From: "Daflucas, Ronda" <rdafluc@entergy.com>
To: "Rick Ennis" <RXE@nrc.gov>
Date: 6/7/04 8:44AM
Subject: VY comments on IN

Rick,
Attached are VY's comments on the draft Information Notice (comments are only on page 2 of 3).
GE Nuclear and GNF use the following definitions to describe fuel piece/segment:

Fuel piece - is what VY has determined to not be in the spent fuel pool. A fuel piece is from a failure and broken off from a fuel rod. It is not planned.

Fuel segment - results from a fuel rod being cut into segments for shipping to a laboratory. A fuel segment is purposely generated for shipment so that it will fit into the shipping cask. It is planned.

Thank you for the opportunity to comment.

Ronda Daflucas
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On April 20, 2004, in response to the inspectors' concerns with the effectiveness of the SFP inventory methods, Entergy performed a detailed look for two spent fuel rod pieces and found that they were not in their documented locations in the SFP. The two segments, about 7 inches and 17 inches in length, had been generated during a fuel assembly reconstitution effort in 1979. According to documents prepared at that time, they had been placed in a 5-gallon stainless steel container for storage on the bottom of the SFP. The 5-gallon container had been fitted with two vertical stainless steel pipes designed to hold rod pieces.

Entergy's inventory procedures allowed for the fuel pieces to be carried on inventory without a visual confirmation as long as the container in which they had been placed was sealed using a "tamper-safe" locking device to assure that the fuel pieces had not been removed. Because the container was not sealed with a tamper-safe device, visual confirmation was required. The inspectors identified that instead of visually confirming that the two fuel rod pieces were in the container, Entergy personnel had ensured only that the container remained upright and in place at the bottom of SFP.

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Discussion:

The Final Report for Millstone Unit 1 (ML041060691) indicated that the investigation was unable to conclusively establish the location of the two spent fuel rods. The report determined that the spent fuel rods were in one of four locations, namely, (i) the Millstone Unit No. 1 SFP, (ii) GE's Vallecitos Nuclear Center in Pleasanton, CA, (iii) the Low-Level Radioactive Waste disposal facility in Barnwell, SC, or (iv) the Low-Level Radioactive Waste disposal facility in Richland, WA.

The NRC inspection report for the special inspection indicated that the NRC agreed with the licensee's conclusions (iii) and (iv) that the missing fuel rods are most likely located in a licensed low-level radioactive waste disposal facility. The most likely explanation was that the rods were inadvertently shipped to Barnwell in 1988, as part of a Class C low-level waste shipment. The conclusion of the NRC safety analyses of this incident was that if the two fuel rods are at either low-level radioactive waste site, the safety and health impact would be minimal to both the present workers and future generations of the public. No further regulatory action was warranted.

Currently, Entergy personnel at Vermont Yankee have assembled an investigation team, established a charter, performed camera aided visual inspections of the SFP, begun detailed reviews of the SNM inventory/accountability records, and are interviewing personnel in an attempt to locate its two missing fuel rod pieces.

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The NRC is conducting a special inspection of Entergy's actions. The inspector who led the inspection following the Millstone incident is leading the Vermont Yankee inspection. The NRC has coordinated with the State of Vermont regarding the state's observation of the inspection, and is keeping other potentially affected states informed. The inspection includes oversight of Entergy's investigation, an audit of records related to SFP activities, and an evaluation of the root causes of the issue.

At both Millstone Unit 1 and Vermont Yankee, the separated fuel rods or pieces were stored in special containers outside of the spent fuel racks in the spent fuel pool. Storage outside of the racks may have contributed to the discrepancies in keeping positive control on the location of the spent fuel.

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