From: Stephen Klementowicz NRR
To: John House
Date: 12/29/05 2:22PM
Subject: Re: Braidwood tritium

[redacted] 7 V3

M-34

RESPONSE

[redacted]

The highest tritium concentration seen in a property-owner's well was approximately 1500 picocuries per liter. This is much less than the EPA drinking water standard and the dose to an individual consuming this water would be negligible, about 0.3 millirem using the EPA dose-concentration relationship.

There have been no health or safety issues identified at this point as a result of the tritium spill.

Braidwood 1998/2000 spills

[redacted]

2000 Spill: Licensee sampled water from vacuum breaker vault. Results were negative for tritium and gamma emitting isotopes. The licensee performed a 50.75g characterization of the area. Soil samples from the spill area showed very low levels of a few gamma emitting isotopes in the 1E-6 to 1E-8 microcuries/gram range. A root cause analysis was performed. This was also treated as a 50.75g issue and the NRC took no additional action. This will be reviewed during the upcoming inspection.

Well Sampling: The Radiological Environmental Monitoring Program (REMP) program samples 4 wells which are adjacent to the Kankakee river, east of the plant. Three additional sampling points on the river are the discharge point, and upstream and downstream of the discharge point. There are no sampling wells around the pond (until now). Two of the wells along the Kankakee have shown very small increases of tritium above background (< 500 Picocuries/liter). These wells are downstream from the station discharge point, so one could expect to see some small amounts of tritium in these wells, and this is allowable under the NRC effluent discharge plan.

It would have been reasonable for the licensee to install monitoring wells in the vicinity of the 1998 and 2000 spills and monitor for tritium and other isotopes. However, these were on-site spills so there was no requirement to perform any additional REMP monitoring. Any elevated

tritium in water could be attributed to the approved effluent release program.

The NRC is aware that the State of Illinois issued a NOV to Braidwood concerning the tritium. The licensee is developing remediation plans that will be submitted to the Illinois EPA in response to the NOV. The NRC will review the remediation plans during an upcoming inspection.