

APPENDIX C

DATA TABLES

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TABLE C-1

GROSS BETA ANALYSES OF AIR PARTICULATE FILTERS
SUSQUEHANNA STEAM ELECTRIC STATION

Results in units of E-03 pCi/cu.m. \pm 2 sigma

COLLECTION PERIOD	3S2	6G1	8G1	12E1	12S1	13S6
12/26/12 - 01/02/13	15 \pm 2	16 \pm 2	14 \pm 2	15 \pm 2	17 \pm 2	17 \pm 2
01/02/13 - 01/09/13	30 \pm 3	29 \pm 3	29 \pm 3	29 \pm 3	29 \pm 3	33 \pm 3
01/09/13 - 01/16/13	16 \pm 2	15 \pm 2	16 \pm 2	15 \pm 2	21 \pm 3	16 \pm 2
01/16/13 - 01/23/13	18 \pm 3	15 \pm 3	15 \pm 3	16 \pm 3	12 \pm 2	16 \pm 3
01/23/13 - 01/30/13	11 \pm 2	13 \pm 2	12 \pm 2	14 \pm 2	15 \pm 2	15 \pm 2
01/30/13 - 02/06/13	19 \pm 3	17 \pm 3	17 \pm 3	20 \pm 3	21 \pm 3	21 \pm 3
02/06/13 - 02/13/13	13 \pm 2	10 \pm 2	11 \pm 2	12 \pm 2	12 \pm 2	13 \pm 2
02/13/13 - 02/20/13	11 \pm 2	14 \pm 2	12 \pm 2	13 \pm 2	14 \pm 2	14 \pm 2
02/20/13 - 02/27/13	9 \pm 2	5 \pm 2	7 \pm 2	6 \pm 2	8 \pm 2	6 \pm 2
02/27/13 - 03/06/13	8 \pm 2	6 \pm 2	6 \pm 2	6 \pm 2	9 \pm 2	6 \pm 2
03/06/13 - 03/13/13	7 \pm 2	8 \pm 2	8 \pm 2	9 \pm 2	13 \pm 2	8 \pm 2
03/13/13 - 03/20/13	15 \pm 2	13 \pm 2	14 \pm 2	13 \pm 2	12 \pm 2	15 \pm 2
03/20/13 - 03/27/13	8 \pm 2	10 \pm 2	9 \pm 2	9 \pm 2	8 \pm 2	7 \pm 2
03/27/13 - 04/03/13	7 \pm 2	9 \pm 2	8 \pm 2	9 \pm 2	10 \pm 2	10 \pm 2
04/03/13 - 04/10/13	15 \pm 2	15 \pm 3	17 \pm 3	18 \pm 3	15 \pm 3	16 \pm 3
04/10/13 - 04/17/13	9 \pm 2	7 \pm 3	7 \pm 2	7 \pm 2	7 \pm 2	7 \pm 2
04/17/13 - 04/24/13	11 \pm 2	10 \pm 3	13 \pm 2	12 \pm 2	11 \pm 2	11 \pm 2
04/24/13 - 05/01/13	16 \pm 2	13 \pm 2	16 \pm 3	18 \pm 3	13 \pm 2	14 \pm 2
05/01/13 - 05/08/13	10 \pm 2	7 \pm 2	7 \pm 2	10 \pm 2	9 \pm 2	9 \pm 2
05/08/13 - 05/15/13	8 \pm 2	5 \pm 2	8 \pm 2	8 \pm 2	7 \pm 2	6 \pm 2
05/15/13 - 05/22/13	10 \pm 2	9 \pm 2	9 \pm 2	10 \pm 2	11 \pm 2	11 \pm 2
05/22/13 - 05/29/13	9 \pm 2	9 \pm 2	9 \pm 2	10 \pm 2	10 \pm 2	10 \pm 2
05/29/13 - 06/05/13	16 \pm 3	16 \pm 3	15 \pm 3	14 \pm 3	14 \pm 2	14 \pm 2
06/05/13 - 06/12/13	7 \pm 2	8 \pm 2	8 \pm 2	10 \pm 2	9 \pm 2	9 \pm 2
06/12/13 - 06/19/13	13 \pm 2	11 \pm 2	13 \pm 2	12 \pm 2	11 \pm 2	12 \pm 2
06/19/13 - 06/26/13	14 \pm 2	13 \pm 2	13 \pm 2	14 \pm 2	13 \pm 2	15 \pm 2
06/26/13 - 07/03/13	10 \pm 2	9 \pm 2	9 \pm 2	9 \pm 2	12 \pm 2	11 \pm 2
07/03/13 - 07/10/13	8 \pm 2	10 \pm 2	10 \pm 2	10 \pm 2	10 \pm 2	10 \pm 2
07/10/13 - 07/17/13	13 \pm 2	13 \pm 2	12 \pm 2	11 \pm 2	10 \pm 2	13 \pm 2
07/17/13 - 07/24/13	16 \pm 2	12 \pm 2	12 \pm 2	15 \pm 2	15 \pm 2	15 \pm 2
07/24/13 - 07/31/13	9 \pm 2	10 \pm 2	11 \pm 2	11 \pm 2	10 \pm 2	9 \pm 2
07/31/13 - 08/07/13	14 \pm 2	9 \pm 2	11 \pm 2	14 \pm 2	14 \pm 2	14 \pm 2
08/07/13 - 08/14/13	14 \pm 2	13 \pm 2	13 \pm 2	13 \pm 2	15 \pm 2	15 \pm 2
08/14/13 - 08/21/13	16 \pm 2	14 \pm 2	12 \pm 2	14 \pm 2	15 \pm 2	15 \pm 2
08/21/13 - 08/28/13	22 \pm 3	18 \pm 3	19 \pm 3	19 \pm 3	22 \pm 3	23 \pm 3
08/28/13 - 09/04/13	23 \pm 3	20 \pm 3	20 \pm 3	20 \pm 3	22 \pm 3	21 \pm 3
09/04/13 - 09/11/13	16 \pm 3	18 \pm 3	15 \pm 2	15 \pm 2	21 \pm 3	17 \pm 3
09/11/13 - 09/18/13	19 \pm 3	15 \pm 2	15 \pm 2	13 \pm 2	19 \pm 3	14 \pm 2
09/18/13 - 09/25/13	13 \pm 2	13 \pm 2	12 \pm 2	13 \pm 2	12 \pm 2	15 \pm 2
09/25/13 - 10/02/13	13 \pm 2	10 \pm 2	15 \pm 2	12 \pm 2	11 \pm 2	15 \pm 2
10/02/13 - 10/09/13	24 \pm 3	22 \pm 3	22 \pm 3	25 \pm 3	26 \pm 3	27 \pm 3
10/09/13 - 10/16/13	18 \pm 3	16 \pm 3	15 \pm 2	16 \pm 2	16 \pm 3	17 \pm 2
10/16/13 - 10/23/13	17 \pm 2	16 \pm 2	14 \pm 2	16 \pm 2	18 \pm 3	16 \pm 2
10/23/13 - 10/30/13	11 \pm 2	10 \pm 2	11 \pm 2	11 \pm 2	12 \pm 2	10 \pm 2
10/30/13 - 11/06/13	21 \pm 3	17 \pm 3	17 \pm 3	21 \pm 3	21 \pm 3	20 \pm 3
11/06/13 - 11/13/13	11 \pm 2	9 \pm 2	11 \pm 2	11 \pm 2	10 \pm 2	11 \pm 2
11/13/13 - 11/20/13	11 \pm 2	10 \pm 2	10 \pm 2	13 \pm 2	10 \pm 2	13 \pm 2
11/20/13 - 11/26/13	12 \pm 2	10 \pm 2	11 \pm 2	13 \pm 2	11 \pm 2	12 \pm 2
11/26/13 - 12/04/13	19 \pm 2	17 \pm 2	16 \pm 2	17 \pm 2	16 \pm 2	19 \pm 2
12/04/13 - 12/11/13	22 \pm 3	17 \pm 2	17 \pm 3	21 \pm 3	20 \pm 3	19 \pm 3
12/11/13 - 12/18/13	22 \pm 3	21 \pm 3	20 \pm 3	22 \pm 3	23 \pm 3	24 \pm 3
12/18/13 - 12/25/13	17 \pm 2	15 \pm 2	15 \pm 2	18 \pm 2	18 \pm 2	16 \pm 2
12/26/13 - 01/02/14	16 \pm 3	17 \pm 3	14 \pm 2	16 \pm 2	16 \pm 2	16 \pm 3

