

7 June 2013

Mrs. Stephanie Benson
Environmental Manager
Toray Plastics (America), Inc.
50 Belver Avenue
North Kingstown, RI 02852-7500

Dear Mrs. Benson:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for process modifications at your facility, located at 50 Belver Avenue, North Kingstown, RI.

Enclosed is a minor source permit issued pursuant to our review of your application (Approval No. 2212).

If there are any questions concerning this permit, please contact me at 401-222-2808, extension 7016.

Sincerely,

Gina Friedman
Principal Air Quality Specialist
Office of Air Resources

cc: Kelly A. Cowan, P.E., Woodard & Curran

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

MINOR SOURCE PERMIT

TORAY PLASTICS (AMERICA), INC.

APPROVAL NO. 2212

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

Toray Plastics (America), Inc.

For the following:

Use filtered process wastewater, following biological treatment, as makeup water for the existing cooling tower system in lieu of city water.

Located at: 50 Belver Avenue, North Kingstown

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 *Toray Plastics (America), 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.

Douglas L. McVay, 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

TORAY PLASTICS (AMERICA), INC.

APPROVAL NO. 2212

A. Emission Limitations

1. The concentration of 1,4-dioxane and acetaldehyde discharged from the effluent tub of the wastewater treatment system to the cooling towers shall not exceed:
 - a. 1,4-dioxane: 53,000 µg/l
 - b. Acetaldehyde: 910 µg/l

The limitations shown in µg/l must not be exceeded for any wastewater sample tested from the effluent tub as required in Condition C.5 of this permit.
2. The total quantity of 1,4-dioxane emissions discharged to the atmosphere from the cooling towers shall not exceed:
 - a. 0.018 pounds per hour; and,
 - b. 0.66 pounds in any consecutive 12-month period.
3. The total quantity of acetaldehyde emissions discharged to the atmosphere from the cooling towers shall not exceed:
 - a. 227 pounds in any consecutive 12-month period.

B. Operating Requirements

1. The total quantity of process wastewater discharged to the cooling towers shall not exceed 30,000,000 gallons in any consecutive 12-month period.
2. Any wastewater which does not meet a turbidity limit which corresponds to a total suspended solids (TSS) limitation of 128 mg/l must be immediately diverted from the cooling towers to the Quonset Wastewater Treatment Facility. In lieu of using turbidity, TSS may be used directly.

3. The owner/operator shall not use chromium-based biocides and/or chromium based fungicides in the cooling towers.
4. The owner/operator shall maintain the cooling towers in accordance with the manufacturer's (Marley) recommendations.
5. The cooling towers shall be equipped with Drift Eliminators to minimize water drift losses and plume visibility. The owner/operator shall maintain the drift eliminators and conduct any recommended tests in accordance with the manufacturer's recommendations.

C. Monitoring/Testing

1. The owner/operator must measure and record the volume of wastewater discharged from the effluent tub of the wastewater treatment system to the cooling towers continuously.
2. The facility shall continue to perform and submit effluent sampling in accordance with the requirements of the pretreatment plant discharge permit (Quonset Wastewater Treatment Facility Wastewater Discharge Permit).
3. The facility shall be equipped with a continuous TSS monitor to continuously monitor the final effluent from the treatment system prior to discharge to the cooling towers. This monitor must be set to alarm if the treated effluent equals or exceeds a TSS limitation 128 mg/l. The facility must be prepared on a 24-hour basis to stop the flow of any non-compliant wastewater to the cooling tower upon detection. During the initial calibration period if the owner/operator determines that this limitation is not reflective of compliant system performance then they may submit documentation and data which reflects a more appropriate limitation. The TSS effluent monitor must be equipped with a recorder.
4. The owner/operator shall continuously monitor the pH of water in the effluent tub prior to discharge. This monitor must have the ability to record pH in a range of 0-12 and must be equipped with a recorder.
5. The owner/operator shall monitor the concentration of 1,4-dioxane, acetaldehyde, ethylene glycol, methanol, and formaldehyde in the effluent tub discharge prior to the cooling towers. Sampling shall be conducted for a minimum of one day per month, and may be composited in the lab if allowed by approved EPA methodology. The sampling shall be conducted within the first 12 month period that the wastewater is discharged to the cooling tower and shall ensure that processes which are manufactured at the facility during that 12 month period that can contaminate the wastewater are included. Toray must record and maintain records of what process were run prior to the sampling and must account for the delay within the treatment system. The duration of each sample and any compositing method shall be compliant with an appropriate approved EPA

method. The owner/operator may propose alternatives to this testing requirement after conducting a minimum of 12 months of testing. Such alternatives shall not be implemented until the Office of Air Resources issues a written approval of the proposal.

