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**Hughey, John**

**From:** Rosebrook, Andrew  
**Sent:** Friday, February 19, 2010 11:26 AM  
**To:** Hughey, John  
**Subject:** FW: Peach Bottom Tritium  
**Attachments:** Scan from Peach Bottom HP5035; Scan from Peach Bottom HP5035

FYI

**From:** Bower, Fred  
**Sent:** Friday, February 19, 2010 10:03 AM  
**To:** Rosebrook, Andrew; Nimitz, Ronald; Krohn, Paul; McNamara, Nancy; Tifft, Doug; Scrcenci, Diane; Sheehan, Neil  
**Cc:** Bream, Jeffrey; Ziedonis, Adam; Lew, David; Clifford, James; White, John; Wilson, Peter; Roberts, Darrell  
**Subject:** RE: Peach Bottom Tritium

I have attached two maps of the well locations for information. The plume map is NOT current (Aug. 2009) but provides a better picture of where the two new bedrock wells (27 & 28) are located.

*Fred Bower*  
Senior Resident Inspector  
Peach Bottom Atomic Power Station  
USRNC, Region I, DRP, PB4  
[Fred.Bower@NRC.gov](mailto:Fred.Bower@NRC.gov)  
717-456-7614 (work)

(b)(6) [redacted] pager] mobile]  
717-456-5669 (fax)

**From:** Rosebrook, Andrew  
**Sent:** Friday, February 19, 2010 9:49 AM  
**To:** Nimitz, Ronald; Bower, Fred; Krohn, Paul; McNamara, Nancy; Tifft, Doug; Scrcenci, Diane; Sheehan, Neil  
**Cc:** Bream, Jeffrey; Ziedonis, Adam; Lew, David; Clifford, James; White, John  
**Subject:** Peach Bottom Tritium

SLOs/PAOs/Dave/Jim/Paul

Below is a summary of the Peach Bottom positive tritium sample.

DRS (Ron Nimitz and John White) have the lead for this issue.

As part of Peach Bottom's ongoing tritium investigation, Peach Bottom has recently drilled two new wells (MW-27 and MW-28) in bedrock. MW-27 is on the east side of the turbine building near overburden wells, MW-24, 25, & 26.

Well 27 (a 50' foot deep well drilled into the bedrock) had a result of ~265,000 pCi/L and a confirmatory sample now shows ~168,000 pCi/L. Since this well is still stabilizing, the licensee expects the concentration to go down over the next two weeks or so. This well was drilled to develop a 3D analysis of a known tritium plume resulting from a Unit 3 CST spill several years ago.

Peach Bottom has contacted the State (Janati) regarding this issue.

Note: These values are to be expected based on the previous sample results and the new wells were drilled to enable P&D to better characterize the tritium plume at the site. Last July, a shallow well (well 25, a Geo Probe)

X-5

in this same area had a positive sample had a value of ~123, 000 picocuries/liter concentration and Exelon reported the July results IAW the NEI Groundwater initiative.

**Key Messages:**

- The Licensee and NRC have been aware of this tritium plume and have concluded there is no significant impact on public health and safety based on conservative bounding case analysis.
- The plume is heading towards the discharge canal which is a monitored release path.
- Groundwater transport in this area is very slow.

**Next Steps:**

- Brief SLOs and PAOs, in case they receive any inquiries.
- Monitor Peach Bottoms actions: PB has sampled the intake and discharge canals and the site drinking water and the results were below the LLD.
- Ron Nimitz completed a PIR sample on tritium in the 4th quarter of 2009 and is currently scheduled to perform the groundwater TI in June 2010. Dr. Nimitz made a recommendation to drill this type of well in this area in order to characterize the known groundwater plume.
- Review Exelons Hydrology survey results. The preliminary results show that groundwater transport rates are very slow in this area (took ~ 2yrs to travel from the CST to the other side of the turbine building) and the plume is moving towards the discharge canal (which has a composite monitor). Exelon will refine their results based upon the 3d analysis.