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

Topic: PNPS Updates as of January 3, 2011

Previous Plans: Results from groundwater monitoring well samples and surface water samples collected during the weeks of December 9th and December 14th, 2010, were reported by Entergy (see tables below). MERL results of split groundwater samples collected on December 9th are also reported below. Split samples collected on December 14th are currently being analyzed by MERL.

Current Status:

Table 1[1]: December 9th

Location	Date	MERL[2] pCi/L	GEL[3] pCi/L
MW 201	12/9/2010	943	1150
MW 202	12/9/2010	-	-
MW 202 I	12/9/2010	-	-
MW 203	12/9/2010	-	-
MW 204	12/9/2010	-	-
MW 205	12/9/2010	**2978**	**2300**
MW 206	12/9/2010	**4283**	**5270**
MW 207	12/9/2010	-	-
MW 208-S	12/9/2010	-	-
MW 208-I	12/9/2010	-	-
MW 209 **new**	12/9/2010	-	-
MW 210 **new**	12/9/2010	-	-
MW 211 **new**	12/9/2010	-	-
MW 212 **new**	12/9/2010	-	-
MW 213 **new**	12/9/2010	-	-
MW 214 **new**	12/9/2010	-	-
MW 3	12/9/2010	-	-
MW 4	12/9/2010	-	-
SW-boat ramp	12/9/2010	NDA<300	NDA<416
SW-intake	12/9/2010	NDA<300	NDA<418

Table 2: December 14th

Location	Date	MERL pCi/L	GEL pCi/L
MW 201	12/14/2010	**	781
MW 202	12/14/2010	**	579
MW 202 I	12/14/2010	**	
MW 203	12/14/2010	**	NDA<372
MW 204	12/14/2010	**	503
MW 205	12/14/2010	**	**17800**
MW 206	12/14/2010	**	**10300**
MW 207	12/14/2010	**	NDA<360
MW 208-S	12/14/2010	**	NDA<365
MW 208-I	12/14/2010	**	NDA<370
MW 209 **new**	12/14/2010	**	1940
MW 210 **new**	12/14/2010	**	1090
MW 211 **new**	12/14/2010	**	1250
MW 212 **new**	12/14/2010	**	620
MW 213 **new**	12/14/2010	**	NDA<353
MW 214 **new**	12/14/2010	**	NDA<368
MW 3	12/14/2010	**	534
MW 4	12/14/2010	**	740
SW-boat ramp	12/14/2010	**	NDA<371
SW-intake	12/14/2010	**	NDA<354

*** 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 results from the full sampling round collected on December 14th as reported by Entergy show increases in both MW 205 and 206 from the previous week. Results for the other groundwater monitoring wells have generally remained consistent with previous sampling rounds, and surface water samples continue to be non-detectable. All groundwater and surface water monitoring results continue to be posted on the DPH website.

Introduction of the dyes at PNPS has now been scheduled for the week of January 17th. Part of the process of the dye test is to send groundwater samples from monitoring wells at PNPS to the dye testing company for analysis. Since groundwater samples (including the background samples) could potentially be contaminated with radioactive materials (i.e. tritium), some additional steps were required before the dye testing company could accept the samples for analysis. Although Entergy was able to rectify this unanticipated transportation and disposal issue, results from the background sample analysis were not able to be completed for the test to be done as proposed in December. This issue, coupled with the dye testing company having other commitments is the reason for the delay in dye testing. Beginning January 17th, dye will be introduced in four main system areas at PNPS to evaluate several possible tritium sources including the roof drains for the reactor building and the radioactive waste truck lock, the radwaste discharge drain line, and the French drain system located near the condensate storage tanks. Packets designed to detect the dyes will be placed in groundwater monitoring wells located in and around MW205 and MW206 and also placed in numerous storm drain systems at the facility.

Entergy has also reported that their hydrogeological consultants will conduct soil sampling in and around MW205 and MW206. This will be a 2011 budget item for PNPS, and scheduling will be dependent on the availability of various subcontractors (i.e. to conduct ground-penetrating radar, vacuum removal of soil in and around pipes, and soil sample collection) and on the weather and soil conditions (e.g. frozen ground).

Results from the ultrasonic and guided wave tests conducted on the condensate storage tank piping have been sent out for review by a third party consulting firm. Entergy is expecting results from this review in January. In addition, NRC is scheduled to conduct an Inspection at PNPS this week to evaluate the ultrasonic and guided wave test data and review results of the third party evaluation, when available.

MDPH and MDEP technical staff met on December 10th to discuss information presented by Entergy during the October 15, 2010 meeting and PNPS site tour, to review more recent monitoring data, and to brainstorm on current and future tritium investigation ideas moving forward.

Looking Forward:

Discussions are underway for scheduling another meeting with MDPH, MEMA, MDEP and Entergy in the early part of 2011.