**TABLE C-2 GAMMA SPECTROSCOPIC ANALYSES OF COMPOSITED AIR PARTICULATE FILTERS
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in units of E-03 pCi/cu.m. \pm 2 sigma

SITE	COLLECTION PERIOD	Be-7	K-40	Cs-134	Cs-137
6G1	12/26/12 - 03/27/13	70 \pm 20	< 22	< 1	< 1
	03/27/13 - 07/03/13	107 \pm 22	< 28	< 1	< 1
	07/03/13 - 10/02/13	119 \pm 22	< 20	< 1	< 1
	10/02/13 - 01/02/14	96 \pm 23	< 23	< 1	< 2
	AVERAGE	98 \pm 42	-	-	-
8G1	12/26/12 - 03/27/13	85 \pm 22	< 23	< 2	< 1
	03/27/13 - 07/03/13	116 \pm 28	< 31	< 2	< 2
	07/03/13 - 10/02/13	109 \pm 24	< 22	< 1	< 1
	10/02/13 - 01/02/14	108 \pm 27	< 25	< 2	< 2
	AVERAGE	105 \pm 27	-	-	-
3S2	12/26/12 - 03/27/13	86 \pm 20	< 25	< 1	< 1
	03/27/13 - 07/03/13	133 \pm 18	< 16	< 1	< 1
	07/03/13 - 10/02/13	132 \pm 24	< 19	< 1	< 1
	10/02/13 - 01/02/14	95 \pm 21	< 18	< 1	< 1
	AVERAGE	111 \pm 49	-	-	-
12E1	12/26/12 - 03/27/13	86 \pm 16	< 20	< 1	< 1
	03/27/13 - 07/03/13	130 \pm 20	< 17	< 1	< 1
	07/03/13 - 10/02/13	131 \pm 26	< 12	< 1	< 1
	10/02/13 - 01/02/14	87 \pm 19	< 15	< 2	< 1
	AVERAGE	108 \pm 51	-	-	-
12S1	12/26/12 - 03/27/13	63 \pm 22	< 12	< 2	< 1
	03/27/13 - 07/03/13	98 \pm 23	< 18	< 1	< 1
	07/03/13 - 10/02/13	128 \pm 20	< 17	< 1	< 1
	10/02/13 - 01/02/14	97 \pm 19	< 14	< 2	< 1
	AVERAGE	97 \pm 53	-	-	-
13S6	12/26/12 - 03/27/13	92 \pm 19	< 20	< 1	< 1
	03/27/13 - 07/03/13	133 \pm 22	< 13	< 1	< 1
	07/03/13 - 10/02/13	101 \pm 20	< 21	< 1	< 1
	10/02/13 - 01/02/14	121 \pm 23	< 23	< 1	< 1
	AVERAGE	112 \pm 37	-	-	-

