

Steven Orth

From: Steven Orth
Sent: Thursday, November 13, 2008 7:37 AM
To: [REDACTED]
Cc: Viktoria Mitlyng; Prema Chandrathil
Subject: RE: question

Wanda,

Greetings. Sorry that I was unable to respond to your e-mail sooner. Based on the information and associated documents that we have obtained through our inspections, we've attempted to answer your questions and provide the information that you requested. I appreciate your interest and concern in these issues and appreciate your patience.

Question: What is the volume of tritium that is released down the blowdown line? From my notes, I believe I was told 1 million picocuries/liter. Is that accurate?

Answer: The quantities of radioactive liquids and gases released from the Braidwood site are documented in the Braidwood Annual Environmental Operating Reports. The reports are available for public inspection at the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. As documented in the 2007 Braidwood Annual Environmental Report, 885.2 curies of tritium were released through the blowdown line. The blowdown line is not continuously receiving discharged tritium or other radionuclides during plant operations. In 2007, the radioactive discharges from the discharge tank totaled approximately 210 hours during the year. The remainder of the time, the blowdown line does not typically contain any measureable amounts of radioactivity above the detection levels.

Prior to releasing a batch of radioactive liquids, the blowdown line tritium concentration is calculated by the Braidwood staff based on measurements obtained from the discharge tank. Additionally, the levels of radioactivity in the blowdown line are also measured before the blowdown line releases into the Kankakee River using a continuously operating sampling system (compositor), and that sample is analyzed weekly. In 2007, the average concentration of tritium in the blowdown line during actual radioactive discharges was approximately one million picocuries/liter, which is below the level (10 million picocuries per liter) allowed by the Braidwood license (specifically, the Braidwood Offsite Dose Calculation Manual).

Question: Also, I was told it discharges at 25,000 gallons per minute and the line runs constantly. But, how often and for what duration of time is 1 million picocuries per liter of tritiated water flowing?

Answer: The average blowdown discharge flow rate in 2007 was 20,750 gallons per minute. As described above, the average tritium concentration was approximately one million picocuries per liter flowing out of the blowdown line into the river, during discharges. Releases are performed intermittently and in 2007 totaled approximately 210 of the 8760 hours or approximately 2.4 percent of the year.

Question: And finally, where is the level tested, at the point of release from the plant or the point of entry into the river?

Answer: Water is sampled from the discharge tank and at the point of discharge prior to entering the river. Additionally, the Braidwood site Radiological Environmental Monitoring Program (REMP) samples are collected downstream at designated points (i.e., Wilmington Water Intake) by the Braidwood staff.

If you have any additional questions, please contact me or Viktoria Mitlyng.

Sincerely,

Steven Orth
US NRC Region III

From: w a [mailto: [REDACTED]]
Sent: Wednesday, October 22, 2008 9:26 AM
To: Steven Orth
Subject: question

Good Morning Steve,

Viktoria told me you were working on this. I know how busy one can get and you must prioritize. I just didn't want this to slip through the cracks so I'm sending it again.

Thank you for taking the time to provide the correct answer to this.
Have a great day,
Wanda

--- On Tue, 10/14/08, w a < [REDACTED] > wrote:

From: w a < [REDACTED] >
Subject: question
To: sko@nrc.gov
Date: Tuesday, October 14, 2008, 8:49 AM

Hi Steve,

Hope your having a great day. Missed you at the last Exelon information night.

In looking through my notes, I found a question that I have asked a couple of times, but the answer I have is not clear and I was wondering if you could help me out.

What is the volume of tritium that is released down the blowdown line? From my notes, I believe I was told 1 million picocuries/ liter. Is that accurate? Also, I was told it discharges at 25,000 gallons per minute and the line runs constantly. But, how often and for what duration of time is 1 million p/c of tritiated water flowing? And finally, where is the level tested, at the point of release from the plant or the point of entry into the river?

As always, thank you for your time,

Wanda