



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I**  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

August 8, 2013

Town Of Duxbury Nuclear Advisory Committee  
c/o Ms. Mary Lampert (co-chair)  
878 Tremont ST  
Duxbury, MA 02332

Dear Ms. Lampert:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your July 17, 2013, email and a subsequent August 5, 2013, email that were sent to the Region I, Regional Administrator. Your emails referred to a July 15 notice of unusual event (NOUE) declared at Pilgrim due to a loss of control room annunciators. Your first email forwarded a letter you signed on behalf of the Town of Duxbury (MA) Nuclear Advisory Committee. Specifically, you expressed concerns with Entergy's ability to continue to safely operate the reactor with the loss of annunciators. We have reviewed the comments and questions and have provided responses in the enclosed document.

A loss of control room annunciators results in the declaration of the lowest level of a classified plant event, an NOUE. While not desirable, the loss of annunciators was considered in plant design and operations and Entergy responded appropriately by implementing a preexisting abnormal procedure that addresses these conditions. Although Entergy remained in the NOUE to ensure that the condition would not recur, the loss of annunciators was relatively short lived, in that, the annunciators returned to a functional condition within two hours. Additionally, throughout the event, an alternate means of control room alarm receipt was available through a sequence of events recorder that has a bell to announce alarm receipt to the control room operators. Finally, Entergy had more operators on shift than required by Pilgrim's technical specifications, during this event, to monitor plant parameters.

Please be assured that the NRC was aware of the event and that the residents responded to the Pilgrim site to observe Entergy's response actions in a timely manner. In addition, a technical expert from the NRC regional office reviewed the issue, the availability of plant parameter monitoring, and Entergy's resolution of this issue. Please note that shutting down the plant or introducing a plant transient while the annunciators were not functional was not required by station procedures or NRC regulations and would have complicated the operators' response.

M. Lampert

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The NRC staff independently concluded that, throughout this event, Entergy operated the plant safely and in accordance with the conditions in the plant's license and technical specifications.

Thank you for your continued interest in these matters.

Sincerely,

***/RA/***

Fred L. Bower, Acting Chief  
Reactor Projects Branch 5  
Division of Reactor Projects

Enclosure:

NRC Response to Pilgrim  
Annunciator Concerns

M. Lampert

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DOCUMENT NAME: G:\DRP\BRANCH5\Letters\Response Letter to Lampert 7-15-13 (Annunciators)\_r3.doc  
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NAME	EKeighley/EMK	FBower/FLB	DRoberts/DJR		
DATE	8/7/13	8/7/13	8/8/13		

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**What information allows operators to still be able to monitor plant parameters using control room panels, if the annunciators are unavailable?**

The information provided by the annunciators is also provided by the sequence of events recorder (located in the main control room), as well as by direct indication on control room panels and chart recorders, and local control panels and local alarm panels.

**What information is provided by the annunciators that is not provided by other parameters?**

The annunciators provide a visual and audible indication of changes in plant conditions, which can be verified through direct indication on control room panels, chart recorders, the sequence of events recorder and local alarm panels.

**What is the significance of what is provided by other means? How does information provided by other means compare in significance to the information provided by the annunciators?**

The annunciator system is a method for identifying changes in plant conditions and parameters through alarm panel lights and an alarm bell; however, the operators receive the same information by monitoring direct indications on control room panels, chart recorders, the sequence of events recorder and local alarm panels.

**What is the basis for Entergy or the NRC to assume that the annunciators will not fail again?**

Entergy utilized vendor support, Instrument and Controls (I&C) technicians and engineering personnel to troubleshoot the issue. In addition, Entergy has installed temporary data logging test equipment on the annunciator system power supplies and the digital output to the annunciator modules to identify any potential issues. While no definitive cause has been found for the annunciator system malfunction and there is no guarantee a similar event could not recur, additional methods of monitoring plant parameters provide operators alternate means to maintain awareness of changing plant conditions.

**Is Pilgrim in analog or digital? If it is in analog, is Pilgrim able to get replacement parts?**

Pilgrim's main control room annunciator system is a stand-alone microprocessor based digital system. The digital system has two principle outputs, one to the overhead visual annunciator modules, and a second output to the sequence of events recorder. During the malfunction, the annunciators stopped responding for a short period of time, while the sequence of events recorder continued to work normally.