TABLE C-3

**IODINE-131 ANALYSES OF AIR IODINE SAMPLES
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in units of E-03 pCi/cu.m. \pm 2 sigma

COLLECTION PERIOD	3S2	6G1	8G1	12E1	12S1	13S6
12/26/12 - 01/02/13	< 8	< 8	< 8	< 8	< 8	< 8
01/02/13 - 01/09/13	< 9	< 7	< 7	< 7	< 9	< 9
01/09/13 - 01/16/13	< 9	< 6	< 6	< 6	< 9	< 9
01/16/13 - 01/23/13	< 7	< 9	< 8	< 8	< 7	< 7
01/23/13 - 01/30/13	< 19	< 18	< 17	< 17	< 19	< 18
01/30/13 - 02/06/13	< 8	< 9	< 9	< 8	< 9	< 8
02/06/13 - 02/13/13	< 10	< 10	< 10	< 10	< 10	< 10
02/13/13 - 02/20/13	< 7	< 7	< 6	< 6	< 7	< 7
02/20/13 - 02/27/13	< 8	< 8	< 8	< 8	< 8	< 8
02/27/13 - 03/06/13	< 8	< 8	< 8	< 8	< 10	< 9
03/06/13 - 03/13/13	< 16	< 18	< 18	< 18	< 16	< 15
03/13/13 - 03/20/13	< 17	< 14	< 14	< 14	< 18	< 18
03/20/13 - 03/27/13	< 8	< 9	< 9	< 9	< 9	< 9
03/27/13 - 04/03/13	< 7	< 8	< 8	< 8	< 7	< 7
04/03/13 - 04/10/13	< 9	< 9	< 8	< 8	< 10	< 10
04/10/13 - 04/17/13	< 16	< 20	< 14	< 14	< 15	< 15
04/17/13 - 04/24/13	< 10	< 12	< 8	< 8	< 10	< 10
04/24/13 - 05/01/13	< 17	< 19	< 18	< 18	< 16	< 16
05/01/13 - 05/08/13	< 20	< 20	< 18	< 19	< 18	< 19
05/08/13 - 05/15/13	< 12	< 9	< 9	< 9	< 11	< 12
05/15/13 - 05/22/13	< 20	< 18	< 17	< 17	< 20	< 20
05/22/13 - 05/29/13	< 9	< 9	< 8	< 8	< 8	< 8
05/29/13 - 06/05/13	< 8	< 9	< 8	< 9	< 8	< 8
06/05/13 - 06/12/13	< 8	< 8	< 7	< 8	< 7	< 7
06/12/13 - 06/19/13	< 19	< 19	< 18	< 18	< 18	< 18
06/19/13 - 06/26/13	< 9	< 9	< 8	< 9	< 9	< 9
06/26/13 - 07/03/13	< 10	< 13	< 13	< 13	< 9	< 9
07/03/13 - 07/10/13	< 17	< 16	< 15	< 16	< 16	< 16
07/10/13 - 07/17/13	< 9	< 8	< 8	< 8	< 8	< 8
07/17/13 - 07/24/13	< 11	< 7	< 7	< 7	< 10	< 10
07/24/13 - 07/31/13	< 7	< 9	< 9	< 9	< 8	< 8
07/31/13 - 08/07/13	< 7	< 8	< 8	< 8	< 8	< 8
08/07/13 - 08/14/13	< 6	< 6	< 6	< 6	< 7	< 7
08/14/13 - 08/21/13	< 7	< 7	< 7	< 7	< 7	< 8
08/21/13 - 08/28/13	< 18	< 18	< 17	< 17	< 19	< 19
08/28/13 - 09/04/13	< 16	< 19	< 18	< 18	< 17	< 17
09/04/13 - 09/11/13	< 9	< 10	< 10	< 10	< 9	< 9
09/11/13 - 09/18/13	< 9	< 10	< 9	< 10	< 9	< 9
09/18/13 - 09/25/13	< 9	< 8	< 8	< 8	< 9	< 10
09/25/13 - 10/02/13	< 9	< 10	< 10	< 10	< 9	< 9
10/02/13 - 10/09/13	< 8	< 9	< 9	< 9	< 9	< 8
10/09/13 - 10/16/13	< 7	< 8	< 8	< 8	< 8	< 7
10/16/13 - 10/23/13	< 14	< 15	< 14	< 14	< 14	< 13
10/23/13 - 10/30/13	< 10	< 11	< 11	< 11	< 10	< 9
10/30/13 - 11/06/13	< 9	< 8	< 8	< 8	< 9	< 8
11/06/13 - 11/13/13	< 9	< 9	< 9	< 9	< 9	< 9
11/13/13 - 11/20/13	< 16	< 15	< 15	< 15	< 15	< 16
11/20/13 - 11/26/13	< 18	< 18	< 18	< 19	< 17	< 19
11/26/13 - 12/04/13	< 13	< 11	< 11	< 11	< 13	< 14
12/04/13 - 12/11/13	< 19	< 16	< 17	< 17	< 18	< 19
12/11/13 - 12/18/13	< 9	< 9	< 10	< 10	< 9	< 10
12/18/13 - 12/26/13	< 14	< 11	< 12	< 11	< 13	< 14
12/26/13 - 01/02/14	< 16	< 16	< 17	< 16	< 15	< 17

**TABLE C-4 ENVIRONMENTAL OPTICALLY STIMULATED LUMINESCENCE DOSIMETRY RESULTS
SUSQUEHANNA STEAM ELECTRIC STATION**

Results (1) are in mR/std. qtr (2) \pm 2 sigma (3)

