

DOE Oversight Bureau, New Mexico Environment Department

**Direct Penetrating Radiation Monitoring at
the Waste Isolation Pilot Plant**

**Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for Calendar Year 2016**

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Final Report

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The purpose of this communication is to transmit direct penetrating radiation (DPR) dose levels collected at the Waste Isolation Pilot Plant during the calendar year 2015. The data measurements were obtained using the E-PERM® electret ionization chamber system from Rad Elec Inc.

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Introduction

On average, Americans receive a radiation dose of about 620 mrem each year. Half of this dose (310 mrem) comes from natural background radiation: radon in the air, cosmic rays and the Earth itself. The other half comes from man-made sources of radiation: medical, commercial, and industrial sources (Doses in our Daily Lives, U.S. Nuclear Regulatory Commission website <http://www.nrc.gov/about-nrc/radiation/around-us/doses-daily-lives.html>, accessed August 4, 2014).

The environmental dose standard for the Waste Isolation Pilot Plant (WIPP) facility is established in Title 40 Code of Federal Regulations (CFR) Part 191, Subpart A, “Environmental Standards for Management and Storage.” The standard sets the regulatory limit for external radiation to a member of the public outside the exclusive use area boundary at 25 mrem per year to the whole body and 75 mrem to any critical organ.

In a 1995 memorandum of understanding between the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE), the DOE agreed that the WIPP facility would comply with 40 CFR Part 61, Subpart H, “National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities.” The National Emissions Standards for Hazardous Air Pollutants (NESHAP) standard for radionuclides requires that the emissions of radionuclides to the ambient air from DOE facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent (EDE) of 10 mrem per year.

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or the Bureau) has measured and compiled Direct Penetrating Radiation (DPR) dose levels recorded at NMED DOE-OB monitoring sites during calendar year (CY) 2016. The Bureau maintains fourteen (14) monitoring sites located at WIPP, in the Exclusive Use Area, and six (6) sites at other locations off-site in the WIPP region (Table 1, Figures 1 and 2) that are sampled quarterly.

Four (4) additional sites were added in off-site locations in CY 2016 (Table 1, Figure 2). These new sites were added to the Bureau’s monitoring network to increase the number of off-site sampling locations, and to expand sampling along WIPP transportation routes.

DPR 22 is located in Seven Rivers; DPR 23 is located on the Loop Road, north of Carlsbad; DPR 24 is located on the South Access Road; and DPR 25 is located on Jal Highway. New sampling instrumentation was deployed at each the new sites in the 3rd Quarter of CY 2016. The equipment at DPR 22 was lost and was not redeployed during CY 2016.

Table 1. Location and operational details of Direct Penetrating Radiation monitoring stations located inside the WIPP Exclusive Use Area and in the WIPP vicinity.

Location	Location Description	Operational History
DPR 01	Exclusive Use Area, Parking lot	CY2006 Q-3 to present
DPR 02	Exclusive Use Area, Railroad Entrance	CY2006 Q-3 to present
DPR 03	Exclusive Use Area, Southwest Fence Corner	CY2007 Q-1 to present
DPR 04	Exclusive Use Area, South Fence Center	CY2007 Q-1 to present
DPR 05	Exclusive Use Area, Near Southeast Fence Corner	CY2006 Q-3 to present
DPR 06	Exclusive Use Area, Far Southeast Fence Corner	CY2006 Q-3 to present
DPR 07	Exclusive Use Area, East Fence Mid	CY2007 Q-1 to present
DPR 08	Exclusive Use Area, Northeast Fence Corner	CY2007 Q-1 to present
DPR 09	Exclusive Use Area, North-Northeast Fence	CY2007 Q-1 to present
DPR 10	Exclusive Use Area, North Fence Salt Pile	CY2007 Q-1 to present
DPR 11	Exclusive Use Area, Northwest Fence Corner	CY2006 Q-3 to present
DPR 12	Exclusive Use Area, Waste Handling Building, Loading Dock West	CY2006 Q-3 to present
DPR 13	Exclusive Use Area, Waste Handling Building, Loading Dock Center	CY2006 Q-3 to present
DPR 14	Exclusive Use Area, Waste Handling Building, Loading Dock East	CY2006 Q-3 to present
DPR 15	Carlsbad, NM - Canal St.	CY2006 Q-3 to CY2012 Q2 ¹
DPR 16	Loving Weigh Station	CY2007 Q3, CY2009 Q-3 to present
DPR 17	Malaga Volunteer Fire Department	CY2008 Q-1 to present
DPR 18	Hobbs Highway / North Access Road Intersection	CY2009 Q-1 to present
DPR 19	Southeast Control Tower	CY2011 Q-4 to present
DPR 20	Carlsbad, NM - Guadalupe St. (interior)	CY2012 Q-3 to present
DPR 21	Carlsbad, NM - Guadalupe St. (exterior)	CY2012 Q-3 to present
DPR 22	Seven Rivers	No data
DPR 23	Loop Road / U.S.-285 Intersection	CY2016 Q-3 to present
DPR 24	South Access Road / Jal Highway Intersection	CY2016 Q-3 to present
DPR 25	Jal Highway	CY2016 Q-3 to present

¹ Sampling at DPR 15 was discontinued after CY2012 Q2 when NMED moved their office from the Canal Street location to the Guadalupe Street location

