

4 May 2007

Mr. Paul Donndelinger, Vice President - Engineering
Cooley Group, Inc.
50 Esten Avenue
Pawtucket, RI 02860

Dear Mr. Donndelinger:

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 50 Esten Avenue, Pawtucket facility.

Enclosed are permit conditions and emission limitations for the minor source permit (Approval No. 1986).

This minor source permit addresses only the replacement of the existing thermal oxidizer (Approval No. 1221) with a new, regenerative thermal oxidizer. This approval does not include emission limitations for listed toxic air contaminants emitted from your facility. That 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 Cooley Group, we will make any necessary revisions to this minor source permit and your operating 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: Pawtucket Building Official
Eric Pearson, ESS Group, Inc.

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

MINOR SOURCE PERMIT

COOLEY GROUP, INC.

APPROVAL NO. 1986

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

Cooley Group, Inc.

For the following:

Installation of a new L&E TR1488 Regenerative Thermal Oxidizer (RTO) to control VOC emissions from Coater 5 and the Stork Printer.

Located at: *50 Esten Avenue, Pawtucket*

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 *Cooley Group, Inc.* 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.

Stephen Majkut, Chief
Office of Air Resources

Date of issuance

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

Permit Conditions and Emission Limitations

COOLEY GROUP, INC.

Approval No. 1986

A. Emission Limitations

1. All VOC emissions generated from the No. 5 coating line and the Stork Printer shall be captured and contained for discharge to the regenerative thermal oxidizer (RTO).
2. VOC emissions generated from the No. 5 coating line and the Stork printer 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 RTO for VOC shall be a minimum of 98 percent.
4. The total quantity of VOC discharged to the RTO shall not exceed 400 lbs per hour, the maximum loading capacity of the RTO.

B. Operating Requirements

1. The operating temperature of the RTO shall be maintained at or above 1400°F whenever VOC is being discharged to the oxidizer, 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 No. 5 coating line and the Stork printer 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. To ensure 100 percent capture of the VOC generated, the No. 5 coating line and the Stork printer must each 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”.
5. All access doors and windows in the coating station enclosures at the No. 5 coating line and Stork printer shall be closed during routine operation of the coating

equipment. Brief, occasional openings of doors to allow for entering and exiting the enclosure is acceptable.

6. Air passing through any opening in the coating station enclosures for the No. 5 coating line and Stork printer shall flow into the enclosure continuously.
7. All cleaning of the No. 5 coating line and the Stork printer coating equipment with VOC containing material shall be conducted with the air pollution control system operating. VOC emissions generated during cleaning shall be captured and contained and discharged through the RTO for destruction.
8. All mixing of coatings and or inks shall be conducted within one of the total enclosures with the air pollution control system operating.

C. Continuous Monitoring

1. The combustion temperature of the RTO shall be continuously monitored, indicated, and recorded.

D. Stack Testing

1. Within 180 days of the initial start-up of the RTO, emissions testing shall be conducted to demonstrate compliance with the percent destruction efficiency requirement.
2. Two copies of an emission testing protocol shall be submitted to the Office of Air Resources for review and approval prior to the performance of any tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any emissions test.
3. All test procedures used for emissions testing shall be approved by the Office of Air Resources prior to the performance of any emissions test.
4. The owner/operator shall install any and all test ports or platforms necessary to conduct the required emission 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 or air quality standards.
6. A final report of the results of emission testing shall be submitted to the Office of Air Resources no later than 60 days following completion of the testing.
7. All emissions 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 the No. 5 coating line, the Stork printer, and the air pollution control device:
 - a. The name, identification number and amount of each coating used on each coating line;
 - 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 system, RTO, monitoring equipment and coating equipment;
 - e. A maintenance log for the capture system, thermal oxidizer, 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. Deviations from permit conditions, including those attributable to upset conditions as defined in this permit, shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
3. 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 No. 5 coating line or Stork printer by sending a copy of the record to the Office of Air Resources within 30 days following the occurrence.
4. 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.

5. The owner/operator shall notify the Office of Air Resources in writing of the date of actual start-up of the L & E RTO, no later than 15 days after such date.
6. The owner/operator shall maintain a record of all measurements, performance evaluations, calibration checks and maintenance or adjustments for each continuous monitor.
7. 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.
- 8. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to any equipment 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.

- 9. 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. 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 23 March 2007.
- 2. The owner/operator shall shut down the No. 5 coater and the Stork printer 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.
- 3. There shall be no bypassing of the RTO during any time when VOC is being discharged to the control device.

4. Approval No. 1221 issued for the installation of the CVM thermal oxidizer is revoked. This revocation will become effective upon startup of the RTO.
5. 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.
6. 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.

H. Trial Surface Coating Operations

1. The owner/operator may conduct trial surface coating operations subject to the following conditions. Trial surface coating operations do not include the production for sale of established products through established processes.
 - a. The owner/operator shall comply with the provisions of Air Pollution Control Regulation No. 9 by limiting the total quantity of emissions discharged to the atmosphere, from the trial surface coating operations to no more than:
 - (1) 10 pounds per hour or 100 pounds per day of VOC, whichever is more stringent; and,
 - (2) the minimum quantity for any listed toxic air contaminant, as specified in Appendix A of Air Pollution Control Regulation No. 9.
 - b. The owner/operator shall comply with the provisions of Air Pollution Control Regulation No. 19 by limiting emissions from the trial surface coating operations to no more than:
 - (1) 4.79 pounds of VOC per gallon of solids if add-on VOC control equipment is used on the surface coating line, or;
 - (2) 2.9 pounds of VOC per gallon of coating, minus water, if add-on VOC control equipment is not used on the surface coating line
 - c. The owner/operator shall maintain the following records to determine compliance with Air Pollution Control Regulation No. 9 for the trial surface coating operations. These records shall be maintained for a period of five (5) years and shall be available for inspection by the Office of Air Resources and the Environmental Protection Agency upon request for the purpose of determining compliance with this condition. These records shall include the following:
 - (1) The date, start time and end time for each coating trial and the quantity of coating used for each coating trial;
 - (2) The name, identification number and amount used each hour and each day of each coating, as applied.
 - (3) For each coating used, the VOC content in, pounds of VOC per gallon of coating and pounds of VOC per gallon of coating solids, as applied, and the quantity of any listed toxic air contaminant in pounds per gallon of coating as applied;

- (4) The type and amount of any solvent used for diluents and cleanup operations.
 - (5) Records of any and all calculations documenting the as applied VOC content in pounds per gallon of coating and pounds per gallon of coating solids and the listed toxic air contaminant content in pounds per gallon of coating.
- d. The owner/operator shall notify the Office of Air Resources in writing, within 5 days, whenever the total quantity of emissions discharged to the atmosphere, from the trial operations exceeds:
- (1) 10 pounds per hour or 100 pounds per day of VOC, whichever is more stringent; or,
 - (2) the minimum quantity for any listed toxic air contaminant, as specified in Appendix A of Air Pollution Control Regulation No. 9.
- e. The owner/operator shall notify the Office of Air Resources in writing, within 5 days, whenever the VOC emissions from the trial operations exceeds:
- (1) 4.79 pounds of VOC per gallon of solids if add-on VOC control equipment is used on the surface coating line, or;
 - (2) 2.9 pounds of VOC per gallon of coating, minus water, if add-on VOC control equipment is not used on the surface coating line.