LOCATION	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	01/10/13 to 04/10/13	04/10/13 to 07/19/13	07/19/13 to 10/10/13	10/10/13 to 01/30/14
ONSITE				
1S2	23.9 \pm 0.4	20.0 \pm 0.1	24.6 \pm 2.8	24.5 \pm 1.2
2S2	13.2 \pm 0.3	15.0 \pm 0.2	15.9 \pm 0.0	16.9 \pm 1.0
2S3	20.5 \pm 0.9	19.3 \pm 2.1	21.5 \pm 0.4	23.9 \pm 2.7
3S2	14.0 \pm 0.1	14.1 \pm 0.8	14.7 \pm 1.2	16.1 \pm 0.4
3S3	12.1 \pm 0.0	13.5 \pm 0.3	16.0 \pm 2.3	15.8 \pm 0.7
4S3	20.5 \pm 0.6	19.8 \pm 0.9	22.9 \pm 0.2	21.7 \pm 2.4
4S6	13.3 \pm 0.1	13.2 \pm 0.7	16.5 \pm 1.4	16.3 \pm 1.6
5S4	12.1 \pm 0.4	12.2 \pm 1.3	13.9 \pm 0.1	13.6 \pm 0.6
5S7	14.5 \pm 1.1	14.1 \pm 0.5	16.6 \pm 0.2	17.5 \pm 1.2
6S4	23.6 \pm 1.9	23.8 \pm 0.6	25.4 \pm 0.0	27.2 \pm 0.2
6S9	22.4 \pm 1.3	19.9 \pm 0.1	23.9 \pm 1.8	25.5 \pm 0.3
7S6	19.8 \pm 0.6	18.9 \pm 0.9	21.7 \pm 1.8	22.6 \pm 1.2
7S7	13.1 \pm 0.5	13.4 \pm 3.3	14.7 \pm 1.5	15.5 \pm 0.5
8S2	23.8 \pm 0.1	20.4 \pm 1.0	23.8 \pm 1.1	24.8 \pm 0.2
9S2	44.1 \pm 1.1	28.5 \pm 0.4	40.9 \pm 0.2	42.2 \pm 5.2
10S1	14.0 \pm 1.3	13.5 \pm 0.7	14.7 \pm 0.5	17.3 \pm 0.7
10S2	32.8 \pm 0.9	26.4 \pm 0.3	33.6 \pm 0.8	34.4 \pm 0.2
11S7	14.0 \pm 0.3	14.1 \pm 1.5	14.2 \pm 0.7	17.9 \pm 1.8
12S1	16.7 \pm 0.0	17.2 \pm 0.2	16.8 \pm 1.1	19.3 \pm 0.2
12S3	18.3 \pm 0.6	19.0 \pm 0.1	20.7 \pm 0.8	21.1 \pm 0.2
12S7	13.3 \pm 0.2	14.3 \pm 0.9	15.9 \pm 0.9	16.6 \pm 1.6
13S2	24.2 \pm 0.6	23.4 \pm 1.2	27.5 \pm 3.5	24.6 \pm 0.2
13S5	23.8 \pm 0.9	25.9 \pm 0.1	26.5 \pm 2.2	26.4 \pm 2.0
13S6	18.8 \pm 0.4	20.9 \pm 0.7	22.1 \pm 0.2	23.7 \pm 0.4
14S5	18.5 \pm 0.4	18.2 \pm 0.3	20.5 \pm 1.2	22.4 \pm 0.3
15S5	15.5 \pm 1.1	16.5 \pm 0.8	18.1 \pm 0.5	19.7 \pm 1.0
16S1	20.9 \pm 0.7	20.2 \pm 1.4	25.6 \pm 2.4	24.2 \pm 1.6
16S2	21.5 \pm 0.2	19.3 \pm 0.8	23.2 \pm 0.8	24.7 \pm 1.2

See the comments at the end of this table.

C-6

**TABLE C-4 ENVIRONMENTAL OPTICALLY STIMULATED LUMINESCENCE DOSIMETRY RESULTS
SUSQUEHANNA STEAM ELECTRIC STATION**

Results (1) are in mR/std. qtr (2) ± 2 sigma (3)

LOCATION	First Quarter 01/10/13 to 04/10/13	Second Quarter 04/10/13 to 07/19/13	Third Quarter 07/19/13 to 10/10/13	Fourth Quarter 10/10/13 to 01/30/14
ONSITE				
0-1 MILE OFFSITE				
6A4	15.7 ± 0.4	17.5 ± 1.5	16.9 ± 0.3	18.7 ± 1.2
8A3	13.0 ± 0.4	12.7 ± 0.3	14.2 ± 0.5	15.8 ± 1.1
15A3	12.6 ± 0.9	13.0 ± 0.9	14.3 ± 0.5	16.1 ± 0.6
16A2	12.3 ± 0.0	13.5 ± 2.5	14.6 ± 0.8	16.1 ± 0.2
1-2 MILES OFFSITE				
8B2	13.0 ± 0.4	14.9 ± 1.9	15.8 ± 1.7	13.8 ± 0.3
9B1	18.1 ± 2.0	18.7 ± 0.2	21.1 ± 1.1	21.3 ± 0.3
10B3	12.3 ± 1.3	13.0 ± 0.6	14.0 ± 1.1	15.9 ± 1.3
2-4 MILES OFFSITE				
1D5	16.2 ± 0.3	16.4 ± 0.1	16.7 ± 0.5	17.5 ± 0.6
8D3	13.2 ± 0.4	14.4 ± 0.1	15.3 ± 0.2	16.0 ± 0.5
9D4	15.7 ± 0.1	16.4 ± 0.4	16.9 ± 0.5	17.0 ± 0.1
10D1	15.0 ± 0.1	15.5 ± 0.9	16.1 ± 1.4	15.9 ± 0.7
12D2	14.7 ± 0.8	15.8 ± 1.5	15.5 ± 1.6	17.4 ± 1.2
14D1	14.8 ± 0.3	16.5 ± 0.4	16.1 ± 1.3	18.1 ± 0.3
4-5 MILES OFFSITE				
3E1	11.6 ± 0.9	10.3 ± 1.4	15.8 ± 1.7	14.9 ± 0.1
4E2	15.2 ± 1.3	16.3 ± 0.7	18.2 ± 1.8	17.4 ± 0.6
5E2	13.4 ± 1.1	16.2 ± 0.9	14.0 ± 2.0	17.5 ± 0.2
6E1	15.3 ± 0.2	16.8 ± 1.1	17.9 ± 1.7	19.2 ± 0.2
7E1	15.3 ± 0.1	15.1 ± 0.0	17.3 ± 2.1	16.9 ± 0.8
11E1	11.6 ± 0.7	11.8 ± 1.0	12.8 ± 0.2	12.8 ± 0.6
12E1	12.8 ± 1.0	11.1 ± 0.6	14.0 ± 0.5	15.6 ± 0.2
13E4	16.9 ± 1.6	18.0 ± 0.8	19.8 ± 0.0	20.2 ± 0.8