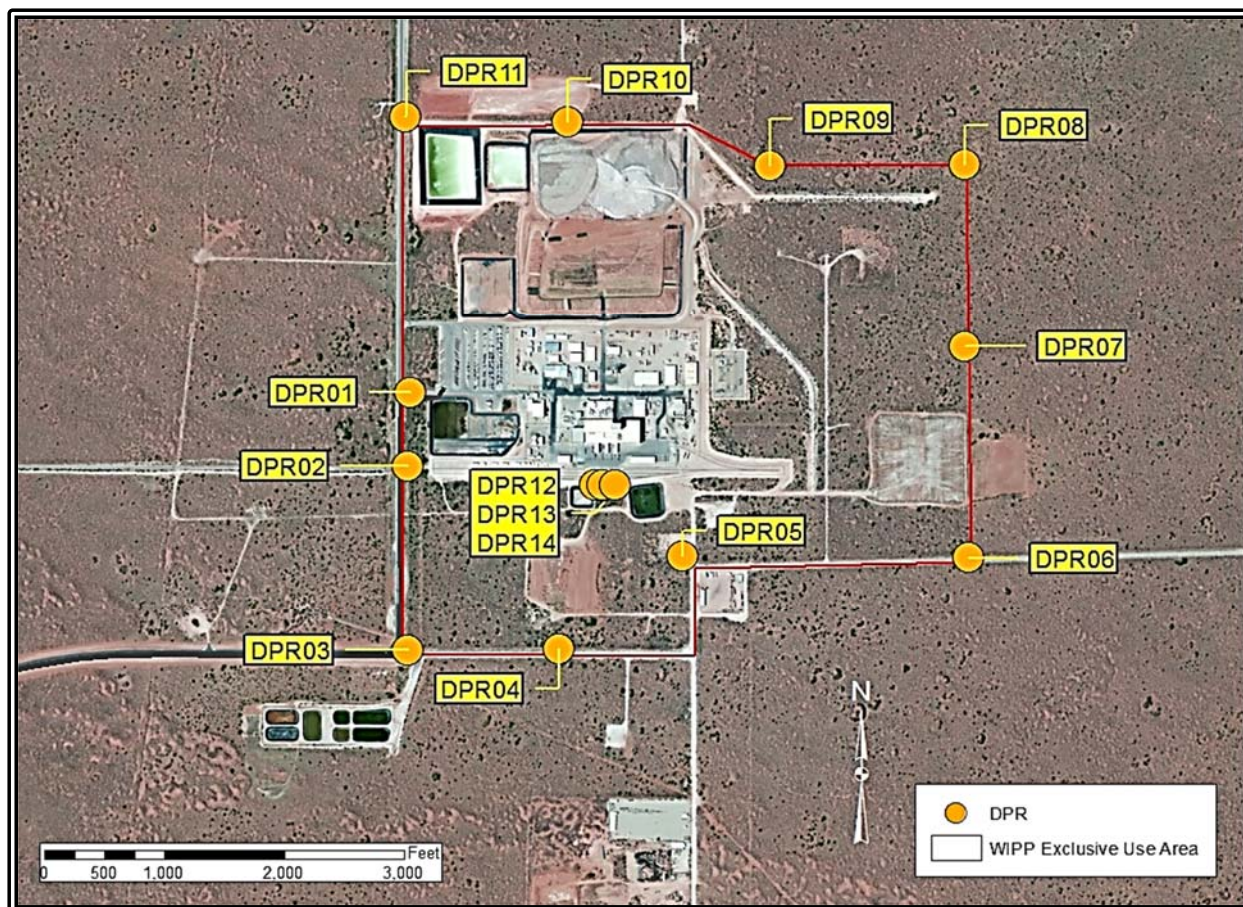


Figure 1. Location of DPR monitors maintained by the DOE Oversight Bureau at the WIPP.

