RI 02836

Dear Ms. Bagley:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your request for a minor source permit for the installation of air pollution control equipment at your 36 Sherman Avenue, Kenyon facility.

Enclosed are permit conditions and emission limitations for the minor source permit (Approval Nos. 1738 and 1921).

As we had discussed, this minor source permit addresses only the replacement of the existing thermal oxidizer (Approval No. 1739) with a new, regenerative thermal oxidizer. This approval does not address your request to revise certain emission limitations for listed toxic air contaminants emitted from your facility. This portion of your application is under review by the staff of the Toxics & Attainment Section of the Office of Air Resources. When the review is complete and a new Air Toxics Operating Permit is issued to Kenyon Industries, we will make the necessary revisions to this minor source permit.

I can be reached at 222-2808, extension 7011 if there are any questions.

Sincerely,

Douglas L. McVay  
Associate Supervising Engineer  
Office of Air Resources

cc: South Kingstown Building Official

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

*KENYON INDUSTRIES, INCORPORATED*

APPROVAL NOs. 1738 and 1921  
(revised October 2006)

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

**Kenyon Industries, Incorporated**

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For the following:

*Installation of a new Dürr Environmental Therm RL Mark III Model No. RL25-V2-95 regenerative thermal oxidizer (RTO) (Approval No. 1921) to control VOC emissions from coating lines KK-4, KK-5, and KK-6 and the Blend Room.*

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Located at: 36 Sherman Avenue, Kenyon

**This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Kenyon Industries, Incorporated* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.**

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Stephen Majkut, Chief  
Office of Air Resources

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Date of issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

**KENYON INDUSTRIES, INCORPORATED**

Approval Nos. 1738 and 1921  
(revised October 2006)

- A. Emission Limitations (KK-4, KK-5 and KK-6 coating lines)
1. VOC emissions generated from the KK-4, KK-5, and KK-6 fabric coating lines shall be captured and contained for discharge to an air pollution control device for VOC.
  2. VOC emissions generated from the KK-4, KK-5, and KK-6 fabric coating lines shall be reduced by 98 percent or greater. This is to be achieved through a combination of 100 percent capture of the VOC generated by the coating line and a 98 percent destruction of this VOC.
  3. The destruction efficiency of the regenerative thermal oxidizer (RTO) for VOC shall be at least 98 percent.
  4. The total quantity of VOC discharged to the RTO shall not exceed 850 lbs per hour, the maximum loading capacity of the oxidizer.
  5. The total quantity of VOC applied to the substrate on KK-4 shall not exceed 111,667 lbs. per month (12-month rolling average).
  6. The total quantity of toluene applied to the substrates on KK-4, KK-5 and KK-6 shall not exceed the following:
    - a. 422.7 lbs. per hour for KK-5 and KK-6 combined, and;
    - b. 654.3 lbs. per hour for KK-4, KK-5, and KK-6 combined.
  7. The total quantity of xylene applied to the substrates on KK-4, KK-5 and KK-6 shall not exceed the following:
    - a. 124.0 lbs. per hour for KK-5 and KK-6 combined, and;
    - b. 293.8 lbs. per hour for KK-4, KK-5, and KK-6 combined.

8. The total quantity of any one Hazardous Air Pollutant (HAP) applied to the substrate on KK-4 shall not exceed 75,000 lbs. per month (12-month rolling average).

B. Operating Requirements

1. The operating temperature of the RTO shall be maintained at or above 1500°F whenever VOC is being discharged to the RTO, or at a lower temperature that has been demonstrated in the most recent compliance test to achieve the required destruction efficiency.
2. The operating temperature of the RTO shall never exceed 1800°F.
3. The KK-4, KK-5, and KK-6 coating equipment shall each be equipped with an interlock to prevent operation of the coating equipment if the operating temperature of the RTO is less than the temperature specified in Condition B.1.
4. All access doors and windows in the coating station enclosures at KK-1, KK-2, KK-4, KK-5, and KK-6 shall be closed during routine operation of the coating equipment. Brief, occasional openings of doors to allow for access and inspection are acceptable.
5. Air passing through any opening in the capture systems for KK-1, KK-2, KK-4, KK-5, or KK-6 shall flow into the enclosures continuously.
6. To ensure 100 percent capture of the VOC generated, the KK-1, KK-2, KK-4, KK-5, and KK-6 coating lines must be equipped with a total enclosure. Each total enclosure must meet the criteria for a permanent total enclosure contained in 40 CFR Part 51, Appendix M, Method 204 – “Criteria For and Verification of a Permanent or Temporary Total Enclosure”.
7. All cleaning of the KK-4, KK-5, and KK-6 coating equipment with VOC-containing material shall be conducted with the air pollution control system operating. VOC emissions generating during cleaning shall be captured and contained and discharged through the RTO for destruction.

