



Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station  
600 Rocky Hill Road  
Plymouth, MA 02360

March 29, 2018

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

SUBJECT: Reply to a Notice of Violation; EA-17-143

Pilgrim Nuclear Power Station  
Docket No. 50-293  
Renewed License No. DPR-35

REFERENCE: NRC Letter, "PILGRIM NUCLEAR POWER STATION – NRC INVESTIGATION REPORT NO. 1-2017-011 and NOTICE OF VIOLATION," dated February 27, 2018

LETTER NUMBER: 2.18.016

Dear Sir or Madam:

This letter provides Entergy Nuclear Operation's reply to Notice of Violation EA-17-143 (Reference), issued by the NRC to the Pilgrim Nuclear Power Station on February 27, 2018. This information is provided pursuant to the provisions of Title 10 Code of Federal Regulations 2.201.

If you have any questions or require additional information, please contact me at (508) 830-7127.

There are no regulatory commitments contained in this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter J. Miner".

Peter J. Miner  
Regulatory Assurance Manager

PJM/mp

Attachment: Reply to a Notice of Violation; EA-17-143

cc:

Mr. David C. Lew  
Acting Regional Administrator – Region I  
U.S. Nuclear Regulatory Commission  
2100 Renaissance Blvd., Suite 100  
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Mr. John G. Lamb, Senior Project Manager  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Mail Stop O-8C2A  
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NRC Resident Inspector  
Pilgrim Nuclear Power Station

**Attachment**

Letter Number 2.18.016

Reply to a Notice of Violation; EA-17-143

Entergy Nuclear Operations, Inc. does not contest the violation. Consequently, this Reply addresses the following four topics identified in the Notice of Violation: (1) the reason for the violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved.

### **Reason for Violation**

The violation occurred because the Nuclear Controls Technicians who conducted the Reactor Core Isolation Cooling (RCIC) Steam Line High Temperature surveillance on March 27, 2017, deliberately deviated from known procedural requirements (Procedure 8.M.2-2.6.3, Attachment 1). This resulted in the Technicians applying heat to a High Pressure Coolant Injection (HPCI) Temperature switch instead of the correct RCIC temperature switch, which in turn caused HPCI to isolate and become unavailable and Equipment Out of Service risk to increase to Yellow.

### **Corrective Steps Taken and Results Achieved**

Entergy took a number of corrective actions in response to the events that caused the violation.

#### A. Immediate Corrective Actions

1. Management within the Maintenance organization conducted additional observations from March 30, 2017 through April 8, 2017. These additional observations included:
  - Maintenance First Line Supervisors or management oversight in the field during the performance of safety-related work activities,
  - An observation of each individual performing such work was documented on the Pilgrim Nuclear Power Station (Pilgrim) Procedure Use and Adherence (PU&A) What It Looks Like (WILL) Sheet,
  - Submittal of WILL sheets to the Department Superintendent at close of business on the day of the observation, and
  - Superintendents review and roll up of the previous day's observations at 0800 (8:00 a.m.) Maintenance Managers daily staff meeting.

Corrective Actions (CA) were assigned to each discipline to track completion of these additional observations. Closure of each CA included documented evidence of the completion of the WILL sheet for each individual assigned to each in-scope safety-related task.

2. The station generated a Condition Report on April 1, 2017, the purpose of which was to evaluate the two recent human performance events at Pilgrim that have resulted in site clock resets, including the surveillance resulting in HPCI isolation. This evaluation prompted the creation of the Human Performance Events Response Plan described below.

## B. Follow-up and Additional Corrective Actions

1. Entergy took disciplinary action against the three Nuclear Controls Technicians involved in the event (as described in the NRC's letter of February 27, 2018) in accordance with the applicable Collective Bargaining Agreement and Entergy's internal procedural requirements. Records of the specific discipline imposed on these individuals is available at Pilgrim for the NRC's review.
2. To address the broader aspect of Human Performance (HU) related incidents at the station, the Pilgrim Leadership Team developed and implemented a HU Events Response Plan in April 2017, shortly after the event, and before the refueling outage, which began later that month. The purpose of the HU Events Response Plan was to reinforce expectations for personnel integrity and strict adherence to procedures. This plan consisted of four focus areas:
  - Organizational Alignment,
  - Reinforcement of Expectations,
  - Field Presence, and
  - Culpability

Entergy took the following specific actions as part of this plan:

- The General Manager Plant Operations (GMPO) conducted an All-Hands meeting on April 3, 2017 to review past HU events (RCIC surveillance of March 27, 2017 and the condition when torus water level was inadvertently increased above the Technical Specification allowable limit), potential implications of any future events, and to align employees on actions necessary to prevent events.
- Training focusing on teamwork and command and control issues was developed and provided to Licensed Senior Reactor Operators on April 9, 2017.
- Training Department personnel developed and conducted instructor lead training for Pilgrim First Line Supervisors and above, which focused on lessons learned from this RCIC surveillance and another recent event at the station, and provided instructions on intrusive engagement and leadership. This training included recognition of risk, completion of pre-job briefs, job site reviews and implementation of the Culpability Model.
- Superintendents and Managers conducted unannounced drop-in observations of normal or low risk work in contaminated areas.
- The GMPO communicated to the station through all hands email notification on April 7, 2017, a zero-tolerance policy for departures from procedure use and adherence requirements.
- The Pilgrim Directors reviewed all Culpability actions on a weekly basis for consistency.
  - The Culpability Model is a tool used to address behaviors and to ensure consistency in the application of accountability. The culpability model was created from General Practices for Organizing, Planning, Monitoring, and Feedback That Promote Excellence in Human Performance (INPO 07-006 Good Practice).

- Culpability reviews for all personnel associated with a Station Event Free Clock Reset (Red Memo) were completed by station management.

These actions achieved desired results of heightening awareness of HU events and the use of tools to prevent events during the refueling outage.

3. Following the outage, station leadership has maintained the workers' focus on improving human performance and PU&A through the implementation of the PU&A Area Action Plan (AAP). Management identified this problem area as an output of the IP 95003 Collective Evaluation phase of the Pilgrim recovery efforts in March 2017. Actions taken as part of this plan are tracked in the Corrective Action Program (CAP). Metrics are in place to monitor appropriate indicators and apply necessary check and adjust actions, based on results achieved.
4. On September 27, 2017, the Superintendent, Instrumentation and Control (I&C) discussed the underlying event including the following topics with the Pilgrim I&C technicians to ensure their clear understanding of requirements:
  - Work Instruction compliance;
  - Roles and responsibilities;
  - Accountability to each other; and
  - Responsibility for compliance with 10 Code of Federal Regulations 50.5, 50.7 and 50.9 requirements.
5. In December 2017, management developed and implemented the 2018 HU/Industrial Safety Excellence Plan. The HU portion of this plan focuses on achieving the following:
  - A workforce that identifies and reviews administrative requirements during pre-job briefs or before beginning a work task,
  - Pre-job briefs that include tangible discussions of "what's the worst thing that could happen" and specific actions to prevent the event, and
  - Supervisors and managers who provide meaningful coaching and accountability, based on observations.

To achieve these objectives, the plan includes the following actions:

- Frequent reinforcement of procedure use and adherence,
- Implementation of a Tool of the Month campaign to increase awareness of the use of HU tools,
- Improved observation and coaching through training, dynamic learning activities, role-playing, case-studies and similar meaningful efforts for Supervisors and above, and
- Increased observations by site management.

### **Corrective Steps That Will Be Taken**

As noted in the prior section, the PU&A AAP and the 2018 HU/Industrial Safety Excellence Plan remain in effect and include ongoing actions. Entergy recognizes the need to continue reinforcement of appropriate HU and PU&A behaviors. The evaluation

of employee standards related to procedural adherence is monitored in the PU&A AAP, with appropriate actions taken to address any gaps. Pilgrim leadership remains committed to establishing the appropriate behaviors to help ensure employees comply with station procedures and standards. Moreover, Entergy believes that these actions will help reinforce the expectation that station employees act with integrity and strictly adhere to procedural requirements. When individual gaps are identified, management will continue to implement the Entergy Culpability Model to address performance issues.

In addition, the Confirmatory Order issued by the NRC on March 12, 2018 in EA-17-132 and EA-17-153 contains a number of actions applicable to the Entergy fleet, including Pilgrim. Those actions address, among other things:

- Periodic communications at various levels to stress the importance of strict procedural compliance and other relevant topics,
- Training to help prevent willful misconduct,
- A causal evaluation to understand why prior corrective actions were not fully successful in preventing or minimizing instances of willful misconduct across the Entergy fleet,
- Effectiveness reviews of corrective actions, and
- Organizational health surveys

#### **Date When Full Compliance Will Be Achieved**

Immediate actions were taken on March 27, 2017, to restore the unplanned isolation of the HPCI system to operable, stand-by status.

Based on the actions taken, Pilgrim is in full compliance. However, as described above, ongoing actions will continue to help ensure appropriate PU&A behaviors.