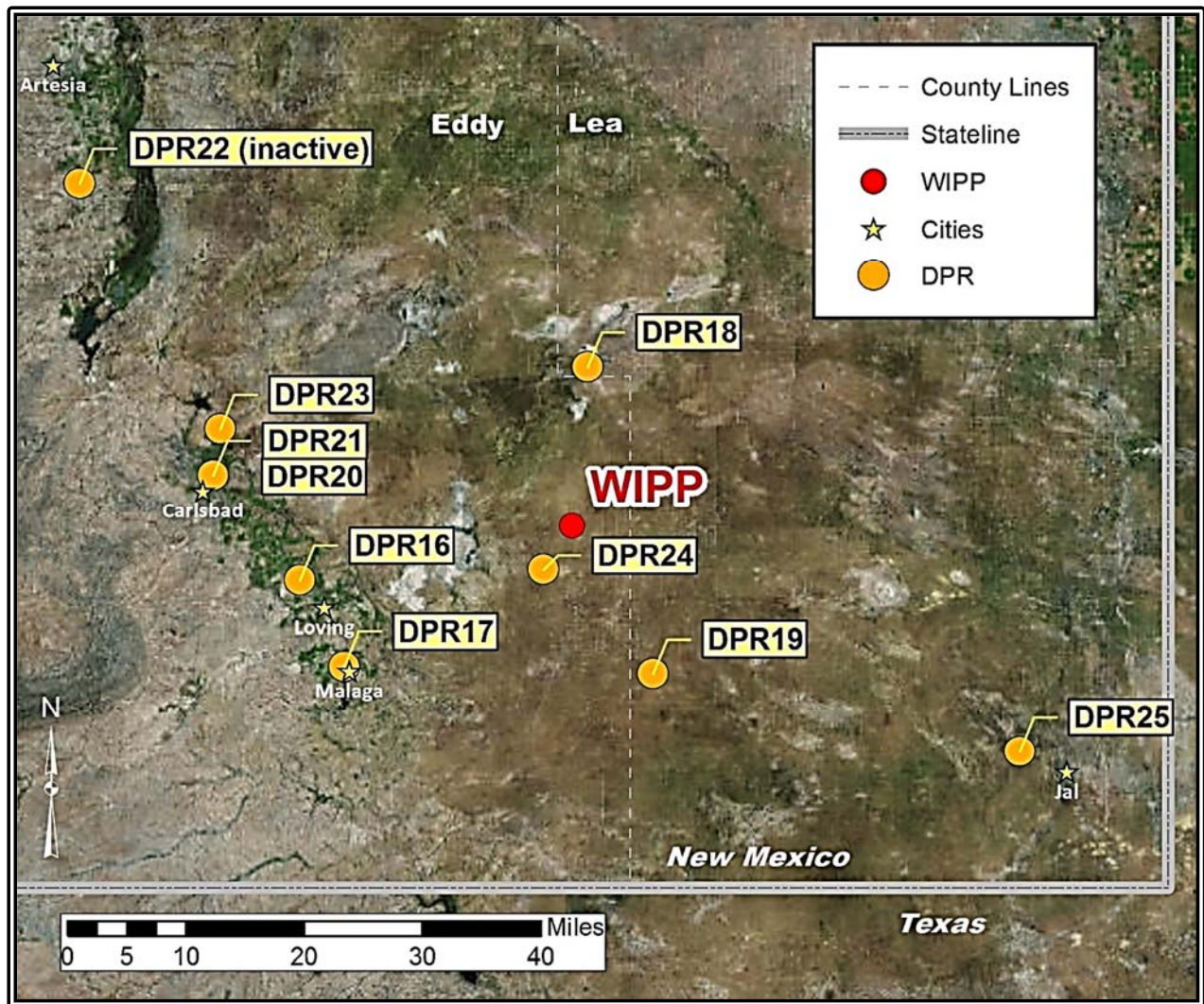


Figure 2. Location of DPR monitors maintained by the DOE Oversight Bureau in the area surrounding WIPP.

The data were obtained using the E-PERM® electret ionization chamber system from Rad Elec Inc. The electret passive ion chamber uses the principle of ion pair production resulting from gamma photons interacting with air molecules to reduce the voltage of a charged Teflon™ disk. The chambers are housed in aluminum canisters designed to block gamma radiation from radon. Using a predetermined formula, the voltage drop indicates the amount of radiation passing through the chamber. NMED DOE-OB's monitoring program reads electret passive ion chambers at the end of each quarter, converts reading into quarterly dose values presented in units of millirads (mrad).

A rad is a unit of absorbed radiation dose, regardless of its source. The rem (Roentgen equivalent man) is a commonly used unit of ionizing radiation dose that uses a quality factor based on the source of radiation as it interacts with human body tissue. In the case of gamma radiation, the quality factor is one, and thus one rad is equal to one rem.

The quarterly dose rates have been normalized to reflect an actual quarter of 91.25 days. Normalized quarterly dose rates are summed for an estimated annual dose rate.

Results

A summary of the DPR results for each station by quarter, average quarterly dose and total doses for CY 2016 are presented in Table 2 and Figure 3. For the complete dataset, see Appendix 1.

First Quarter.

DPR results at the WIPP ranged from a minimum average quarterly dose of 18.5 mrad at the WIPP North-Northeast Fence (DPR09), to a maximum average quarterly dose of 24.4 mrad, measured at both the WIPP Parking Lot (DPR01) and the WIPP Waste Handling Building, Loading Dock Center (DPR13). The largest measurement in the vicinity of WIPP was 31.6 mrad, measured at the at NMED Guadalupe St. Office Exterior (DPR21).

Second Quarter.

DPR results at the WIPP ranged from a minimum average quarterly dose of 27.1 mrad at the WIPP Near Southeast Fence Corner (DPR05), to a maximum average quarterly dose of 35.5 mrad at the Northeast Fence Corner (DPR08). The largest measurement in the vicinity of WIPP was 45.4 mrad, measured at the Malaga Volunteer Fire Department (DPR17).

Third Quarter.

DPR results at the WIPP ranged from a minimum average quarterly dose of 22.3 mrad at the WIPP Far Southeast Fence Corner (DPR06), to a maximum average quarterly dose of 34.3 mrad at the WIPP Railroad Entrance (DPR02). The largest measurement in the region of WIPP was 39.7 mrad, measured at the Hobbs Highway/North Access Road Intersection (DPR18).

Fourth Quarter:

DPR results at the WIPP ranged from a minimum average quarterly dose of 19.7 mrad at the WIPP Northwest Fence Corner (DPR11), to a maximum average quarterly dose of 33.9 at the WIPP Parking Lot (DPR01) The largest measurement in the region surrounding WIPP was 53.1 mrad at NMED Guadalupe St. Office Interior (DPR20).

Annual Summary:

A review of the historical DPR data collected at WIPP in the surrounding region identified several potential outliers in the dataset. In these instances, one of the three electrets at a location had a voltage drop that was significantly higher or lower than the other two electrets. Potential outliers were compared to the quarterly average across all stations, and data that exceeded 2 and 3 standard deviations from the mean are identified in Table 2. Potential outliers have not been excluded from the results reported or analyzed.