C. Continuous Monitoring

1. The RTO operating temperature shall be continuously monitored and recorded.
2. The static pressure within each enclosure shall be continuously monitored and recorded.

D. Stack Testing

1. Within 180 days of the startup of the RTO, performance testing shall be conducted to demonstrate compliance with all applicable emission limitations.
2. A stack testing protocol shall be submitted to the Office of Air Resources for review and approval prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any stack test.
3. All test procedures used for stack testing shall be approved by the Office of Air Resources prior to the performance of any stack tests.
4. The owner/operator shall install any and all test ports or platforms necessary to conduct the required stack testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
5. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitations.
6. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
7. All stack testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable.

E. Record Keeping and Reporting

1. The owner/operator shall collect, record and maintain the following information each month for each coating line and the air pollution control device:
  - a. The name, identification number and amount of each coating used on the KK-4, KK-5, and KK-6 coating lines;
  - b. The mass of VOC per unit volume of coating solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating used;
  - c. The type and amount of solvent used for diluents and clean up operations;
  - d. A log of operating time for the capture systems, RTO, monitoring equipment, KK-4, KK-5, and KK-6 coating equipment;
  - e. A maintenance log for the capture systems, RTO, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages;
  - f. All 3-hour periods of operation in which the average combustion temperature was more than 50°F below the average combustion

temperature during the most recent performance test that demonstrated that the facility was in compliance, and;

- g. The operating temperature of the RTO.
2. The owner/operator shall, on a monthly basis, no later than 10 business days after the first of the month, determine the total quantity of VOC applied to the substrate on KK-4 for the previous 12 months. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.
  3. The owner/operator shall notify the Office of Air Resources, within 15 days, whenever the total quantity of VOC applied to the substrate on KK-4 exceeds 111,667 lbs. per month (12-month rolling average).
  4. The owner/operator shall, on a daily basis determine:
    - a. the total quantity of toluene applied to the substrate on KK-5 and KK-6 combined, and;
    - b. the total quantity of toluene applied to the substrate on KK-4, KK-5 and KK-6 combined, and;
    - c. the total quantity of xylene applied to the substrate on KK-5 and KK-6 combined, and;
    - d. the total quantity of xylene applied to the substrate on KK-4, KK-5 and KK-6 combined, and;
    - e. the total quantity of toluene applied to the substrate on KK-1 and KK-2 combined, and;
    - f. the total quantity of xylene applied to the substrate on KK-1 and KK-2 combined, and;

The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.

5. The owner/operator shall notify the Office of Air Resources, within 24 hours, whenever:
  - a. the total quantity of toluene applied to the substrate on KK-5 and KK-6 combined exceeds 422.7 lbs. per hour, and;
  - b. the total quantity of toluene applied to the substrate on KK-4, KK-5 and KK-6 combined exceeds 654.3 lbs. per hour, and;

- c. the total quantity of xylene applied to the substrate on KK-5 and KK-6 combined exceeds 124.0 lbs. per hour, and;
  - d. the total quantity of xylene applied to the substrates on KK-4, KK-5 and KK-6 combined exceeds 293.8 lbs. per hour, and;
  - e. the total quantity of toluene applied to the substrate on KK-1 and KK-2 combined exceeds 295.9 lbs. per hour, and;
  - f. the total quantity of xylene applied to the substrate on KK-1 and KK-2 combined exceeds 165.2 lbs. per hour.
6. The owner/operator shall, on a monthly basis, no later than 10 business days after the first of the month, determine the total quantity of each HAP applied to the substrate on KK-4 for the previous 12 months. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.
7. The owner/operator shall notify the Office of Air Resources, within 15 days, whenever the total quantity of any one HAP applied to the substrate on KK-4 exceeds 75,000 lbs. per month (12-month rolling average).
8. The owner/operator must notify the Office of Air Resources no later than 24 hours after an exceedance of any of the emission limitations in Conditions A.2 or A.3 is discovered. Notification shall include:
- a. Identification of the emission limitation exceeded.
  - b. Suspected reason for the exceedance.
  - c. Corrective action taken or to be taken.
  - d. Anticipated length of the exceedance.
9. The owner/operator shall notify the Office of Air Resources of any record showing noncompliance with the terms of this permit or any other air pollution control rule or regulation applicable to the KK-4, KK-5, or KK-6 lines by sending a copy of the record to the Office of Air Resources within 30 days following the occurrence.
10. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.
11. The owner/operator shall notify the Office of Air Resources in writing of the date of actual start-up of the Dürr RTO, no later than 15 days after such date.