See the comments at the end of this table.

C-7

**TABLE C-4 ENVIRONMENTAL OPTICALLY STIMULATED LUMINESCENCE DOSIMETRY RESULTS
SUSQUEHANNA STEAM ELECTRIC STATION**

Results (1) are in mR/std. qtr (2) \pm 2 sigma (3)

	First Quarter 01/10/13 to 04/10/13	Second Quarter 04/10/13 to 07/19/13	Third Quarter 07/19/13 to 10/10/13	Fourth Quarter 10/10/13 to 01/30/14
LOCATION				
ONSITE				
5-10 MILES OFFSITE				
2F1	13.8 \pm 0.1	15.1 \pm 1.2	15.8 \pm 0.8	16.7 \pm 0.6
15F1	16.8 \pm 0.1	17.4 \pm 0.3	18.7 \pm 0.2	19.1 \pm 0.5
16F1	17.2 \pm 1.2	17.4 \pm 0.6	19.0 \pm 0.9	20.7 \pm 0.3
10-20 MILES OFFSITE				
3G4	15.8 \pm 1.1	16.5 \pm 1.2	16.6 \pm 1.5	19.3 \pm 0.5
4G1	16.6 \pm 0.6	17.3 \pm 0.6	16.9 \pm 0.1	19.3 \pm 0.6
7G1	14.1 \pm 1.3	(4) (4)	14.6 \pm 0.3	(4) (4)
12G1	11.0 \pm 0.2	12.9 \pm 0.1	13.0 \pm 1.5	15.0 \pm 0.3
12G4	12.8 \pm 0.5	14.4 \pm 0.8	15.6 \pm 0.2	18.1 \pm 0.6

See the comments at the end of this table.

LOCATION

INDICATOR

Average (5) 17.1 \pm 5.7 16.9 \pm 7.2 18.9 \pm 9.3 19.8 \pm 8.5

CONTROL

Average (5) 14.1 \pm 1.9 15.3 \pm 4.3 15.3 \pm 2.2 17.9 \pm 4.1

COMMENTS

- (1) Individual monitor location results are normally the average of the elemental doses of four elements from the two dosimeters assigned to each monitoring location.
- (2) A standard (std.) quarter (qtr.) is considered to be 91.25 days. Results obtained for monitoring periods of other durations are normalized by multiplying them by 91.25/x, where x is the actual duration in days of the period.
- (3) Uncertainties for individual monitoring location results are two standard deviations of the elemental doses of four elements from the two dosimeters assigned to each monitoring location, representing the variability between the elemental doses of each of the four dosimeter elements.
- (4) No measurement could be made at this location because the dosimeters were lost, stolen, or damaged. Refer to Section III, Program Description, of the Annual Radiological Environmental Operating Report for an explanation of program exceptions to REMP.
- (5) Uncertainties associated with quarterly indicator and control averages are two standard deviations, representing the variability between the results of the individual monitoring locations.

TABLE C-5

**IODINE-131 AND GAMMA SPECTROSCOPIC ANALYSES OF MILK
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in pCi/Liter \pm 2 sigma