Table 2. NMED DOE OB DPR Results by Quarter, Average Quarterly Dose, and Total Annual Dose by Station Location for Calendar Year (CY) 2016. No data is reported if the data were disqualified (DQ)². (*) indicates that one of the three electrets' calculated dose exceeds two standard deviations of the mean quarterly average for all stations without a disqualifying event listed in the field notes. (**) indicates that one of the three electrets' calculated dose exceeds three standard deviations of the mean quarterly average for all stations without a disqualifying event listed in the field notes. Total annual doses were not calculated if one or more quarter's data was DQ.

NMED DPR Location	Q1 CY 2016 Dose (mrad)	Q2 CY 2016 Dose (mrad)	Q3 CY 2016 Dose (mrad)	Q4 CY 2016 Dose (mrad)	CY 2016 Average Quarterly Dose (mrad)	CY 2016 Total Annual Dose (mrad)
DPR 01	24.4	29.3	26.6	33.9*	28.6	114.2
DPR 02	24.0	30.6	34.3	25.8	28.7	114.7
DPR 03	23.9	31.7	DQ	27.7	27.8	
DPR 04	21.8	29.1	29.0	26.3	26.6	106.2
DPR 05	24.0	27.1	24.3	22.9	24.6	98.3
DPR 06	23.1	30.7	22.3	25.1	25.3	101.2
DPR 07	18.9	32.1	26.6	26.5	26.0	104.1
DPR 08	21.0	35.5	DQ	28.7	28.4	
DPR 09	18.5	33.5	22.9	25.8	25.2	100.7
DPR 10	22.5	31.6	26.0	25.2	26.3	105.3
DPR 11	18.6	29.4	22.6	19.7	22.6	90.3
DPR 12	22.2	31.2*	30.0	26.8	27.6	110.2
DPR 13	24.4	29.3	25.1	24.9	25.9	103.7
DPR 14	21.3	27.5	27.6	23.7	25.0	100.1
DPR 16	24.4	38.0	27.6	31.9	30.5	121.9
DPR 17	27.0	45.4**	28.5	29.6	32.6	130.5
DPR 18	25.3*	31.1	39.7*	31.0	31.8	127.1
DPR 19	23.3	27.2	31.6	25.6	28.5	114.0
DPR 20	26.2	30.5	28.6	53.1**	34.6	138.4
DPR 21	31.6	32.2	29.8	26.7	30.1	120.3
DPR 22						
DPR 23			32.0	24.7	28.4	
DPR 24				23.7	23.7	
DPR 25			30.9	23.6	27.3	

² Data is disqualified if the canister or electrets have been found to have been tampered with in any way. Details of the conditions for disqualification are provided in Appendix 1. Disqualified data are not included in any further analysis.

There was no observable trend in the calculated doses measured at individual stations from CY2016 Q-1 to CY2016 Q-4. There were no significant differences in the calculated doses among stations (Figure 3).

In general, the locations sampled off-site of WIPP, in and around the Carlsbad region, had slightly higher quarterly doses (quarterly average 30.59 ± 6.55 , $n=54$) than the stations located in the Exclusive Use Area on-site at WIPP (quarterly average 26.25 ± 4.14 , $n=29$).

Data collected during CY 2016 are comparable with historical data (Figure 4). The average quarterly dose across all locations and all quarters in CY 2016 was 27.76 ± 5.48 ($n=83$). The average quarterly dose across all locations and all quarters from 2006 through 2015 was 27.16 ± 3.85 ($n=629$). It's important to note that some stations have been sampled quarterly since 2006, while other locations have been sampled since 2012 or 2016 (Table 1), so the sample size varies at each location (Figure 4).