6. Monthly sampling shall be conducted for all pollutants required by the Quonset Point Wastewater Treatment Facility Wastewater Discharge Permit excluding BOD, COD, oil/grease, 1,3-dichlorobenzene, and diethyl phthalate. The sampling shall be conducted within the first 6 month period that the process wastewater is discharged to the cooling towers and shall ensure that processes which are manufactured at the facility during that 6 month period that can contaminate the wastewater are included. Toray must record and maintain records of what process were run prior to the sampling and must account for the delay within the treatment system. The duration of each sample and any compositing method shall be compliant with the requirements of the Quonset Point Wastewater Treatment Facility Wastewater Discharge Permit and an appropriate approved EPA method.
7. All analyses performed in condition C.5 and C.6 of this permit shall be performed at a certified laboratory. The owner/operator must ensure that the laboratory uses testing methods with the most stringent and consistent detection limitations available.

D. Record Keeping and Reporting

1. Results of the monthly monitoring performed pursuant to condition C.5 and C.6 of this permit shall be submitted to the Office of Air Resources within 45 days of completion of the sampling.
2. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the quantity of each listed toxic air contaminant discharged to the atmosphere from the cooling towers. Monthly and 12-month rolling averages shall be calculated. The owner/operator shall determine the one-hour emission rate for 1,4-dioxane using the equation below and substituting the maximum capacity of the cooling tower (814,680 gallons/hr) for Q_{eff} . The owner/operator shall keep records of each determination and provide such records to the Office of Air Resources upon request.

The quantity of each listed toxic air contaminant discharged to the atmosphere from the cooling towers shall be determined as follows:

$$E_i \text{ (lbs/month)} = Q_{eff} \times C_i \times 8.34 \text{ E-}09 \times D$$

Where:

$$E_i = \text{Emissions of a listed toxic air contaminant } i \text{ (lb/month)}$$

Q_{eff} = Volume of wastewater discharged from the effluent tub of the wastewater treatment system to the cooling towers (gal/month)

C_i = Concentration of listed toxic air contaminant i in the wastewater discharged from the effluent tub of the wastewater treatment system to the cooling towers ($\mu\text{g/l}$). For the first 12 months of discharge, the concentration shall be determined by the results of sampling required in Condition C5

D = % Drift – use only for 1,4-dioxane, 0.005% or 5.0 E-05

8.34 E-09 = Conversion factor for $\mu\text{g/l}$ to lb/gal

3. The owner/operator shall notify the Office of Air Resources, in writing, within 15 days of determining that the quantity of 1,4-dioxane or acetaldehyde discharged to the atmosphere from the cooling towers, exceeds the applicable 12-month emission limitations in Condition A.2 or A.3.
4. The owner/operator shall notify the Office of Air Resources, in writing, within 15 days of determining that the quantity of 1,4-dioxane discharged to the atmosphere from the cooling towers, exceeds the one-hour emission limitation in Condition A.2.a.
5. The owner/operator shall notify the Office of Air Resources in writing, within 5 business days of receiving test results that show that the monthly average concentration of 1,4-dioxane and/or acetaldehyde discharged from the effluent tub to the cooling towers exceeds the limitations set forth in Condition A.1 of this permit.
6. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the total quantity of process wastewater discharged to the cooling towers. Monthly and 12-month rolling averages shall be calculated. 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 in writing, within 15 days of determining that the total quantity of process wastewater discharged to the cooling towers exceeds 30,000,000 gallons in any consecutive 12-month period.
8. The owner/operator shall maintain all records for the TSS effluent monitor. The owner/operator shall keep records from this monitor and provide such records to the Office of Air Resources upon request.

9. The owner/operator shall maintain all maintenance records for the cooling towers and all maintenance and any recommended test records for the drift eliminators as required in this permit.
10. The owner/operator shall notify the Office of Air Resources, in writing, of the actual initial date that process wastewater is used in the cooling towers, no later than 15 days after such date.
11. Deviations from permit conditions shall be reported, in writing, within 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.
12. 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.
13. 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.

14. 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.
15. All records required in this permit, including all effluent sampling, shall be maintained onsite 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.

E. Other Permit Conditions

- 1. To the extent consistent with the requirements of this permit 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. The emission and dispersion characteristics of all sources of listed toxic air contaminants at the facility shall be consistent with the parameters used in the air quality modeling to demonstrate that the emissions of each listed toxic air contaminant does not cause an impact, at or beyond the property line of the facility, which exceeds the Acceptable Ambient Level for that substance. The Office of Air Resources, in its sole discretion, may reopen this minor source permit if it determines that the emission and dispersion characteristics have changed significantly and that emission limitations must be revised and/or added to this permit to ensure compliance with Air Pollution Control Regulation No. 22.
- 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. 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.
- 5. If there is any conflict between any emission limitation in this permit and any previously issued minor source permit, the owner/operator shall comply with the emission limitation in this permit.