SITE	COLLECTION PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140	Th-228
10G1	01/07/13	< 0.8	1265 \pm 134	< 6	< 6	< 29	< 7	< 11
	02/04/13	< 0.7	1358 \pm 161	< 6	< 7	< 34	< 10	< 11
	03/11/13	< 0.7	1323 \pm 137	< 6	< 6	< 33	< 12	< 12
	04/08/13	< 0.7	1358 \pm 162	< 6	< 6	< 32	< 9	< 12
	04/22/13	< 0.8	1279 \pm 169	< 5	< 6	< 29	< 11	< 12
	05/06/13	< 0.6	1349 \pm 140	< 5	< 5	< 26	< 10	< 11
	05/20/13	< 0.4	1414 \pm 146	< 5	< 6	< 32	< 11	< 9
	06/03/13	< 0.7	1289 \pm 152	< 6	< 6	< 32	< 11	< 12
	06/17/13	< 0.6	1510 \pm 140	< 6	< 6	< 31	< 9	< 11
	07/01/13	< 0.4	1371 \pm 153	< 6	< 6	< 39	< 8	< 14
	07/15/13	< 0.6	1351 \pm 127	< 5	< 6	< 29	< 8	< 9
	07/29/13	< 0.8	1381 \pm 140	< 6	< 6	< 41	< 10	< 14
	08/12/13	< 1.0	1386 \pm 176	< 7	< 7	< 38	< 8	< 15
	08/26/13	< 0.8	1247 \pm 129	< 6	< 6	< 31	< 9	21 \pm 13
	09/09/13	< 0.5	1343 \pm 141	< 5	< 6	< 34	< 8	< 12
	09/23/13	< 0.6	1322 \pm 97	< 4	< 4	< 20	< 7	< 7
	10/07/13	< 0.7	1499 \pm 144	< 6	< 7	< 38	< 8	< 12
10/21/13	< 0.3	1535 \pm 162	< 7	< 7	< 43	< 15	< 13	
11/11/13	< 0.4	1280 \pm 124	< 4	< 5	< 23	< 6	< 8	
12/09/13	< 0.8	1280 \pm 143	< 5	< 6	< 34	< 11	< 11	
	AVERAGE		1346 \pm 176	-	-	-	-	21 \pm 0
13E3	01/07/13	< 0.7	1366 \pm 198	< 8	< 8	< 52	< 12	< 15
	02/04/13	< 0.6	1345 \pm 142	< 4	< 6	< 25	< 10	< 9
	03/11/13	< 0.7	1418 \pm 144	< 6	< 6	< 33	< 9	< 12
	04/08/13	< 0.4	1437 \pm 120	< 5	< 5	< 28	< 7	< 8
	04/22/13	< 0.5	1482 \pm 136	< 5	< 6	< 29	< 9	< 11
	05/06/13	< 0.8	1243 \pm 149	< 5	< 7	< 37	< 12	< 10
	05/20/13	< 0.7	1381 \pm 158	< 7	< 8	< 43	< 12	< 14
	06/03/13	< 0.6	1451 \pm 174	< 8	< 8	< 44	< 15	< 14
	06/17/13	< 0.7	1366 \pm 138	< 5	< 6	< 34	< 11	< 12
	07/01/13	< 0.8	1520 \pm 165	< 6	< 8	< 39	< 9	< 13
	07/15/13	< 0.6	1339 \pm 134	< 5	< 6	< 31	< 8	< 11
	07/29/13	< 0.8	1211 \pm 168	< 6	< 8	< 45	< 9	< 15
	08/12/13	< 0.6	1300 \pm 166	< 7	< 8	< 44	< 10	< 14
	08/26/13	< 0.5	1231 \pm 156	< 6	< 7	< 34	< 13	< 12
	09/09/13	< 0.5	1503 \pm 142	< 5	< 7	< 30	< 10	< 11
	09/23/13	< 0.6	1350 \pm 109	< 4	< 5	< 22	< 7	< 8
	10/07/13	< 0.8	1383 \pm 147	< 6	< 6	< 37	< 10	< 12
10/21/13	< 0.6	1426 \pm 154	< 7	< 6	< 51	< 13	< 14	
11/11/13	< 0.6	1385 \pm 137	< 5	< 5	< 31	< 7	< 11	
12/09/13	< 0.8	1582 \pm 160	< 6	< 7	< 39	< 12	< 13	
	AVERAGE	-	1395 \pm 195	-	-	-	-	-

**TABLE C-5 IODINE-131 AND GAMMA SPECTROSCOPIC ANALYSES OF MILK
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in pCi/Liter \pm 2 sigma

SITE	COLLECTION PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140	Th-228
10D3	01/07/13	< 0.4	1318 \pm 158	< 6	< 8	< 46	< 13	< 16
	02/04/13	< 0.7	1347 \pm 155	< 5	< 6	< 28	< 11	< 12
	03/11/13	< 0.4	1352 \pm 121	< 4	< 5	< 25	< 8	< 10
	04/08/13	< 0.5	1312 \pm 108	< 6	< 6	< 30	< 8	< 12
	04/22/13	< 0.5	1227 \pm 128	< 5	< 7	< 31	< 8	< 12
	05/06/13	< 0.7	1509 \pm 152	< 5	< 6	< 29	< 8	< 11
	05/20/13	< 0.6	1475 \pm 131	< 5	< 5	< 26	< 10	< 10
(1)	AVERAGE	-	1355 \pm 186	-	-	-	-	-
5E2	01/07/13	< 0.3	1304 \pm 162	< 6	< 6	< 36	< 11	< 11
	02/04/13	< 0.6	1219 \pm 135	< 6	< 7	< 34	< 12	< 11
	03/11/13	< 0.5	1329 \pm 154	< 7	< 8	< 40	< 12	< 12
	04/08/13	< 0.6	1284 \pm 103	< 4	< 5	< 24	< 5	< 10
	04/22/13	< 0.5	1370 \pm 131	< 5	< 5	< 27	< 8	< 9
	05/06/13	< 0.5	1313 \pm 150	< 5	< 6	< 33	< 10	< 11
	05/20/13	< 0.8	1525 \pm 176	< 7	< 7	< 37	< 13	< 14
	06/03/13	< 0.6	1299 \pm 211	< 9	< 11	< 56	< 15	< 16
	06/17/13	< 0.7	1390 \pm 160	< 6	< 7	< 36	< 11	< 11
	07/01/13	< 0.5	1277 \pm 147	< 6	< 6	< 34	< 9	< 13
	07/15/13	< 0.6	1416 \pm 126	< 4	< 4	< 25	< 7	< 9
	07/29/13	< 0.5	1516 \pm 177	< 5	< 7	< 34	< 14	< 13
	08/12/13	< 0.9	1535 \pm 198	< 7	< 7	< 39	< 8	< 14
	08/26/13	< 0.8	1278 \pm 142	< 6	< 7	< 36	< 12	< 12
	09/09/13	< 0.4	1412 \pm 127	< 4	< 5	< 26	< 7	< 9
	09/23/13	< 0.6	1287 \pm 105	< 4	< 5	< 24	< 7	< 9
	10/07/13	< 0.8	1359 \pm 143	< 5	< 7	< 40	< 14	< 12
10/21/13	< 0.6	1328 \pm 144	< 5	< 6	< 44	< 14	< 10	
11/11/13	< 0.7	1425 \pm 133	< 4	< 5	< 26	< 7	< 11	
12/09/13	< 0.6	1196 \pm 145	< 6	< 6	< 26	< 9	< 9	
	AVERAGE	-	1349 \pm 186	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