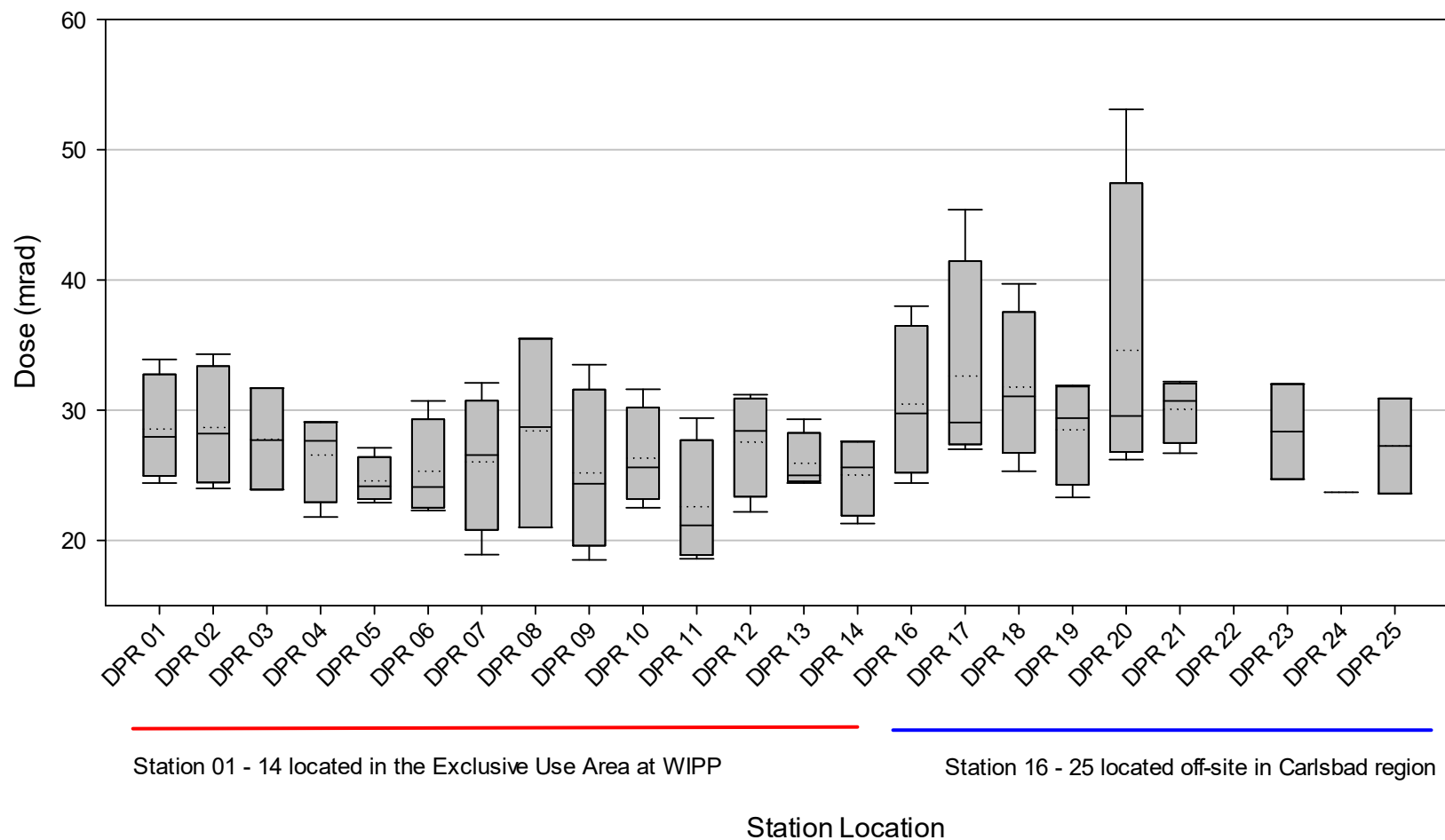


Figure 3. Average quarterly dose calculations for each DPR monitoring location sampled during CY 2016. Box plots depicting the 10th, 25th, 75th, and 90th percentiles; the solid middle line is the median, the dotted middle line is the mean.

