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

Topic: PNPS Updates as of March 2, 2012

Previous Plans: Results from groundwater monitoring well samples collected during the weeks of February 7th and February 21st, 2012 were reported by Entergy. Split sample results for the weeks of February 7th and February 21st, 2012 have also been reported by MERL.

Current Status:

Table 1[1]: February 7th

Location	Date	MERL[2] pCi/L	GEL[3] pCi/L
MW 201	02/07/2012	379	NDA
MW 202	02/07/2012	-	-
MW 202 I	02/07/2012	-	-
MW 203	02/07/2012	-	-
MW 204	02/07/2012	-	-
MW 205	02/07/2012	8,671	8,400
MW 206	02/07/2012	2,976	2,890
MW 207	02/07/2012	-	-
MW 208-S	02/07/2012	-	-
MW 208-I	02/07/2012	-	-
MW 209	02/07/2012	1,279	933
MW 210	02/07/2012	-	-
MW 211	02/07/2012	1,245	1,200
MW 212	02/07/2012	-	-
MW 213	02/07/2012	-	-
MW 214	02/07/2012	-	-
MW 215 new	02/07/2012	1,415	1,170
MW 217 new	02/07/2012	600	492
MW 3	02/07/2012	-	-
MW 4	02/07/2012	-	-
SW-boat ramp	02/07/2012	-	-
SW-intake	02/07/2012	NDA	NDA

Table 2: February 21st

Location	Date	MERL pCi/L	GEL pCi/L
MW 201	02/21/2012	514	707
MW 202	02/21/2012	-	-
MW 202 I	02/21/2012	-	-
MW 203	02/21/2012	-	-
MW 204	02/21/2012	-	-
MW 205	02/21/2012	5,406	4,380
MW 206	02/21/2012	2,392	2,180
MW 207	02/21/2012	-	-
MW 208-S	02/21/2012	-	-
MW 208-I	02/21/2012	-	-
MW 209	02/21/2012	1,200	1,200
MW 210	02/21/2012	-	-
MW 211	02/21/2012	1,318	1,380
MW 212	02/21/2012	-	-
MW 213	02/21/2012	-	-
MW 214	02/21/2012	-	-
MW 215 new	02/21/2012	1,465	1,600
MW 217 new	02/21/2012	573	901
MW 3	02/21/2012	-	-
MW 4	02/21/2012	-	-
SW-boat ramp	02/21/2012	-	-
SW-intake	02/21/2012	NDA	NDA

*** NDA = not detected at less than activity value listed**
**** results pending**
***** well inaccessible due to scheduled equipment use**
- 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 MW205 increased to a level of 8,400 pCi/L of tritium detected on February 7th and decreased to 4,380 pCi/L of tritium detected on February 21st (the previous result on January 24th was 2,500 pCi/L). Results for MW206 decreased to 2,890 pCi/L of tritium detected on February 7th and decreased to 2,180 pCi/L of tritium detected on February 21st (3,250 pCi/L of tritium was detected in the previous sample on January 24th). Results for MW201 indicated no detectible tritium on February 7th, and 707 pCi/L of tritium detected on February 21st. Results for MW209 indicated 933 pCi/L of tritium detected on February 7th, and 1,200 pCi/L of tritium detected on February 21st. For MW211, 1,200 pCi/L of tritium was detected on February 7th, and 1,380 pCi/L of tritium was detected on February 21st. MW215 indicated 1,170 pCi/L of tritium detected on February 7th, and 1,600 pCi/L of tritium detected on February 21st. MW217 indicated 492 pCi/L of tritium detected on February 7th, and 901 pCi/L of tritium detected on February 21st. Split sample results from MERL for the weeks of February 7th and February 21st were generally consistent with results reported by Entergy (see table above).

Surface water from the intake canal downstream of MW205 will be collected biweekly along with the priority groundwater monitoring wells (MW201, MW205, MW206, MW209, MW211, MW215, and MW217). Results from a surface water samples taken February 7th and February 21st from the intake canal downstream of MW205 indicated no detectable tritium. Samples from the boat ramp location will be collected quarterly along with the comprehensive groundwater monitoring well sample collection. To date, no tritium has been detected in any of the surface water samples.

The charcoal samplers placed in monitoring wells for the dye testing effort were most recently collected on January 25th, 2012. Sample collection restarted January 12th, 2012. Before January 12th, these charcoal samplers were in place approximately six weeks while a contract renewal between Entergy and their consultant was being finalized. Despite this extended time period, Entergy reported that their consultant confirmed that any dye that would have passed through the charcoal samplers during

that time would have been detected. No dye was detected in this latest collection and no dye has been detected in any sample since the dye testing began in January 2011. Dye test sampling will be done every two weeks moving forward until dye is detected in any sample**.** As previously reported, once dye is detected, weekly sampling will resume.

Soil samples collected during installation of the new groundwater monitoring wells have been analyzed by Entergy's contract laboratory and results indicated no detectable tritium. MERL has also analyzed split soil samples from Entergy and gamma spectroscopy results indicated no detectible nuclear power associated radionuclides.

MDPH and MEMA have been receiving weekly updates from Entergy on the progress of installing the third new groundwater well, MW216, the original location of which was not technically feasible. During the week of February 6th Entergy met with their consultant, ERM, to assess a new area where they would like to place MW216 down gradient of the reactor building's deep foundation on the northeast side of the building, now that containers that were covering the area have been moved. ERM identified one more container that needs to be relocated before they can move forward with a thorough ground penetrating radar assessment. If ground penetrating radar shows that the sub-surface is clear of interferences well installation efforts will proceed.

Looking Forward:

A meeting between Entergy, MDPH, MEMA and MDEP has been scheduled for Wednesday March 28, 2012 at MDPH. A draft agenda is being developed to facilitate discussion.

MDPH will continue to closely follow any new investigation activities that are currently moving forward (i.e. well placement and soil sampling).

MDPH and MEMA plan to review Entergy's proposed next steps in the tritium investigation and will provide feedback once a more detailed summary document of the new investigation activities is provided by Entergy.