



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203-0001

November 7, 1997

Gregory S. Kowalczyk, Ph.D.  
Senior Environmental Analyst  
United Illuminating  
157 Church Street - P.O. Box 1564  
New Haven, CT 06506-0901

Dear Mr. Kowalczyk:

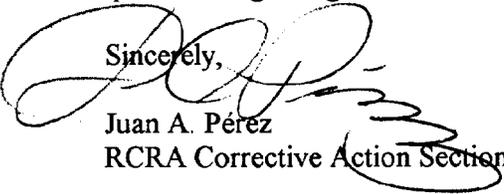
The purpose of this letter is to convey the findings of an evaluation to determine if your facility is stabilized under **current** site conditions. In general terms a stabilized facility is one where migration of releases and human exposure pathways have been controlled so that the facility poses no unacceptable risk to human health under current site conditions.

The measures of success used in this task are two environmental indicators: **Human Exposures Controlled** and **Groundwater Releases Controlled**. These two indicators are described in a July 29, 1994 memorandum from Michael Shapiro, EPA Director of Solid Waste. A copy of this memorandum is enclosed for your use.

The evaluation of existing information about the facility has led to the determination that the **Human Exposures Controlled** and **Groundwater Releases Controlled** indicators have been met. EPA's Environmental Indicator Findings and Supporting Arguments are enclosed. Please understand that this determination will stand only so long as the data, conditions and assumptions supporting it, as outlined in the enclosed memorandum, are maintained.

Meeting both environmental indicators and thereby achieving stabilization of the facility under current site conditions is a significant milestone for United Illuminating. Should you have any questions regarding this determination, please contact me at (617) 573-9683.

Sincerely,

  
Juan A. Pérez  
RCRA Corrective Action Section

Enclosures

cc: Marina Crawford, CT DEP



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**Bridgeport Harbor Station Facility**  
**EPA ID No.CTD000638627**  
**10 Henry Street, Bridgeport, CT**

**I. Site Description**

**A. Facility Operations**

The Bridgeport Harbor Station (BHS) is located at 1 Atlantic Street, Bridgeport, CT. It is owned and operated by United Illuminating, Inc. The station has been in operation as an electrical generating station since 1957, and employs about 200 people. Other industries located in the area include: The Bridgeport Port Authority, Bridgeport and Port Jefferson Steam Boat Company, Remington Products, The City of Bridgeport, ML Media Partners, and the L.P. and Bayway Refining Company.

The station encompasses about 86.9 acres of land bordered by the Pequonnock River to the east and Bridgeport Harbor to the south. The land use of the site is designated industrial while the surrounding area land use is primarily industrial/residential. The geographic location is shown in Figure 1.

BHS generates electricity using fossil-fuels from three generator units: one 410 megawatt, one 170 megawatt, and one 84.7 megawatt unit. Units 1 and 2 burn #6 oil, while Unit 3 burns coal and oil. A 22 megawatt combustion turbine burning aviation fuel is used for peak energy demands.

**B. Facility Setting**

**Geology**

Overburden in the vicinity of the Bridgeport area consists predominantly of glacial outwash plain deposits overlain by tidal marsh deposits and artificial fill. The outwash is composed of stratified medium to coarse grained sand with lenses of clay and gravel. The property lies within the western Highland Geomorphic province of Connecticut. The bedrock in the Bridgeport area is mapped as Derby Hill, a member of the Orange Formation which is Middle to Upper Ordovician in age. The Derby Hill member consists of a thin Muscovite schist and gneiss interlaced with granite schists.

**Groundwater**

Groundwater at the site flows from west southwest to east northeast toward the Pequonnock River. The groundwater in the vicinity of the facility is classified as "GB", not suitable for human consumption without treatment, by the Connecticut Department of Environmental Protection (CT DEP). There are no public or private drinking water supply wells located on the site or within a 1,000 feet radius of the facility. No municipal water supply systems are located within 4 miles of the property.

### Surface Water

Bridgeport Harbor is immediately south of the facility and is classified as “SC/SB”, indicating that it does not meet water quality criteria for one or more of designated uses due to severe pollution. Surface water in the vicinity of Bridgeport Harbor is classified as SC\SB by the CT DEP. The surface water runoff pathway drainage flows in a northeast direction toward the Pequonnock River. The most probable point of entry of contaminants toward surface water (from the property) is at the southern property boundary where the catch basin channels into the harbor.

Surface water systems serve the population within 4 miles, though there are no surface water systems located within 4 miles of the site. There are no known surface water drinking intakes within 15 downstream miles of the property. The Bridgeport Harbor Station is located within the Coastal Boundary. The site is located within the Coastal “Flood Hazard” Area (a 100-year coastal flood hazard) as defined by FEMA. UI is currently permitted under NPDES No. CT0003778 to discharge wastewater into Bridgeport Harbor.

### Potential Receptors

The nearest residence is 200 feet from the northeast of the site boundary; access to the facility is controlled by a chain link fence with a gate guarded 24 hours a day (the gatehouse is located on Atlantic Street). There are no schools or day care centers located within 200 feet of the site.

