

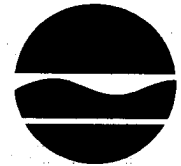
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Joe Martens
Commissioner

Status Update Nine Mile Point 1 Nuclear Power Reactor Investigation of Tritium (H-3) in Groundwater 10/19/12

At the request of the DEC, Constellation Energy, the operators of the Nine Mile Point nuclear power station, provided an update on the status of their investigation and remedial efforts related to the detection of tritium (Radioactive hydrogen, H-3) in groundwater infiltrating into the screenhouse of their Unit 1 reactor. Participants on the call included Tim Rice (DEC), Bridget Frymire (PSC), and Cindy Costello (DOH) for the State, and John Dosa and Kent Stoffle for Entergy.

Background

This contaminated groundwater inflow was originally reported by Constellation to the DEC on August 14, 2012 as a courtesy notification. At the request of the Governor's office, on August 15th an interagency (DEC, DOH, and PSC) team visited the site to investigate the situation. The team reported back that there was no evidence of off-site migration of contaminated groundwater, and that monitored discharges of low levels of H-3 in site stormwater to Lake Ontario did not represent an environmental or public health risk. The three agencies have continued to monitor the situation, and this update is based on data collected since the site visit as well as the October 19th update call.

Cause of Screenhouse Groundwater Infiltration

Under normal operating conditions groundwater should not reach the lower elevations of the screenhouse where H-3 was detected in the incoming groundwater. This is because pumps in a sump for the perimeter drain around the base of the adjacent reactor building should keep groundwater levels well below the elevation of the screenhouse. In 2008 one of the two pumps was found to be inoperative, and the other was identified as degraded. However a retrospective review of various records by Constellation staff has determined that sometime in 2007 groundwater accumulated in the area between the surrounding bedrock and the external walls of the reactor building, reaching the level of the base of the screenhouse, causing infiltration. This would appear to indicate that the degraded pump was inadequate to keep up with groundwater inflow. Sometime after 2008 that second pump also failed. New pumps have been purchased for this sump and operational procedures have added routine recording of discharge volumes of the pumps to ensure that this circumstance will not be repeated.

Water Management

During the investigation process Constellation has been pumping down the accumulated water around the exterior of the reactor building using a temporary submersible pump in the perimeter sump. This water has been pumped to temporary frac tanks where it is analyzed and batched released through their normal discharge pathway. To date approximately 1 million gallons of water have been pumped from around the reactor building and processed through the frac tanks prior to release. Approximately 120,000 gallons are calculated to remain

to be pumped out. It is anticipated that this process will be completed sometime during the week of October 22nd.

Public Exposures

Calculated theoretical public doses are a small fraction of a millirem (5.6E-4 mrem organ dose, 2.11E-4 mrem whole body dose.) To put this in perspective, on average a member of the public receives 620 mrem exposure from environmental and medical sources each year, and the public dose limit for holders of radioactive materials licenses is a maximum of 100 mrem/year.

Source of H-3 Contamination

Constellation reports that the originally suspected source of the H-3, exhaust of condensate from the condensers of the emergency core cooling system, still remains the presumptive source of the contamination. This potential source of discharge of radioactive materials was recognized during site development and is monitored for and documented as part of the site's Off-Site Dose Calculation Manual which is approved by the NRC as part of their annual site discharge. The difference here was the problem that developed with the reactor building perimeter drain and sump system that allowed this contaminated water to enter into the screenhouse, combined with a suspected one-time release of accumulated H-3 contamination beneath a paved area outside of the reactor building.

Constellation reports that their investigation process has identified only one below-grade pipe, a drain that was tested and found not to be leaking. They report to have eliminated all but one other low probability source for the H-3, floor drains embedded in building concrete floors.

Groundwater Monitoring

None of the pre-existing groundwater monitoring wells have shown any positive results for tritium, and the six newly installed monitoring wells have also not shown any positive results for H-3.

Next Steps

Constellation's groundwater consultant, Geophysics, is expected to provide their investigative report to the company in draft next week. The final version will be shared with DEC, DOH, and the PSC by mid November.

A survey to accurately locate the new wells on a site map is being performed next week.

The data from the latest sampling round of the new wells is anticipated to be available shortly and will be shared with the State.

Once the accumulated water has been removed around the exterior of the reactor building the new replacement pumps will be installed and the temporary pump removed.

If the concentrations in the groundwater do not drop as expected once the last of the accumulated water is removed, the floor drains will be more extensively evaluated as possible contributors to the H-3 contamination.