Tritium Leak Resolution At Dresden

The licensee identified on August 30, 2004, through sampling of shallow wells on site that there were elevated levels of tritium as high as 9 million picocuries per liter in some locations. Deep well samples (drinking water) were not at elevated levels. The source of the leakage was identified as a buried common suction line from the condensate storage tanks to the Unit 2 and 3 HPCI systems. Although the condensate storage tank is the normal source of water to the HPCI systems the torus is the safety related source of water and the HPCI systems for both units are currently aligned to the torus. The licensee started excavating on September 3, 2004, to attempt to identify the exact location of the leak. Difficulties with contractor expertise resulted in the inability to identify the exact source of the leak and personnel safety issues within the excavation. The licensee stopped work due to the second issue and is hiring a different excavation contractor. Due to difficulties with excavation near existing equipment and the inability to identify the exact location of the leak the licensee has decided to reroute the piping and abandon portions of the underground piping in place. Unit 2 is entering a maintenance outage on September 18. Unit 3 is entering a refueling outage on October 26, 2004. The piping is required to perform the TS quarterly surveillance testing which becomes critical for Unit 3 on October 10, 2004. If the modification is not complete and the testing cannot be performed, Unit 3 may have to perform a TS required shutdown on October 24, 2004.

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Tritium Leak Resolution At Dresden

Dresden station personnel identified increased tritium levels in the groundwater at the station. Elevated tritium levels are an historical issue at the site; the licensee had previously established a series of wells and instituted routine sampling to track the problem.

On August 30, 2004, the licensee identified through sampling of shallow wells on site that there were elevated levels of tritium as high as 9 million picocuries per liter in some locations. Deep well samples (drinking water) were not at elevated levels. Licensee Technical Specifications limit the average annual concentration of tritium released at the site unrestricted area boundary to ten million pci/l. No tritium has been detected at any sampling stations outside the owner controlled area. Regional health physics specialists have identified that the entire condensate storage tank activity of 9.8 million pci/l could be dumped on the ground without exceeding the technical specification release rate for tritium of 10 million pci/l. The source of the leakage was identified as a buried common suction line from the condensate storage tanks to the Unit 2 and 3 HPCI systems. Although the condensate storage tank (CST) is the normal source of water to the HPCI systems, the torus is the safety related source of water and the HPCI systems for both units are currently aligned to the torus and isolated from the CST. The licensee started excavating on September 3, 2004, to attempt to identify the exact location of the leak. The licensee has not been able to identify the exact source of the leak. Due to difficulties with excavation near existing equipment and the inability to identify the exact location of the leak the licensee has decided to reroute the piping and abandon portions of the underground piping in place. This activity is currently in progress. Regional health physics specialists have been following the issue from a radiological release standpoint and the resident inspectors have been following the CST/HPCI status and modification (new piping) work.

This information is currently not publically available in an inspection report. It is expected that the Regional health physics specialist will review the issue in a schedule inspection in early November. It is not expected to be included in the quarterly integrated inspection report due out this month. The State of Illinois (IEMA) is also interested in this leak and has been trying to determine the total amount of tritium that may have leaked, the total length of time the leak has been ongoing (possibly started 9 months ago), and whether there are additional leaks beyond this known leak. The NRC residents and the IEMA resident have coordinated their reviews on this issue.