

8 December 2009

Mr. James Golinveaux
General Manager, Water Fire Suppression Products
Tyco Fire and Building Products
1467 Elmwood Avenue
Cranston, RI 02910

Dear Mr. Golinveaux:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your request for minor source permits for air pollution control equipment at your facility at 1467 Elmwood Avenue, Cranston, RI.

Enclosed is a revised minor source permit issued pursuant to our review (Approval Nos. 2082 & 2083).

I may be reached at 401-222-2808, extension 7110 if there are any questions.

Sincerely,

Ruth A. Gold
Senior Air Quality Specialist
Office of Air Resources

cc: Alvin J. Snyder, Environmental Resource Associates, Inc.
Cranston Building Official

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

MINOR SOURCE PERMIT

Tyco Fire and Building Products

APPROVAL NOs. 2082 & 2083

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

Tyco Fire and Building Products

For the following:

Installation of an AirPol wet electrostatic precipitator (WESP) to control particulate emissions generated from fire research testing in Building 3 prior to discharge to the atmosphere (Approval No. 2082). Installation of an electrostatic precipitator (United Air Specialist Smog Hog, Model SH-10) to control particulate emissions generated from fire research testing in Building 2A prior to discharge to the atmosphere (Approval No. 2083).

Located at: *1467 Elmwood Avenue, Cranston*

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 *Tyco Fire and Building Products* 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.

**Douglas L. McVay, Acting 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

TYCO FIRE AND BUILDING PRODUCTS

APPROVAL NOs. 2082 & 2083

A. Emission Limitations

1. Air contaminants generated from fire research testing activities conducted in Building 3 shall be captured, contained, and routed to the WESP (Approval No. 2082) for treatment prior to discharge to the atmosphere.
2. Air contaminants generated from fire research testing activities conducted in Building 2A shall be captured, contained, and routed to the Smog Hog (Approval No. 2083) for treatment prior to discharge to the atmosphere.
3. Particulate emissions routed to the WESP and the Smog Hog shall be reduced by 90% or greater, before discharge to the atmosphere.
4. Visible emissions from the exhaust of each control device shall not exceed 10% opacity. Compliance determinations shall be performed as per 40 CFR 60, Appendix A, Method 9 and all observers must qualify as per 40 CFR 60, Appendix A, Method 9.

B. Operating Requirements

1. The owner/operator shall limit the number of fire research tests performed at the facility to the following:
 - a. The total combined quantity of fire research tests conducted in the Low Bay, High Bay, and the Old High Bay shall not exceed 300 tests in any consecutive 12-month period.
 - b. The total combined quantity of fire research tests conducted in the Demo Cells shall not exceed 240 tests in any consecutive 12-month period.
 - c. The total quantity of fire research tests conducted in Building 2A shall not exceed 150 tests in any consecutive 12-month period.
2. There shall be no bypassing of the WESP or the Smog Hog during times when air contaminants are being discharged to each device.
3. Fire research testing materials may include all materials previously identified in the permit application, as well as new materials, provided that for any new test

array that cannot be reasonably represented by test array calculations presented in the permit application, emission factors shall be prepared and kept on file at the facility and shall be made available to the Office of Air Resources upon request.

4. There will be no fire testing of pesticides, herbicides, ordnance, or condensed phase explosives.

C. Emissions Testing

1. Within 180 days of commencing operation of test burns in the Building 3, air emissions testing shall be conducted at the WESP inlet and outlet. Emissions testing shall be conducted for particulate matter to demonstrate compliance with the emission limitation in Condition A.3.
2. An emission testing protocol shall be submitted to the Office of Air Resources for at least 60 days prior to the performance of any emissions tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any emissions test.
3. The owner/operator shall install any and all test ports or platforms necessary to conduct the required testing, provide safe access to any platforms, and provide the necessary utilities for sampling and testing equipment.
4. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitations.
5. A final report of the results of any compliance testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
6. All emissions testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable, unless the Office of Air Resources provides authorization to the owner/operator to conduct the testing without an observer present.

D. Record Keeping and Reporting

1. The owner/operator shall maintain daily records of fire research testing operations, including;
 - a. The type and amount of material and/or fuel burned,
 - b. the location and date of each test burn,
 - c. the emission factors or calculation procedures for each fire research test, sufficient to determine actual emissions from each test,

- d. the hours of operation of the WESP and the Smog Hog including start-up, shut down and malfunctions, and
 - e. a written description of any malfunctions of the WESP or the Smog Hog, including the time and date of the malfunction, the duration of the malfunction, and the corrective action taken.
2. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month determine the total combined quantity of fire research tests conducted in the Low Bay, High Bay, and Old High Bay for the previous twelve months.
 3. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month determine the total combined quantity of fire research tests conducted in the Demo Cells for the previous twelve months.
 4. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month determine the total combined quantity of fire research tests conducted in Building 2A for the previous twelve months.
 5. The owner/operator shall notify the Office of Air Resources, in writing, within 30 days after the first of the month, whenever:
 - a. The total combined quantity of fire research tests conducted in the Low Bay, High Bay, and Old High Bay exceeds 300 for the previous twelve months period.
 - b. The total combined quantity of fire research tests conducted in the Demo Cells exceeds 240 for the previous twelve months period.
 - c. The total quantity of fire research tests conducted in Building 2A exceeds 150 for the previous twelve months period.
 6. For each new fire research test array not submitted with the original permit application, the owner/operator shall submit the following information to the Office of Air Resources prior to conducting the new test:
 - a. The type and amount of material and/or fuel to be used in the test,
 - b. the planned location of each test burn,
 - c. the emission factors or calculation procedures for each test, sufficient to determine actual emissions from each test, and
 - d. the expected frequency and duration of the new test.
 7. The owner/operator shall notify the Office of Air Resources in writing of the actual initial start-up of the new WESP, no later than 15 days after such date.

8. The owner/operator shall notify the Office of Air Resources in writing of the actual initial start-up of the new Smog Hog, no later than 15 days after such date.
9. 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.
10. 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.

11. The owner/operator shall notify the Office of Air Resources, in writing, of any noncompliance with the terms of this permit within 30 calendar days of becoming aware of such occurrence and supply the Director with the following information:
 - a. The name and location of the facility;
 - b. The subject source(s) that caused the noncompliance with the permit term;
 - c. The time and date of first observation of the incident of noncompliance;
 - d. The cause and expected duration of the incident of noncompliance;
 - e. The estimated rate of emissions (expressed in lbs/hr or lbs/day) during the incident and the operating data and calculations used in estimating the emission rate.

- f. The proposed corrective actions and schedule to correct the conditions causing the incidence of noncompliance.
12. All records required as a condition of this approval must be made available to the Office of Air Resources or its representative upon request. These records must be maintained for a minimum of five years after the date of each record.

E. Malfunctions

1. In the case of a malfunction of the 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 the 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 necessary to bring the air pollution control system back to operating at its design control efficiency 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. Any parts or material needed should be shipped overnight where possible or practical.
- 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.

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.

F. Other Permit Conditions

1. To the extent consistent with the requirements of this approval and applicable federal and state laws, the facility shall be designed, constructed and operated in accordance with the representation of the facility in the permit application.
2. 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.
3. 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.

4. The Office of Air Resources may reopen and revise this permit if it determines that:
 - a. a material mistake was made in establishing the operating restrictions; or,
 - b. inaccurate emission factors were used in establishing the operating restrictions; or,
 - c. emission factors have changed as a result of stack testing or emissions monitoring.