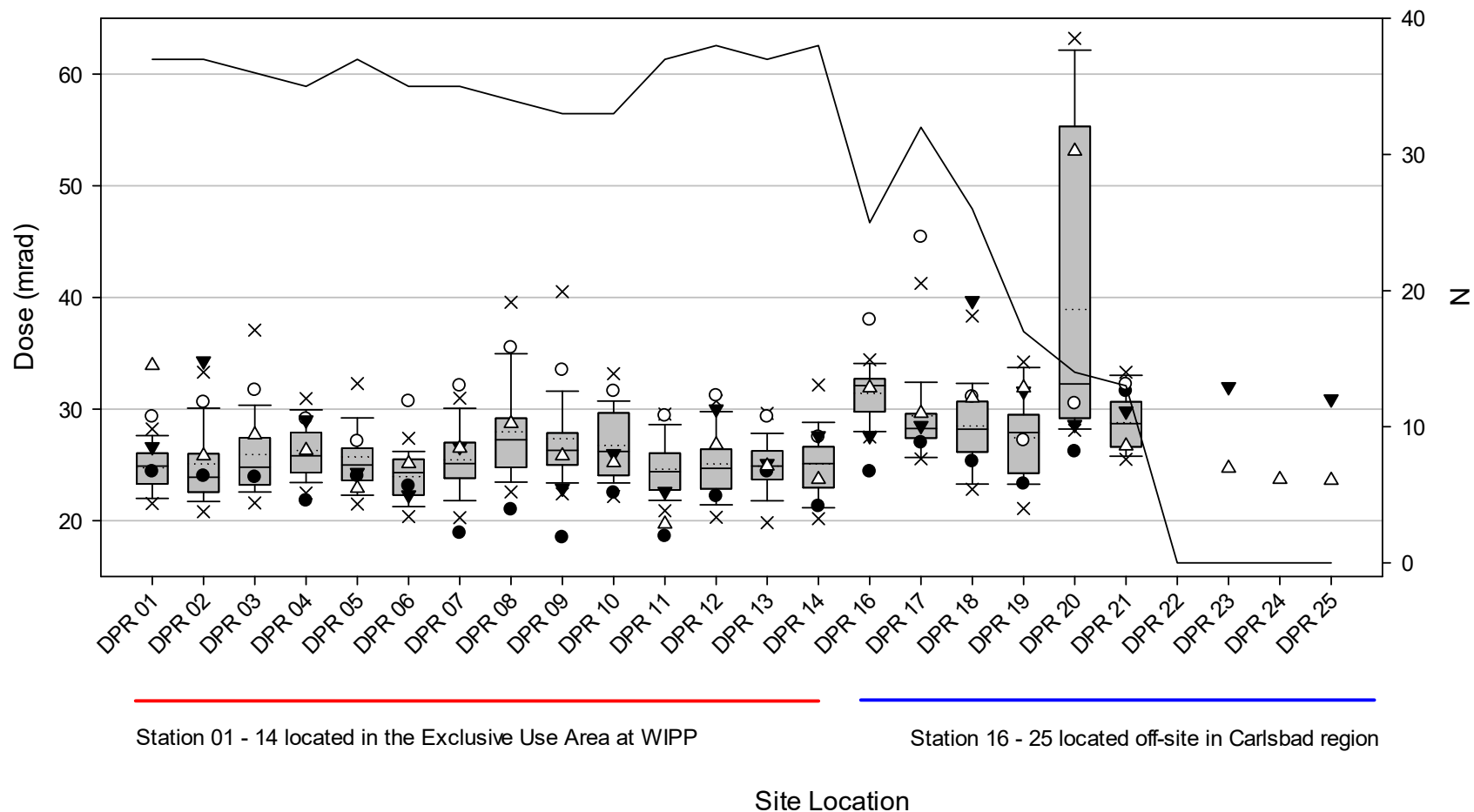


Figure 4. Quarterly dose calculations (● = Q1, ○ = Q2, ▼ = Q3, and Δ = Q4) for each DPR monitoring locations in CY 2016 compared to historical averages, all available quarterly doses 2006-2015. Box plots depicting the 10th, 25th, 75th, and 90th percentiles; the solid middle line is the median, the dotted middle line is the mean; X = potential outliers. N = the number of quarterly samples between 2006 and 2015 (black line).

Conclusions

The doses calculated from the NMED DPR locations located at WIPP and in the surrounding region during CY 2016 are comparable with historical results obtained by the DOE Oversight Bureau since 2006. There were some spikes observed above the historical averages from some on-site locations, but overall the 2016 data fall within the range of expected doses.

If you sum the quarterly dose rates measured during CY 2016, the annual direct penetrating radiation dosages measured by the NMED at WIPP and in the region surrounding Carlsbad range from 90.3 to 138.4 mrem. In the case of gamma radiation, the quality factor is one, and thus one rad is equal to one rem. These observed dose rates are less than the average U.S. natural background annual dose of 310 mrem.

Reference

Department of Energy and Environmental Protection Agency. "Memorandum of Understanding Between the U.S. EPA and the U.S. DOE Concerning the Clean Air Act Emission Standards for Radionuclides 40 CFR § 61, Including Subparts H, I, Q & T." Signed by Mary D. Nichols, EPA Assistant Administrator for Air and Radiation: September 29, 1994. Signed by Tara O'Toole, DOE Assistant Secretary for Environment, Safety, and Health, April 5, 1995

Appendix 1 -

Direct Penetrating Radiation Quarterly Dose Rates for CY 2016. Data that have been disqualified are highlighted grey, and provides a brief explanation for the disqualification. (*) indicates that the calculated dose exceeds two standard deviations of the mean quarterly average for all stations without a disqualifying event listed in the field notes. (**) indicates that the calculated dose exceeds three standard deviations of the mean quarterly average for all stations without a disqualifying event listed in the field notes.

CY2016 First Quarter:

DPR01 Parking Lot Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 677	1/4/16 17:30	3/31/16 12:22	46	26.3
SGJ 058	1/4/16 17:31	3/31/16 12:23	35	21.6
SHC 841	1/4/16 17:32	3/31/16 12:19	42	25.2
Average Quarterly Dose in mrad:				24.4

DPR02 Railroad Track Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 758	1/4/16 17:59	3/31/16 11:50	43	24.6
SHC 749	1/4/16 18:02	3/31/16 11:49	44	25.1
SHV 170	1/4/16 18:01	3/31/16 11:50	39	22.3
Average Quarterly Dose in mrad:				24.0

DPR03 Southwest Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 736	1/4/16 18:05	3/31/16 12:10	41	24.7
SHC 673	1/4/16 18:05	3/31/16 12:11	42	25.0
SHC 676	1/4/16 18:06	3/31/16 12:12	37	22.0
Average Quarterly Dose in mrad:				23.9

DPR04 South Fence Center

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 685	1/4/16 18:23	3/31/16 11:32	19.7	20.8
SHC 704	1/4/16 18:24	3/31/16 11:33	36	21.2
SHV 216	1/4/16 18:24	3/31/16 11:34	41	23.5
Average Quarterly Dose in mrad:				21.8

DPR05 Near Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGI 991	1/4/16 18:13	3/31/16 11:41	30	18.8
SHC 816	1/4/16 18:14	3/31/16 11:44	49	29.1
SHC 657	1/4/16 18:13	3/31/16 11:45	41	24.2
Average Quarterly Dose in mrad:				24.0

DPR06		Far Southeast Fence Corner		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGI 982	1/4/16 17:45	3/31/16 12:34	36	21.9
SHC 665	1/4/16 17:45	3/31/16 12:35	39	23.6
SHC 667	1/4/16 17:46	3/31/16 12:35	40	23.8
Average Quarterly Dose in mrad:				23.1
DPR07		East Fence Mid		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGJ 037	1/4/16 18:30	3/31/16 11:53	29	17.1
SHC 674	1/4/16 18:31	3/31/16 11:54	32	18.9
SHC 755	1/4/16 18:32	3/31/16 11:55	34	20.6
Average Quarterly Dose in mrad:				18.9
DPR08		Northeast Fence Corner		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 763	1/4/16 18:37	3/31/16 12:28	42	24.0
SHC 760	1/4/16 18:38	3/31/16 12:27	35	19.9
SFK 533	1/4/16 18:36	3/31/16 12:25	31	19.3
Average Quarterly Dose in mrad:				21.0
DPR09		North-Northeast Fence		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 647	1/4/16 18:42	3/31/16 12:15	30	17.4
SHC 850	1/4/16 18:43	3/31/16 12:17	33	18.9
SHV 205	1/4/16 18:44	3/31/16 12:17	32	19.1
Average Quarterly Dose in mrad:				18.5
DPR10		North Fence Salt Pile		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 658	1/4/16 18:48	3/31/16 12:32	42	25.6
SHC 765	1/4/16 18:48	3/31/16 12:31	35	21.1
SHC 793	1/4/16 18:49	3/31/16 12:30	34	21.0
Average Quarterly Dose in mrad:				22.5
DPR11		Northwest Fence Corner		
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGJ 083	1/4/16 18:53	3/31/16 11:26	32	19.3
SGJ 042	1/4/16 18:54	3/31/16 11:27	31	18.8
SGJ 986	1/4/16 18:54	3/31/16 11:29	29	17.6
Average Quarterly Dose in mrad:				18.6