12. The owner/operator, before changing the method of compliance from control devices to daily-weighted averaging or complying coatings, shall submit a Compliance Certification Plan to the Office of Air Resources for review and approval. Such plan shall include:
  - a. The name and location of the facility.
  - b. The name, address, and telephone number of the person responsible for the facility.
  - c. The name and identification number of the emission units which will comply by means of daily-weighted averaging or complying coatings.
  - d. For daily-weighted averaging:
    - (1) The instrument or method by which the owner/operator will accurately measure or calculate the volume of each coating (excluding water), as applied, used each day on each emission unit.
    - (2) The method by which the owner/operator will create and maintain records each day as required by Subsection 19.5.2(c) of APC Regulation No. 19.
    - (3) The time at which the facility's day begins if a time other than midnight local time is used to define a day.
  - e. For complying coatings:
    - (1) The name and identification number of each coating, as applied, on each coating line or operation.
    - (2) The mass of VOC per volume coating (excluding water) and the volume of each coating (excluding water), as applied.
  - f. Information describing the effect of the change on emissions of any air contaminant.
  - g. A demonstration that emissions from the stationary source will not cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by APC Regulation No. 22.
13. The owner/operator shall notify the Office of Air Resources in writing, of any planned physical or operational change any equipment covered under this approval that would:
  - a. Change the representation of the facility in the application.



- b. Alter the applicability of any state or federal air pollution rules or regulations.
- c. Result in the violation of any terms or conditions of this permit.
- d. Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.
- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

14. All records required in this permit shall be maintained for a minimum of five years after the date of each record and shall be made available to representatives of the Office of Air Resources upon request.

F. Other Permit Conditions

1. The total combined quantity of toluene applied to the substrates on KK-1 and KK-2 shall not exceed 295.9 lbs/hr.
2. The total combined quantity of xylene applied to the substrates on KK-1 and KK-2 shall not exceed 165.2 lbs/hr.
3. To the extent consistent with the requirements of this permit and applicable federal and state laws, the equipment shall be designed, constructed and operated in accordance with the representation of the equipment in the permit application as prepared by ESS Group, Inc., dated 14 July 2006, as amended.
4. The owner/operator shall shut down the KK-4, KK-5, or KK-6 fabric coating equipment in the event of a malfunction of the emission capture systems and/or RTO that results in or that could result in, emissions in excess of the permit limits. The coating equipment shall remain shutdown until the malfunction has been identified and corrected.
5. There shall be no bypassing of the RTO during times when VOC is being discharged to the control device.
6. The owner/operator shall provide documentation within 60 days of issuance of this permit that the emission capture systems designed for the KK-1, KK-2, KK-5 and KK-6 coating lines meets the criteria for a permanent total enclosure as specified in Condition No. B.6.

7. Approval No. 1739 issued for the installation of the Smith Engineering thermal oxidizer is revoked. This revocation will become effective upon receipt of notification of the startup of the RTO.
8. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
9. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

G. Malfunctions

1. Malfunction means a sudden and unavoidable breakdown of process or control equipment. In the case of a malfunction of any air pollution control system, all reasonable measures shall be taken to assure resumption of the designed control efficiency as soon as possible. In the event that the malfunction of an air pollution control system is expected or may reasonably be expected to continue for longer than 24 hours and if the owner or operator wishes to operate the source on which it is installed at any time beyond that period, the Director shall be petitioned for a variance under Section 23-23-15 of the General Laws of Rhode Island, as amended. Such petition shall include, but is not limited to, the following:
  - a. Identification of the specific air pollution control system and source on which it is installed;
  - b. The expected period of time that the air pollution control system will be malfunctioning or out of service;
  - c. The nature and quantity of air contaminants likely to be emitted during said period;
  - d. Measures that will be taken to minimize the length of said period;
  - e. The reasons that it would be impossible or impractical to cease the source operation during said period.
2. The owner/operator may seek to establish that a malfunction of any air pollution control system that would result in noncompliance with any of the terms of this

permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:

- a. The malfunction was not attributable to improperly designed air pollution control equipment, lack of preventative maintenance, careless or improper operation, or operator error;
- b. The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- c. Repairs were performed in an expeditious fashion. Off-shift labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable.
- d. All possible steps were taken to minimize emissions during the period of time that the repairs were performed.
- e. Emissions during the period of time that the repairs were performed will not:
  - (1) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 and any Calculated Acceptable Ambient Levels; and
  - (2) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.
- f. The reasons that it would be impossible or impractical to cease the source operation during said period.
- g. The owner/operator's action in response to the excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.