**TABLE C-6 TRITIUM AND GAMMA SPECTROSCOPIC ANALYSES OF GROUND WATER
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in pCi/Liter ± 2 sigma

SITE	COLLECTION PERIOD	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140	Th-228
12F3	02/11/13	< 144	< 32	< 4	< 4	< 10	< 4	< 8	< 4	< 6	< 8	< 3	< 5	< 22	< 7	< 8
	05/13/13	< 149	< 107	< 5	< 6	< 14	< 7	< 11	< 7	< 10	< 11	< 6	< 7	< 27	< 8	< 11
	08/01/13	< 122	< 20	< 2	< 2	< 7	< 3	< 5	< 2	< 4	< 6	< 2	< 2	< 15	< 5	< 4
	11/04/13	< 146	< 59	< 6	< 7	< 19	< 4	< 11	< 7	< 10	< 12	< 6	< 7	< 37	< 11	< 13
	AVERAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2S2	02/11/13	< 145	< 84	< 5	< 5	< 12	< 4	< 9	< 4	< 9	< 10	< 5	< 5	< 27	< 9	< 11
	05/13/13	< 150	< 42	< 5	< 5	< 15	< 3	< 10	< 5	< 8	< 9	< 4	< 6	< 26	< 8	< 9
	08/01/13	< 120	< 14	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 5	< 1	< 2	< 11	< 3	< 3
	11/04/13	< 142	< 118	< 7	< 7	< 16	< 6	< 12	< 7	< 11	< 13	< 6	< 7	< 34	< 10	< 14
	AVERAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-11 2S8	02/14/13	< 146	< 69	< 4	< 4	< 12	< 4	< 8	< 5	< 8	< 13	< 4	< 4	< 27	< 8	< 8
	05/20/13	< 136	< 37	< 3	< 4	< 8	< 3	< 7	< 4	< 6	< 8	< 3	< 3	< 18	< 6	< 6
	08/12/13	< 119	< 32	< 2	< 2	< 5	< 2	< 3	< 2	< 3	< 4	< 2	< 2	< 9	< 3	< 4
	11/04/13	(1)														
	AVERAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4S4	02/11/13	< 105	< 99	< 6	< 5	< 17	< 6	< 11	< 5	< 10	< 10	< 5	< 5	< 28	< 10	< 12
	05/13/13	< 147	< 61	< 5	< 7	< 20	< 8	< 14	< 8	< 11	< 14	< 6	< 8	< 32	< 12	< 12
	08/01/13	< 122	< 14	< 2	< 2	< 5	< 2	< 4	< 2	< 3	< 5	< 2	< 2	< 11	< 3	< 3
	11/04/13	< 141	< 101	< 6	< 6	< 16	< 5	< 13	< 6	< 9	< 12	< 5	< 5	< 31	< 10	< 13
	AVERAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6S10	02/11/13	< 107	< 114	< 6	< 5	< 15	< 5	< 10	< 6	< 10	< 12	< 5	< 5	< 33	< 11	< 10
	05/13/13	< 149	< 48	< 5	< 4	< 15	< 5	< 11	< 6	< 10	< 10	< 6	< 5	< 32	< 4	< 10
	08/01/13	< 120	< 20	< 2	< 2	< 7	< 2	< 4	< 3	< 4	< 6	< 2	< 2	< 14	< 5	< 4
	11/04/13	< 143	< 120	< 6	< 7	< 15	< 6	< 13	< 6	< 12	< 13	< 6	< 6	< 34	< 10	< 13
	AVERAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-7

ANNUAL AVERAGE TRITIUM CONCENTRATION IN PRECIPITATION, PERIMETER DRAIN,
 MONITORING WELLS AND LAKE TOOK-A-WHILE (LTAW) SURFACE WATER DATA
 SUSQUEHANNA STEAM ELECTRIC STATION

Results in pCi/Liter ± 2 sigma

SITE	2008	2009	2010	2011	2012	2013
Precip Sites 3S2, 12S1, 8G1 (offsite, controls)	62*	49	40	38	82	63
Precip Sites 1 and 2 (onsite, East of Station Reactor Bldgs)	370	230*	193	216	242	182
Precipitation Sites 3 and 4 (onsite, West of Station Reactor Bldgs)	414	404*	350	233	169	151
Perimeter Drain manholes (below grade, 28')	344	304	325	236	185	198
1S3 - MW-1 (43')	248	150	252	131	164	197
4S8 - MW-2 (45')	292	154	190	173	137	202
4S9 - MW-3 (94')	127	54	150	64	80	135
8S4 - MW-4 (111')	172	66	105	68	81	109
7S10 - MW-5 (36')	171	69	96	-6	74	106
13S7 - MW-6 (16')	142	134	143	34	80	111
2S8 - MW-7 (85')	Not installed	Not installed	Not installed	22	54	72
6S11A - MW-8A (14')	177	82	165	58	15	72
6S11B - MW-8B (19')	Dry well	Dry well	Dry well	Dry well	Dry well	Dry well
6S12 - MW-9 (28')	30	-44	45	18	6	60
7S11 - MW-10 (132')	3	-27	-9	1	-1	23
12F3 - Groundwater Control	26	-53	-2	5	-6	45
LTAW- Surface Water	179	104	110	132	132	145

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* Revised values to reflect full scope of precipitation data.