DPR12 Waste Handling Building Loading Dock (West)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 769	1/4/16 17:24	3/31/16 12:04	39	22.3
SHC 722	1/4/16 17:25	3/31/16 12:05	39	22.7
SHC 705	1/4/16 17:26	3/31/16 12:06	37	21.6
Average Quarterly Dose in mrad:				22.2

DPR13 Waste Handling Building Loading Dock (Center)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 653	1/4/16 17:53	3/31/16 12:01	44	25.9
SGI 997	1/4/16 17:52	3/31/16 12:02	38	23.1
SGJ 041	1/4/16 17:51	3/31/16 11:58	39	24.2
Average Quarterly Dose in mrad:				24.4

DPR14 Waste Handling Building Loading Dock (East)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 842	1/4/16 18:26	3/31/16 11:46	41	23.9
SHC 716	1/4/16 18:27	3/31/16 11:48	35	20.3
SHC 708	1/4/16 18:27	3/31/16 11:47	34	19.7
Average Quarterly Dose in mrad:				21.3

DPR16 Loving Weigh Station				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 675	1/4/16 17:20	3/31/16 12:39	42	23.9
SHC 696	1/4/16 17:19	3/31/16 12:42	39	22.1
SHC 740	1/4/16 17:18	3/31/16 12:41	45	27.1
Average Quarterly Dose in mrad:				24.4

DPR17 Malaga Volunteer Fire Department				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SFK 524	1/4/16 18:18	3/31/16 13:07	44	26.8
SFK 543	1/4/16 18:18	3/31/16 13:05	44	27.4
SHD 964	1/4/16 18:19	3/31/16 13:03	48	26.9
Average Quarterly Dose in mrad:				27.0

DPR18 Hobbs Hwy / North Access Rd				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 839	1/4/16 19:02	3/31/16 11:21	89	51.5*
SHC 687	1/4/16 19:02	3/31/16 11:22	6	3.2*
SHC 745	1/4/16 19:03	3/31/16 11:23	37	21.2
Average Quarterly Dose in mrad:				25.3

DPR19 Southeast Control

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SFK 562	1/4/16 18:10	3/31/16 12:43	36	22.7
SHD 971	1/4/16 18:10	3/31/16 12:46	43	24.8
SHV 195	1/4/16 18:11	3/31/16 12:47	39	22.4

Average Quarterly Dose in mrad: 23.3

DPR20 NMED Guadalupe St. Office Interior

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 902	1/6/16 13:30	3/31/16 13:16	45	26.7
SHD 934	1/6/16 13:30	3/31/16 13:18	42	25.2
SHC 751	1/6/16 13:30	3/31/16 13:17	45	26.7

Average Quarterly Dose in mrad: 26.2

DPR21 NMED Guadalupe St. Office Exterior

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 774	1/6/16 13:50	3/31/16 13:12	44	27.2
SHC 962	1/6/16 13:50	3/31/16 13:14	42	24.2
SHD 979	1/6/16 13:50	3/31/16 13:15	75	43.5

Average Quarterly Dose in mrad: 31.6

*CY2016 Second Quarter:***DPR01 Parking Lot Entrance**

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 650	3/29/16 13:00	7/1/16 13:00	52	29.5
SHC 659	3/29/16 13:00	7/1/16 13:00	52	29.4
SHC 726	3/29/16 13:00	7/1/16 13:00	51	29.1

Average Quarterly Dose in mrad: 29.3

DPR02 Railroad Track Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 754	3/29/16 12:00	7/1/16 13:05	54	31.0
SHC 835	3/29/16 12:00	7/1/16 13:05	55	31.0
SHC 856	3/29/16 12:00	7/1/16 13:05	52	29.8

Average Quarterly Dose in mrad: 30.6

DPR03 Southwest Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 931	3/29/16 12:24	7/1/16 13:08	53	28.7
SHV 185	3/29/16 12:24	7/1/16 13:08	56	30.6
SHD 960	3/29/16 12:24	7/1/16 13:08	65	35.8

Average Quarterly Dose in mrad: 31.7

DPR04 South Fence Center

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGI 976	3/29/16 13:12	7/1/16 13:11	43	25.2
SHC 768	3/29/16 13:12	7/1/16 13:11	51	29.4
SHC 771	3/29/16 13:12	7/1/16 13:11	58	32.7
Average Quarterly Dose in mrad:				29.1

DPR05 Near Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGJ 044	3/29/16 12:10	7/1/16 13:14	47	27.1
SGJ 109	3/29/16 12:10	7/1/16 13:14	44	25.5
SHC 688	3/29/16 12:10	7/1/16 13:14	50	28.6
Average Quarterly Dose in mrad:				27.1

DPR06 Far Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 761	3/29/16 12:07	7/1/16 13:17	54	30.1
SHC 821	3/29/16 12:07	7/1/16 13:17	58	31.5
SHD 912	3/29/16 12:07	7/1/16 13:17	56	30.4
Average Quarterly Dose in mrad:				30.7

