



Entergy Nuclear Operations, Inc.  
Pilgrim Station  
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Plymouth, MA 02360

Stephen J. Bethay  
Director, Nuclear Assessment

July 31, 2006

Mr. Stuart A. Richards, Deputy Director  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

SUBJECT: Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station  
Docket No.: 50-293  
License No.: DPR-35

Groundwater Protection – Data Collection Questionnaire

LETTER NUMBER: 2.06.070

Dear Mr. Richards:

The nuclear industry, in conjunction with the Nuclear Energy Institute (NEI), developed a questionnaire to facilitate compilation of baseline information regarding the current status of site programs for monitoring and protecting groundwater. All participating nuclear sites agreed to provide the requested information to both NEI and the Nuclear Regulatory Commission. The attachment to this letter contains the questionnaire response for Pilgrim Nuclear Power Station.

There are no commitments contained in this letter.

Please feel free to contact Mr. Bryan Ford, (508) 830-8403, if there are any questions regarding this subject.

Sincerely,

A handwritten signature in cursive script that reads "Stephen J. Bethay".  
Stephen J. Bethay  
Director, Nuclear Assessment

MJG/dm

Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station

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cc: Mr. Samuel J. Collins  
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Senior Resident Inspector  
Pilgrim Nuclear Power Station

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**Attachment to ENO letter 2.06.070**

**Pilgrim Nuclear Power Station  
Groundwater Protection Questionnaire Response  
(3 Pages)**

### **Question 1**

Briefly describe the program and/or methods used for detection of leakage or spills from plant systems, structures, and components that have a potential for an inadvertent release of radioactivity from plant operations into groundwater.

### **Entergy Response**

The plant is designed such that most pipe leaks are captured in the building sumps. Additionally, daily plant operator tours include inspections for leaks and spills and routine Radiation Protection surveys performed by the Radiation Protection Technicians include inspections for leaks and spills. Any leaks or spills found are documented in the site Corrective Action Program. This program is also utilized to trend the occurrences of leaks and spills at the station.

Sampling and radiological analyses of environmental samples are performed as part of the Radiological Effluent Monitoring Program (REMP) in order to detect any possible radiological impacts of normal operation. The REMP has been designed to monitor all significant pathways of radiation exposure to humans as well as certain media which serve as indicators of potential radionuclide accumulation in terrestrial or aquatic environments and verifies that off-site radionuclide concentrations conform to applicable federal regulations. PNPS also samples the site's four storm drain outfalls on a regular basis for radioactivity.

### **Question 2:**

Briefly describe the program and/or methods for monitoring onsite groundwater for the presence of radioactivity released from plant operations.

### **Entergy Response**

Pilgrim Station does not currently have a groundwater-monitoring program. The station lies immediately adjacent to Cape Cod Bay and the Atlantic Ocean. The groundwater flow gradient is from the higher terrain adjacent to the site, under the site property, and out to sea. There are no private or public land holdings or public drinking or irrigation water pathways existing between the site and the ocean.

### **Question 3:**

If applicable, briefly summarize any occurrences of inadvertent releases of radioactive liquids that have been documented in accordance with 10 CFR 50.75(g).

### **Entergy Response**

On September 30, 1975, there was a minor spill from a truck moving a metal cask filled with radioactive diatomaceous earth. The volume spill was estimated to be 1 – 2 gallons onto the pavement as the truck was moving the cask. The affected area was decontaminated.

On September 24, 1976, a barrel jack penetrated a 55-gallon drum containing spent resin. Approximately 10 to 20 gallons of liquid leaked from the drum. The affected area was decontaminated.

On August 2, 1977, while transferring Spent fuel Pool Resin to the Spent Resin Storage Tank, a vent valve was left open. This allowed water to spill on the pavement outside of the Radwaste Truck Lock Door. The water was mopped and absorbent material used and the impacted asphalt was paved over.

On September 22, 1980, a storage box containing wet masslin leaked less than a gallon of liquid onto the pavement in the yard. The area was subsequently surveyed and decontaminated.

On January 7, 1981, two one-inch valves were left open on the condensate resin fill hopper of the "B" Condensate Demineralizer. Resin leaked out of the valves towards a storm drain. The resin was cleaned up, the affected area was decontaminated, and the storm drains were surveyed for radioactivity. No detectable radioactivity was found.

On June 11, 1982, while backwashing condensate demineralizer resin, the configuration of the valves allowed approximately 1 cubic foot of resin to be exhausted to the vent duck work and consequently out the Reactor Building exhaust. The resin was removed and area was surveyed and decontaminated.

On July 13, 1984 during a routine radiological survey of the Protected Area (PA), a discrete radioactive particle was found on the ground in front of the Augmented Offgas Building. The area was surveyed and the particle removed. No other radioactivity was detected.

On September 25, 1986, a sludge spill occurred when a 55 gallon drum fell over during transport. The spill was cleaned up and the area was surveyed and decontaminated.

On November 16, 1988, during the dewatering of a liner filled with diatomaceous earth, a demineralized water valve was left open. Consequently, the liner overflowed 2600 gallons of water in the Radwaste Truck Lock of which 200 gallons spilled out onto the pavement in the yard. The affected areas were decontaminated and repaved.

On October 31, 1990 during a routine survey of the PA a discrete radioactive particle was found in front of the Administration Building. The area was surveyed and the particle removed. No other radioactivity was detected.

On December 3, 1990 a 55-gallon drum containing contaminated sand blast grit was knocked over by a forklift and some of the grit spilled onto the ground. The area was surveyed and decontaminated.

On June 3, 1992, there was an oil leak from a bag of rags. A small pool of oil was found on the ground. The oil was cleaned up and the surrounding area surveyed.

All of these events occurred within the radiological "Restricted Area" under Pilgrim Station control. None of the events occurred in any areas accessible to the public.

#### **Question 4:**

If applicable, briefly summarize the circumstances associated with any onsite or offsite groundwater monitoring result indicating a concentration in groundwater of radioactivity released from plant operations that exceeds the maximum contaminant level (MCL) established by the USEPA for drinking water.

#### **Enterpy Response**

Pilgrim Station does not currently have a groundwater-monitoring program.

**Question 5**

Briefly describe any remediation efforts undertaken or planned to reduce or eliminate levels of radioactivity resulting from plant operations in soil or groundwater onsite or offsite.

**Entergy Response**

There is currently no known contamination of soil or groundwater at the Pilgrim site. Therefore, there are no remediation efforts underway or planned.