Entergy

Entergy Nuclear Northeast
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249
Tel 914 734 6700

RECEIVED
2005 OCT 27 PM 12: 58

Fred Dacimo
Site Vice President
Administration

October 26, 2005

Re: Indian Point Unit Nos. 2 and 3
Docket No. 50-247 and 50-286
NL-05-122

Mr. Samuel J. Collins
Regional Administrator – Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA
19406-1415

SUBJECT: **IPEC Emergency Plan Siren System Performance And Corrective Actions**

Reference: 1) Entergy Letter NL-05-124, M. Kansler to U.S. NRC, "Energy Policy Act of 2005 Backup Power for Emergency Sirens", dated October 25, 2005.

Dear Sir:

Entergy Nuclear Operations, Inc. (Entergy) is providing this letter in response to a request from the NRC Staff during a teleconference on September 26, 2005. This letter provides an overview of recent siren performance results for the Indian Point emergency planning zone and actions being taken by Entergy to address the results. In a separate letter (Reference 1), Entergy has provided an outline of the course of action being taken to address the provisions of the Energy Policy Act of 2005 regarding Backup Power for Emergency Sirens.

In 2003 Entergy installed upgrades to the IPEC Emergency Siren System that significantly improved the system's monitoring capability. The upgrades improved the diagnostics, monitoring and reporting of the siren performance which provides Entergy with the ability to rapidly identify failures relating to power availability and communication capability. In addition, the upgrade provided a dedicated radio frequency network for sounding the sirens in lieu of the previous design which shared county emergency frequencies.

The performance of the system during the last 2 years, as indicated in the Reactor Oversight Process (ROP) indicators, has been well within the green band at greater than 94% and is currently at 98.1% based on 3rd Quarter 2005 data. A review of recent events against the criteria in Appendix "B" of NRC Inspection Manual Chapter 0609 shows that none of the objective criteria provided as guidance for the Significance Determination Process (SDP) determinations were approached. In addition, an assessment of siren performance during quarterly alert testing since the new actuation system was installed (a total of 12 full alerts) revealed that on average 3 of the 156 sirens actually failed to sound (2% failure rate).

In spite of the actual acceptable performance of the sirens with respect to the established indicators, siren system performance remains a concern with several important stakeholders. This is due, in part, to conflicting information provided by the siren system's reporting function. The conflicting information results from the fact that the system reporting function is subject to potential false negative reports of siren failure during performance testing, primarily due to problems with a sensor that monitors siren rotation. During the same 2 year period of testing described above, the reporting function indicated that on average 10 of 156 sirens (6.4 percent) failed during testing. Follow-up reviews of the test data revealed that on average, 7 of the 10 reported failures were actually false negative reports. Additionally it was determined that 70 percent of the false negative reports were due to rotation sensor failures. The sirens subject to false negative reports were proven to Entergy's satisfaction to have sounded and rotated as required, however the conflicting data leaves some stakeholders less certain. In addition, these false reports result in unnecessary expenditure of resources by the surrounding counties for route alerting.

Although the potential for false negative reporting described above is an important issue to be addressed, the overall result of the improved monitoring capability is that Entergy now has a significantly better understanding of the total siren system performance. Several specific issues have been observed through the data reporting system that might have impacted the siren performance in an actual event. These included loss of power to the sirens or control systems, problems with the external interface with radio communications, and problems with the interface equipment between the siren and the data communication sub-system.

In order to address the issues we've identified with the overall performance of the system, including the reporting functions, the following corrective actions are in progress or have been completed:

- The communications system vendor is upgrading the communication system architecture. This upgrade will include parallel data communication lines to the existing one to insure a built in redundancy. This would allow for an automatic swap over if the primary data line were to fail.

- The communications system vendor is installing real time monitoring of the data communication lines. This will allow the vendor to identify potential or actual challenges to the system's performance and act immediately to correct the condition.

- The communications system vendor will be installing state of the art routers, which are the interfaces between the siren control system and the data communication system. The new routers will improve reliability and provide remote access for diagnostics and corrective actions. All of the actions described above to be performed by communications system vendor are scheduled to be completed by year's end 2005.

- IPEC installed onsite monitoring of siren performance. The result of this change allows for the notification of duty personnel on system failures. This action has been completed.

- IPEC continues to apply bird repellent as part of the siren preventive maintenance program. This activity has proven somewhat successful at dissuading bird nesting, therefore preventing bird nests from interfering with rotation sensor operation. However, it has not eliminated the problem.

- IPEC installed bird guards on a select sample of sirens that have experienced repeat nesting problems. The intent of the guard is to prevent any nesting from interfering with the sirens rotation sensor performance. This approach is still under evaluation as to its effectiveness.

- As rotation sensors fail, IPEC is replacing failed sensors with a new magnetic proximity probe design. This design is much less susceptible to any interference from bird nesting. Although initial indications are positive, this approach is still under evaluation as to its effectiveness.

- To improve the reliability of the radio transmitter that sends a signal to actuate the sirens, the backup power supply battery was replaced with a larger 24 hour capacity battery. Additional features that Entergy is considering with regard to providing back up power features are described in Reference 1.

Corrective actions on rotation sensors have shown marginal improvements to date. An action that would correct the problem is to take the rotation sensors out of the siren logic that determines satisfactory performance. The design of the siren is such that indication of sounding is sufficient to give reliable indication of rotation. This course of action is supported by an IPEC engineering study, an independent engineering evaluation and the siren vendor recommendation that removal of the rotation sensor is an appropriate action. However, this approach has not been supported by our local counties. We will continue to recommend this solution while evaluating other options and obtaining input from our local counties.

Additionally, during testing in Fall of 2005 following implementation of enhanced software to the backup actuation system for the sirens, two separate software data entry errors were detected. It should be noted that these errors did not prevent the primary system from actuating the sirens during these tests. These errors were captured in the Indian Point corrective action program. The principal corrective action required consists of increasing oversight of the individuals performing this data entry in siren software.

We look forward to discussing the Indian Point Emergency Plan Siren System performance and planned enhancements at a public meeting to be held in Buchanan, New York on November 16, 2005.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Patric W. Conroy, Licensing Manager at 914-734-6668.

Sincerely,

Fred R. Dacimo
Site Vice President
Indian Point Energy Center

cc: next page

cc: U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk

Resident Inspector's Office
Indian Point Unit 2
U.S. Nuclear Regulatory Commission

Resident Inspector's Office
Indian Point Unit 3
U.S. Nuclear Regulatory Commission

Mr. John P. Boska, Sr. Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Mr. Paul Eddy
New York State Department of Public Service

Mr. Craig Conklin, Chief
Nuclear and Chemical Hazards Branch
Preparedness Division
DHS/EP&R/FEMA

Mr. Peter R. Smith, President
New York State Energy, Research and Development Authority