### **RESIDENTS LIVING NEAR BHS SITE**

<u>Distance from Property</u>	<u>Estimated Population</u>
0.00-0.25 miles	125
0.25-0.50 miles	375
0.50-1.00 miles	13,548
1.00-2.00 miles	43,001
2.00-3.00 miles	51,412
<u>3.00-4.00 miles</u>	<u>48,182</u>
<b>TOTAL:</b>	156,643

Sensitive environments include the Great Meadows tidal wetlands (located 2 miles southeast of the site), and Pleasure and Long Beaches inhabited by the Piping Plover (an endangered species), located within a 1 mile radius of the site.

### C. Release Summary

<b>Date of Release</b>	<b>Description of Release</b>
October 16, 1989	A leaking 1,000 gallon gasoline tank and contaminated soil were removed from the property.
Aug. 6 to Aug. 12, 1991	5,000 gallons of Aer-O-Foam leaked from the Foam House.
December 30, 1980	About 30-40 gallons of fuel oil leaked out of an underground pipe. The pipe was replaced.

No other observed or documented hazardous releases from AOCs 1-17 (Figure 2) have resulted in materials (100 gallons or more) being released to soils. There are appropriate release controls (i.e., berms, no floor drains) for most of the AOCs at the site.

## **II. Environmental Indicator Findings and Supporting Arguments**

### Human Exposure Controlled (CA725)

Based upon the information contained in the references reviewed including environmental sampling results, the site operations, and environmental setting (physical and demographic), it is determined that BHS can be classified as a site where human exposures are controlled (YE determination). Based upon guidance specified in the July 29, 1994 U.S. EPA "RCRIS Corrective Action Environmental Indicator Event Codes" memorandum (Guidance), one of the following two criteria must be met for a YE determination. These are:

1. Remedial measures have been implemented with the result that all maximum contaminants detected or reasonably suspected are less than or equal to their respective action levels (e.g., MCLs for groundwater, a  $10^{-6}$  risk level for other contaminants, or any other number designated as the action level) or do not exceed an Agency specified cleanup standard for the facility, and/or
2. There is no unacceptable human exposure to any contaminant concentration above action levels that had been detected or is reasonably suspected based on current contaminant concentrations and the current site conditions. Although contamination remains at the facility that may require further remediation, action has been taken or site conditions are otherwise such that unacceptable threats to human health from actual exposure to the contamination are not plausible based on current uses of the site. Such actions may include the use of physical barriers or institutional controls (e.g., deed restrictions or alternative water supply).

BHS meets the requirements of the second criteria. There are no unacceptable human exposures

to any contaminant concentration above action levels detected or suspected. Exposure of trespassers, on-site workers or visitors to possibly contaminated soils is implausible due to access control and pavement. Unacceptable off-site human exposures are not plausible due to the lack of public use of the harbor due to its Class "SC/SB" rating by the CT DEP and the significant dilution of low level ground water contamination in the receiving surface water.

There are no municipal supply wells located within a 4-mile radius of the site and there are no public or private wells located within 1,000 feet of the site.

### Groundwater Releases Controlled (CA750)

Based upon the information contained in the references reviewed including site operations and environmental setting (physical), it is suggested that BHS can be classified as a site where no groundwater releases have occurred (NR determination). Based upon the Guidance of July 29, 1994, for all known or reasonably suspected groundwater contamination at the facility in excess of action levels, or in excess of an Agency specified clean-up level, one of the following criteria must be met:

1. An engineered system has been installed that is designed and operating (including performance monitoring) to effectively control further migration beyond a designated boundary such as the engineered system, the facility boundary, a line upgradient of receptors, or the leading edge of the plume as defined by levels above the Agency established action levels or clean-up standards, and/or
2. The Agency has determined that the groundwater clean-up objectives can be met without the use of an engineered system through the remedial measures selected including facilities where the contamination will naturally attenuate.

In this case, there is no known or reasonably suspected groundwater contamination at the facility in excess of action levels, or in excess of an Agency specified clean-up level. Therefore, an engineering system to control groundwater migration is not presently needed at the site.

### **III. Recommended Actions**

The groundwater data provided is adequate for the purposes of this report, but in order to reach a final remedy decision, the limitations and assumptions associated with the groundwater data need to be further examined. A groundwater monitoring system currently exists at the site, however, and since there is no reasonably suspected or detected groundwater contamination at the site, limited monitoring is sufficient.

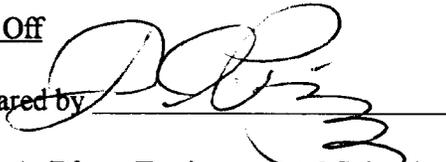
### **IV. References**

- A. Demonstration of Compliance with Environmental Indicators at New Haven Harbor Station, January 1997, by United Illuminating - for EPA.

- B. BHS Preliminary Assessment-Plus Final Report, September 1992, by Roy Weston, Inc.- for EPA.
- C. Code of Federal Regulations:Protection of Environment CFR 40 Parts 260-299, July 1996, by the Office of the Federal Register National Archives and Records Administration.
- D. Site Visit to BHS, July 10, 1997
- E. UST Matrix submitted by BHS to EPA, June 1997

Sign Off

Prepared by



Date 9/11/97

**Juan A. Pérez, Environmental Scientist**  
**Lauren Walker, Engineering Intern**

Approved by



Date 9/23/97

**Matthew R. Hoagland, Chief**  
**RCRA Corrective Action Section**

EW  
9-11-97