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PRAIRIE ISLAND NUCLEAR GENERATING PLANT INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Introduction

This report provides data on radiation levels inside the Xcel Energy, Inc. (XE) Independent Spent Fuel Storage Installation (ISFSI) at the Prairie Island Nuclear Generating Plant (PINGP) for December 2010. The data contained in this report were gathered in accordance with agreements between Xcel Energy, Inc. and the Minnesota Department of Health (MDH).

At the end of December 2010, 29 casks were storing spent fuel inside the Independent Spent Fuel Storage Installation. The last cask to be moved to the Independent Spent Fuel Storage Installation was placed on December 17, 2010.

Pressurized Ionization Chamber (PIC) Monitoring

During this reporting period, daily radiation data were collected by the Pressurized Ionization Chamber system, which was installed in January 1995. The system consists of two ion chambers, computer memories and modems that are contacted every 15 minutes by the Minnesota Department of Health computers in St. Paul. The computers automatically page Minnesota Department of Health staff if unusual radiation levels are detected or if there are communication errors. Pressurized Ionization Chamber No. 1 is located about 100 feet north of the casks and Pressurized Ionization Chamber No. 2 is about 100 feet south.

Data were collected from December 1, 2010 to December 31, 2010 and are summarized in Table 1 for Pressurized Ionization Chamber No. 1 and Table 2 for Pressurized Ionization Chamber No. 2. Daily averages are presented, though data for every 15 minutes are available. A chart showing the daily averages for each Pressurized Ionization Chamber is also included. Pressurized Ionization Chamber No. 1 was not working during the reporting period. Pressurized Ionization Chamber No. 2 was working properly during the month of December.

Analysis and Comments

Pressurized Ionization Chamber No. 2 readings ranged from 126.9 to 145.3 $\mu\text{R/hr}$. The readings are within the normal ranges of ambient radiation levels inside the Independent Spent Fuel Storage Installation near the casks (about 100 feet away): 100 to 160 $\mu\text{R/hr}$.

Before any casks were in place, the natural background radiation levels inside the Independent Spent Fuel Storage Installation ranged from 5 to 15 $\mu\text{R/hr}$.

Additional monitoring data on radioactivity levels in other media (air, for example) are available in the annual Minnesota Department of Health "Environmental Radiation Data Report."

For more information, go to:

<http://www.health.state.mn.us/divs/eh/radiation/monitor/environdatareport.html> or contact Brandon Juran at brandon.juran@state.mn.us or 651-201-4526.

Table 1 December 2010 Data Report for
Pressurized Ionization Chamber No. 1

Start	Times		Dose	Intv	Status	400v	6v	Avg	Max	Min	Cnt
Date	Start	End	(mR)					(μ R/h)	(μ R/h)	(μ R/h)	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

**Table 2 December 2010 Data Report for
Pressurized Ionization Chamber No. 2**

Start Date	Times		Dose (mR)	Intv	Status	300v	12v	Avg (μ R/h)	Max (μ R/h)	Min (μ R/h)	Cnt
	Start	End									
12/1/10	0:11	23:46	3.19	900	0000	296	12.98	133.1	133.8	132.7	93
12/2/10	0:01	23:51	3.20	900	0000	295	12.89	133.5	134.3	130.1	95
12/3/10	0:06	23:56	3.23	900	0000	296	13.00	134.4	136.6	133.5	96
12/4/10	0:10	23:46	3.25	900	0000	296	13.03	135.6	137.1	134.9	95
12/5/10	0:01	23:53	3.15	900	0000	295	12.89	131.4	135.5	130.0	95
12/6/10	0:06	23:53	3.22	900	0000	295	13.02	134.1	137.9	129.5	92
12/7/10	0:08	23:38	3.32	900	0000	295	12.99	138.2	139.0	137.4	95
12/8/10	0:23	23:53	3.34	900	0000	294	12.91	139.1	139.9	138.2	95
12/9/10	0:08	23:46	3.36	900	0000	295	13.00	140.0	141.5	138.8	95
12/10/10	0:01	23:53	3.38	900	0000	296	13.03	140.8	142.6	140.0	95
12/11/10	0:08	23:56	3.39	900	0000	295	13.01	141.2	145.3	135.7	96
12/12/10	0:11	23:53	3.29	900	0000	293	12.72	137.0	138.8	133.4	95
12/13/10	0:08	23:46	3.35	900	0000	291	12.79	139.4	140.3	138.5	95
12/14/10	0:01	23:53	3.36	900	0000	292	12.89	140.1	141.1	139.1	95
12/15/10	0:08	23:56	3.37	900	0000	293	12.99	140.3	141.2	139.5	96
12/16/10	0:10	23:53	3.25	900	0000	294	13.05	135.6	140.4	128.6	95
12/17/10	0:08	23:46	3.22	900	0000	294	13.02	134.0	135.0	132.7	95
12/18/10	0:01	23:56	3.24	900	0000	294	13.02	134.9	135.5	134.4	96
12/19/10	0:23	23:53	3.25	900	0000	293	12.98	135.6	136.8	134.7	95
12/20/10	0:08	23:46	3.23	900	0000	294	13.00	134.7	136.1	131.5	95
12/21/10	0:01	23:53	3.13	900	0000	295	13.02	130.3	133.2	128.4	95
12/22/10	0:08	23:56	3.08	900	0000	295	12.99	128.3	129.0	128.0	96
12/23/10	0:11	23:46	3.09	900	0000	295	13.03	128.7	129.6	128.3	95
12/24/10	0:01	23:53	3.07	900	0000	295	13.01	127.8	129.4	126.9	95
12/25/10	0:08	23:56	3.06	900	0000	294	12.96	127.7	128.5	127.1	96
12/26/10	0:11	23:53	3.09	900	0000	294	12.89	128.8	130.0	127.9	95
12/27/10	0:08	23:46	3.10	900	0000	295	13.04	129.0	129.6	128.6	95
12/28/10	0:01	23:53	3.11	900	0000	295	12.99	129.7	130.8	128.7	95
12/29/10	0:08	23:53	3.10	900	0000	297	12.98	129.1	130.2	127.6	96
12/30/10	0:11	23:46	3.11	900	0000	297	13.04	129.4	131.8	128.2	95
12/31/10	0:01	23:53	3.15	900	0000	296	12.82	131.3	133.2	129.8	95
12/1/10 to 12/31/10			99.67	900	0000	295	12.97	134.0	145.3	126.9	2947

2009 - 2010 Daily Average HPIC Readings

