Issue/Title: Pilgrim Nuclear Power Station (PNPS): Tritium in Groundwater Monitoring Wells

Topic: PNPS Updates as of June 29, 2011

Previous Plans: Results from groundwater monitoring well samples collected during the weeks of June 7th and June 15th, 2011 were reported by Entergy (see tables below). Split samples for the weeks of June 7th and June 15th, 2011 are currently being analyzed by MERL.

Current Status:

Table 1[1]: June 7th

Location	Date	MERL[2] pCi/L	GEL[3] pCi/L
MW 201	6/7/2011	**	422
MW 202	6/7/2011	-	
MW 202 I	6/7/2011	-	
MW 203	6/7/2011	-	
MW 204	6/7/2011	-	
MW 205	**6/7/2011**	**	**9,250**
MW 206	**6/7/2011**	**	**1,230**
MW 207	6/7/2011	-	
MW 208-S	6/7/2011	-	
MW 208-I	6/7/2011	-	
MW 209 **new**	6/7/2011	**	923
MW 210 **new**	6/7/2011	-	
MW 211 **new**	6/7/2011	**	1,120
MW 212 **new**	6/7/2011	-	
MW 213 **new**	6/7/2011	-	
MW 214 **new**	6/7/2011	-	
MW 3	6/7/2011	-	
MW 4	6/7/2011	-	
SW-boat ramp	6/7/2011	-	
SW-intake	6/7/2011	-	

Table 2: June 15th

Location	Date	MERL pCi/L	GEL pCi/L
MW 201	6/15/2011	**	362
MW 202	6/15/2011	-	
MW 202 I	6/15/2011	-	
MW 203	6/15/2011	-	
MW 204	6/15/2011	-	
MW 205	**6/15/2011**	**	**6,710**
MW 206	**6/15/2011**	**	**1,250**
MW 207	6/15/2011	-	
MW 208-S	6/15/2011	-	
MW 208-I	6/15/2011	-	
MW 209 **new**	6/15/2011	**	1,060
MW 210 **new**	6/15/2011	-	
MW 211 **new**	6/15/2011	**	1,040
MW 212 **new**	6/15/2011	-	
MW 213 **new**	6/15/2011	-	
MW 214 **new**	6/15/2011	-	
MW 3	6/15/2011	-	
MW 4	6/15/2011	-	
SW-boat ramp	6/15/2011	-	
SW-intake	6/15/2011	-	

*** NDA = not detected at less than activity value listed**
**** results pending**
- not analyzed this week

[1] PNPS screening level for tritium in groundwater monitoring wells is 3,000 pCi/L, which is 1/10th of the NRC-approved Pilgrim Offsite Dose Calculation Manual standard for tritium in non-drinking water sources. The EPA drinking water standard is 20,000 pCi/L. The nearest drinking water wells are approximately 2.5 miles from the plant.
[2] Results from the Massachusetts Environmental Radiation Laboratory (MERL)
[3] GEL Laboratories are a radioanalytical laboratory contracted by PNPS

The latest groundwater monitoring results reported by Entergy show similar fluctuations in MW205, which had a level of 9,250 pCi/L of tritium detected on June 7th and decreased to 6,710 pCi/L of tritium detected on June 15th (the previous result on June 2nd was 5,340 pCi/L). Results for MW206 show 1,230 pCi/L of tritium detected on June 7th and 1,250 pCi/L of tritium detected on June 15th (the previous result on June 2nd was 975 pCi/L). Results for MW201 indicated 422 pCi/L of tritium detected on June 7th and 362 pCi/L of tritium detected on June 15th. Tritium results for MW209 and MW211 continue to be detected in the 1,000 pCi/L range. Specifically, for MW209, 923 pCi/L of tritium was detected on June 7th, and 1,060 pCi/L of tritium was detected on June 15th. For MW211, 1,120 pCi/L of tritium was detected on June 7th, and 1,040 pCi/L was detected on June 15th. For the weeks of June 7th and June 15th split samples from MERL are currently being analyzed.

For MW205, an increase to13,400 pCi/L of tritium detected was seen on May 11, 2011, with a return to a lower value of 1,920 pCi/L tritium detected on May 19th, and another peak of 9,250 pCi/L of tritium detected was seen on June 7th, which decreased to 6,710 pCi/L of tritium detected on June 15th. These most recent cycles of increasing and decreasing tritium detected at MW205, while similar to what was seen last summer and fall, will be the primary focus of discussion at our meeting with Entergy this week.

The charcoal samplers placed in monitoring wells for the dye testing effort continue to be collected weekly to determine whether the dyes are present in the groundwater. While no positive dye detections have been reported to date, MDPH has requested supplemental information from the lab conducting this work.

Looking Forward:

As previously reported, Entergy and their consultants are developing additional soil sampling plans in light of the March soil sampling results showing no detectable tritium in soils in the vicinity of MW205 and MW206. The second phase of soil sampling will likely focus on areas located further up-gradient of MW205 and MW206. This issue will also be reviewed during this week's discussion with Entergy.

Dates in July and August are currently being explored for a meeting between agency staff and Entergy to evaluate all tritium in groundwater data.