**TABLE C-8 GROSS BETA, TRITIUM AND GAMMA SPECTROSCOPIC ANALYSES OF DRINKING WATER
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in pCi/Liter \pm 2 sigma

SITE	COLLECTION PERIOD	Gr-B	H-3	←-----GAMMA EMITTERS-----→												
				K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
12H2	12/24/12 - 01/22/13	< 2.4	< 147	< 44	< 2	< 3	< 8	< 2	< 4	< 3	< 5	< 13	< 2	< 2	< 23	< 8
12H2	01/22/13 - 02/26/13	2.9 \pm 1.6	< 142	< 32	< 2	< 2	< 5	< 2	< 3	< 2	< 3	< 14	< 1	< 2	< 20	< 5
12H2	02/26/13 - 03/26/13	< 2.2	< 137	56 \pm 28	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 11	< 2	< 2	< 19	< 6
12H2	03/26/13 - 04/23/13	2.6 \pm 1.3	< 146	< 21	< 2	< 2	< 7	< 2	< 5	< 3	< 5	< 15	< 2	< 2	< 27	< 9
12H2	04/23/13 - 05/28/13	< 2.0	< 132	< 13	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 18	< 6
12H2	05/28/13 - 06/25/13	< 2.9	< 136	< 10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 13	< 4
12H2	06/25/13 - 07/23/13	2.4 \pm 1.3	< 147	< 24	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 14	< 2	< 3	< 27	< 8
12H2	07/23/13 - 08/27/13	< 2.6	< 147	< 29	< 1	< 2	< 5	< 1	< 3	< 2	< 3	< 13	< 1	< 2	< 18	< 6
12H2	08/27/13 - 09/24/13	< 2.6	< 124	< 34	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 23	< 8
12H2	09/24/13 - 10/22/13	< 2.7	< 142	< 26	< 1	< 2	< 5	< 2	< 3	< 2	< 3	< 12	< 1	< 1	< 18	< 6
12H2	10/22/13 - 11/26/13	< 2.3	< 142	< 6	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 3	< 1	< 1	< 19	< 6
12H2	11/26/13 - 12/31/13	< 1.9	< 126	< 31	< 1	< 1	< 4	< 1	< 2	< 1	< 2	< 15	< 1	< 1	< 20	< 7
	AVERAGE	2.6 \pm 0.5	-	56 \pm 0	-	-	-	-	-	-	-	-	-	-	-	-

C-15

TABLE C-9

**GAMMA SPECTROSCOPIC ANALYSES OF FOOD PRODUCTS (FRUITS AND VEGETABLES)
SUSQUEHANNA STEAM ELECTRIC STATION**

Results in pCi/kg (wet) \pm 2 sigma

SITE	COLLECTION PERIOD	Be-7	K-40	I-131	Cs-134	Cs-137	Ac-228	Th-228
10B5	08/26/13	< 121	4731 \pm 338	< 23	< 11	< 13	< 44	< 24
	08/26/13	< 214	7444 \pm 556	< 37	< 18	< 20	< 80	< 33
	09/23/13	239 \pm 91	4601 \pm 303	< 23	< 11	< 12	< 51	< 18
	09/23/13	427 \pm 117	10740 \pm 520	< 34	< 15	< 16	< 64	< 29
	10/22/13	256 \pm 50	4976 \pm 130	< 20	< 4	< 5	< 17	< 8
	AVERAGE	307 \pm 208	6498 \pm 5285	-	-	-	-	-
11D1	11/21/13	< 50	2983 \pm 125	< 20	< 5	< 5	< 21	< 9
	11/21/13	< 52	2921 \pm 132	< 20	< 5	< 6	< 21	< 8
	11/21/13	< 79	18450 \pm 314	< 30	< 8	< 9	< 38	< 14
	11/21/13	< 55	14010 \pm 246	< 21	< 5	< 6	< 27	< 10
	AVERAGE	-	9591 \pm 15755	-	-	-	-	-
12F7	08/27/13	< 161	2333 \pm 340	< 42	< 17	< 18	< 76	< 32
	08/27/13	< 209	3045 \pm 478	< 47	< 22	< 24	< 89	< 35
	10/08/13	< 139	5973 \pm 416	< 55	< 14	< 17	< 72	< 21
	10/08/13	< 139	6990 \pm 420	< 59	< 14	< 16	< 66	< 30
	12/12/13	< 130	3021 \pm 417	< 34	< 19	< 19	< 71	< 33
	AVERAGE	-	4272 \pm 4137	-	-	-	-	-
15G1	07/01/13	< 141	3067 \pm 338	< 27	< 13	< 17	< 64	< 28
	07/29/13	339 \pm 150	2868 \pm 320	< 41	< 15	< 18	< 68	< 31
	08/26/13	< 129	3574 \pm 338	< 34	< 17	< 19	< 68	< 28
	09/23/13	577 \pm 133	2398 \pm 320	< 36	< 14	< 17	< 67	< 26
	10/21/13	73 \pm 36	4972 \pm 123	< 17	< 3	< 4	< 13	< 6
	AVERAGE	330 \pm 505	3376 \pm 1974	-	-	-	-	-
8C1	06/26/13	< 118	4392 \pm 336	< 39	< 12	< 12	< 48	< 24
	06/26/13	< 192	4987 \pm 406	< 56	< 17	< 18	134 \pm 65	< 33
	07/29/13	232 \pm 104	4820 \pm 343	< 28	< 10	< 11	< 46	< 19
	07/29/13	402 \pm 129	8512 \pm 432	< 33	< 12	< 14	< 46	55 \pm 30
	AVERAGE	317 \pm 240	5678 \pm 3812	-	-	-	134 \pm 0	55 \pm 0

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