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August 5, 2015

L-15-246

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

SUBJECT:

Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
Discovery of Tritium in Groundwater
30-Day Report in Accordance with the Industry Ground Water Protection Initiative

The Perry Nuclear Power Plant (PNPP) submits the attached 30-day report in support of the Nuclear Energy Institute (NEI) 07-07, "Industry Ground Water Protection Initiative – Final Guidance Document," dated August 2007. A sample of groundwater taken from a piezometer under the PNPP Radwaste Building was found to contain tritium at a concentration that exceeded the threshold value for voluntary reporting in accordance with guidance in NEI 07-07.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Thomas Veitch, PNPP Chemistry Manager, at (440) 280-5188.

Sincerely,



Ernest J. Harkness

Attachment: Perry Nuclear Power Plant, Discovery of Tritium in Groundwater,
30-Day Report in Accordance with the Industry Ground Water
Protection InitiativeA001
NRK

Perry Nuclear Power
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cc: NRC Region III Administrator
Project Manager
M. Bear, State of Ohio EMA
L. Greene, Lake County EMA
M. Fichet, Ashtabula County EMA
D. Wedge, Geauga County DES
E. Anderson, NEI
M. Anderson, ANI

**Attachment
L-15-246**

**Perry Nuclear Power Plant, Discovery of Tritium in Groundwater, 30-Day
Report in Accordance with the Industry Ground Water Protection
Initiative**

Perry Nuclear Power Plant, Discovery of Tritium in Groundwater, 30-Day Report in Accordance with the Industry Ground Water Protection Initiative

This report is being submitted in support of the Nuclear Energy Institute (NEI) 07-07, Industry Ground Water Protection Initiative – Final Guidance Document. This report was generated due to a Perry Nuclear Power Plant (PNPP) Radwaste building groundwater sample result that triggered the communication protocol required by NEI 07-07.

On July 9, 2015, analyses of a sample taken during semi-annual sampling of in-plant piezometers showed the presence of tritium at a concentration of 4960 picocuries per liter (pCi/L). Confirmatory and expanded sampling done on July 10 and 11, 2015, confirmed the first sample and detected a tritium concentration of 15,900 pCi/L at a second location. No plant-related gamma emitters have been detected on any samples. These concentrations were above the 2000 pCi/L site threshold for voluntarily reporting groundwater contamination. On July 10, 2015, PNPP voluntarily notified the following agencies: Ohio Emergency Management Agency (EMA), Lake County EMA, Ashtabula County EMA, Geauga County EMA, and the Nuclear Energy Institute (NEI).

Walkdowns of the plant were performed to identify the source of the elevated tritium activity. No active leaks were identified. A review of past plant evolutions was conducted to identify a potential cause; nothing appeared out of the ordinary.

Samples taken from the station's groundwater monitoring wells at the site boundary were less than detectable activity, which indicate that the tritium has not migrated off the plant property.

Tritium activity was detected in the station's Underdrain system manholes as well and the highest tritium concentration detected was 1490 pCi/L. This concentration, the underdrain system flow rate, the minimum permitted dilution flow rate, and a year-long duration were used to calculate a conservative annual bounding dose. This results in 0.0385 curies of tritium released and 6.33E-06 mrem whole body and organ dose to a member of the public.

Since the projected annual doses are well below the 10 CFR 50, Appendix I limits of 5 mrem to total body or any organ, no corrective actions are necessary to reduce the projected annual dose. PNPP will continue to monitor the event and will initiate corrective actions as needed.

Activity released via the Underdrain system will be accounted for as an abnormal release for the NRC Annual Effluent report.