

For Office Use Only
Executive Office of Environmental Affairs
 EOEA No.: 14130 R
 MEPA Analyst: Aisling Eglinton
 Phone: 617-626-1024

Environmental ENF Notification Form

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: American Polymers Inc. Cooling Water		
Street: 235 Old Webster Road		
Municipality: Oxford	Watershed: French River	
Universal Transverse Mercator Coordinates:	Latitude: 42.11671 Longitude: -71.89703	
Estimated commencement date: early 1960s*	Estimated completion date: early 1960s*	
Approximate cost: \$0	Status of project design: 100 %complete	
Proponent: American Polymers Inc.		
Street: 11 Buffum Dam Road		
Municipality: Oxford	State: MA	Zip Code: 01540
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Richard Lavengood,		
Firm/Agency: RELCO Engineering	Street: 293 Jarvis Ave.	
Municipality: Holyoke	State: MA	Zip Code: 01040
Phone: 413 538 5277	Fax: 413 538 5510	E-mail: relave@comcast.net

* For Site History see Attachment A.

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?

Yes No

Has this project been filed with MEPA before?

Yes (EOEA No. _____) No

Has any project on this site been filed with MEPA before?

Yes (EOEA No. _____) No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting: No

a Single EIR? (see 301 CMR 11.06(8)) Yes No

a Special Review Procedure? (see 301 CMR 11.09) Yes No

a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No

a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): NA

Are you requesting coordinated review with any other federal, state, regional, or local agency?

Yes (Specify _____) No

List Local or Federal Permits and Approvals: Existing NPDES discharge permit MA 0029050 and NPDES Stormwater Permit MAR 05C003

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- Land
- Water
- Energy
- ACEC

- Rare Species
- Wastewater
- Air
- Regulations

- Wetlands, Waterways, & Tidelands
- Transportation
- Solid & Hazardous Waste
- Historical & Archaeological Resources

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
LAND				<input type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input checked="" type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits (including Legislative Approvals) – Specify:
Total site acreage	6.4			
New acres of land altered		0		
Acres of impervious area	2.1	0	2.1	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		0		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage	48,000	0	48,000	
Number of housing units	0	0	0	
Maximum height (in feet)	48	0	48	
TRANSPORTATION				
Vehicle trips per day	35	0	35	
Parking spaces	15	0	15	
WASTEWATER				
Gallons/day (GPD) of water use	≤800,000**	0	≤800,000**	
GPD water withdrawal	≤800,000***	0	≤800,000***	
GPD wastewater generation/ treatment	NA			
Length of water/sewer mains (in miles)	NA			

** Current permitted discharge under NPDES permit is 800,000 GPD; current typical actual discharge is approximately 500,000 GPD.

*** Current permitted withdrawal is 0 GPD, current typical actual withdrawal is approximately 500,000 GPD, pending DEP Water Management Act Permit application requests a withdrawal of 800,000 GPD to be consistent with NPDES permit

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

Yes (Specify _____) No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes (PH 139 / WH 828)* No

(See Attachment C for discussion of rare species)

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify _____) No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify _____) No

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (You may attach one additional page, if necessary.)

American Polymers, Inc. (the "Proponent") operates a polystyrene manufacturing facility (the "Facility") located on an approximately 6.4 acre parcel of land at 235 Old Webster Road, Oxford, Massachusetts, which it leases from the current land-owner (the "Leased Premises"). The Proponent's rights under the lease include the right to withdraw water from Buffum Pond through an intake structure and related infrastructure (and to access the same for maintenance and operations) located on land adjacent to and southeast of the Leased Premises, (the "water infrastructure"). The Leased Premises and the water withdrawal infrastructure are collectively referred to as the "Site". The Proponent seeks a permit under the Water Management Act to permit an existing water withdrawal from Buffum Pond to use as cooling water at the Facility (the "Project").

The Site is bounded to the north by Buffum Dam Road, to the east by Old Webster Road, to the south by Buffum Pond, and to the west by a separate parcel owned by Proponent. According to the Town of Oxford Zoning Map, the Site is located in an industrial zoning district. There are two sheet metal buildings located at the Leased Premises: the 16,000 sf Facility and another 32,000 sf building used for warehousing, shipping and receiving, and office space. The total impervious area at the Leased Premises is approximately 2.1 acres, and includes the buildings, the impervious parking areas and driveways, and a concrete cooling pond measuring approximately 48' x 60' x 8' and holding approximately 140,000 gallons of water.

The Facility produces both crystal and impact polystyrene (polymer) from liquid styrene monomer. The Facility was built by the land-owner in the mid 1970s for the manufacture of polystyrene. The Proponent has operated this Facility since approximately 1984 (see Attachment A for site history). The manufacture of polystyrene from styrene monomer involves an exothermic (i.e., heat-producing) reaction. The heated polystyrene material must be cooled before it can be made into finished polystyrene (continued on Attachment B)

Attachment B

Project Description - cont'd.

products. Accordingly, the availability of cooling water was key to the viability of the process. The Proponent withdraws water from Buffum Pond for both contact and non-contact cooling, as did its predecessor. After the water is used to cool the polystyrene material, the water is discharged to a cooling pond and, after cooling, the water is ultimately returned to Buffum Pond under an NPDES discharge permit. Recent data gathered by Proponent indicates the withdrawal from Buffum Pond may involve the withdrawal of over 100,000 gpd for "consumptive use" thus requiring a permit under the Massachusetts Water Management Act. Since the actual water withdrawal from Buffum Pond (approximately 500,000 gpd) has been in place since the early 1970s, and the discharge into Buffum Pond is regulated under the NPDES permit, it is anticipated that there will be no new environmental impacts as a result of the Project.

Alternatives

The process of making polystyrene is exothermic. Therefore, heat must be removed from the manufacturing vessels. Cooling of the vessels is best achieved by circulating a cooling liquid through the jacket of the vessels. A source of cool liquid is required.

Using municipal water for cooling water at the Facility is not an option because public water service is not available at the Site nor does the Town of Oxford have plans to expand its current water service. One alternative water source would be to install groundwater wells and use well water to cool the process. However, it is unknown whether the aquifer can support the additional $\leq 800,000$ gpd requested permit withdrawal limit without adversely affecting nearby private drinking water wells used by neighboring land-owners and/or municipal water supply wells of the Town of Oxford (currently approximately 600,000 GPD withdrawal). Even if such wells could be installed, this alternative would not be economically feasible because the installation of a water storage tower would be required to provide capacity on demand.

The Facility currently uses the cooling water once and then discharges it to Buffum Pond (known as "once through cooling." Another alternative would be to cool the water and reuse it. The water could conceivably be cooled in a cooling tower prior to reuse, but this would result in a tremendous increase in evaporation (i.e. the Facility would actually have to withdraw more water to get the same amount of cooling, and less water would be returned to Buffum Pond). Also, a cooling tower would require treatment with fungicides and algacides which would ultimately discharged back into Buffum Pond. Further, the Proponent has previously looked at the cost of such a cooling tower and associated plumbing. The Proponent estimates that the capital costs would be approximately \$500,000, while operations and maintenance would be approximately \$100,000 annually. Accordingly this option is also not economically feasible at the Facility.