DPR07 East Fence Mid

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 694	3/29/16 12:52	7/1/16 13:24	57	31.0
SHC 853	3/29/16 12:52	7/1/16 13:24	64	34.9
SHD 962	3/29/16 12:52	7/1/16 13:24	56	30.4
Average Quarterly Dose in mrad:				32.1

DPR08 Northeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 686	3/29/16 12:17	7/1/16 13:28	64	36.2
SHD 942	3/29/16 12:17	7/1/16 13:28	58	31.4
SHV 211	3/29/16 12:17	7/1/16 13:28	70	39.0
Average Quarterly Dose in mrad:				35.5

DPR09 North-Northeast Fence

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 830	3/29/16 12:39	7/1/16 13:30	56	30.7
SHD 939	3/29/16 12:39	7/1/16 13:30	68	37.2
SHD 954	3/29/16 12:39	7/1/16 13:30	60	32.6
Average Quarterly Dose in mrad:				33.5

DPR10 North Fence Salt Pile

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGI 957	3/29/16 13:06	7/1/16 13:33	47	27.2
SHC 689	3/29/16 13:06	7/1/16 13:33	59	33.7
SHC 778	3/29/16 13:06	7/1/16 13:33	59	33.8

Average Quarterly Dose in mrad: 31.6

DPR11 Northwest Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 666	3/29/16 12:04	7/1/16 13:37	55	32.5
SHC 678	3/29/16 12:04	7/1/16 13:37	45	26.0
SIR 670	3/29/16 12:04	7/1/16 13:37	50	29.8

Average Quarterly Dose in mrad: 29.4

DPR12 Waste Handling Building Loading Dock (West)

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 644	3/29/16 12:35	7/1/16 13:45	48	26.9
SHC 743	3/29/16 12:35	7/1/16 13:45	92	52.8*
SHC 777	3/29/16 12:35	7/1/16 13:45	25	13.9

Average Quarterly Dose in mrad: 31.2

DPR13 Waste Handling Building Loading Dock (Center)

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 672	3/29/16 12:21	7/1/16 13:48	53	30.0
SHC 799	3/29/16 12:21	7/1/16 13:48	49	27.4
SHC 863	3/29/16 12:21	7/1/16 13:48	54	30.4

Average Quarterly Dose in mrad: 29.3

DPR14 Waste Handling Building Loading Dock (East)

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 645	3/29/16 13:08	7/1/16 13:52	50	27.9
SHC 715	3/29/16 13:08	7/1/16 13:52	48	27.0
SHC 849	3/29/16 13:08	7/1/16 13:52	49	27.6

Average Quarterly Dose in mrad: 27.5

DPR16 Loving Weigh Station

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 724	3/29/16 13:16	7/1/16 13:55	74	40.5
SHC 725	3/29/16 13:16	7/1/16 13:55	67	37.5
SHV 169	3/29/16 13:16	7/1/16 13:55	66	35.8

Average Quarterly Dose in mrad: 38.0

DPR17 Malaga Volunteer Fire Department

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 893	3/29/16 12:42	7/1/16 14:05	65	34.9
SHD 895	3/29/16 12:42	7/1/16 14:05	127	69.6**
SHV 916	3/29/16 12:42	7/1/16 14:05	59	31.7

Average Quarterly Dose in mrad: 45.4

DPR18 Hobbs Hwy / North Access Rd

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 744	3/29/16 12:15	7/1/16 14:08	59	32.0
SHD 928	3/29/16 12:15	7/1/16 14:08	50	27.0
SHD 983	3/29/16 12:15	7/1/16 14:08	62	34.2

Average Quarterly Dose in mrad: 31.1

DPR19 Southeast Control

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 715	3/29/16 12:32	7/1/16 14:12	44	26.2
SGJ 103	3/29/16 12:32	7/1/16 14:12	48	27.9
SGJ 104	3/29/16 12:32	7/1/16 14:12	47	27.4

Average Quarterly Dose in mrad: 27.2

DPR20 NMED Guadalupe St. Office Interior

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 751	3/31/16 13:16	7/1/16 14:18	54	29.7
SHD 902	3/31/16 13:16	7/1/16 14:18	60	33.1
SHD 934	3/31/16 13:16	7/1/16 14:18	51	28.5

Average Quarterly Dose in mrad: 30.5

DPR21 NMED Guadalupe St. Office Exterior

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 543	3/31/16 13:12	7/1/16 14:20	51	30.7
SHC 692	3/31/16 13:12	7/1/16 14:20	58	32.3
SHD 979	3/31/16 13:12	7/1/16 14:20	60	33.6

Average Quarterly Dose in mrad: 32.2

CY2016 Third Quarter:

DPR01 Parking Lot Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 841	6/28/16 12:34	9/30/16 11:51	44	25.8
SHC 677	6/28/16 12:36	9/30/16 11:51	59	33.0
SGJ 058	6/28/16 12:35	9/30/16 11:51	35	21.1

Average Quarterly Dose in mrad: 26.6

DPR02 Railroad Track Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 758	6/28/16 12:41	9/30/16 12:01	64	35.9
SHV170	6/28/16 12:44	9/30/16 12:01	54	30.1
SHC 749	6/28/16 12:43	9/30/16 12:01	66	37.0

Average Quarterly Dose in mrad: 34.3

DPR03 Southwest Fence Corner - Canister not retrieved

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 736	6/28/16 12:47			
SHC 673	6/28/16 12:47			
SHC 676	6/28/16 12:48			

Average Quarterly Dose in mrad:

DPR04 South Fence Center

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHV216	6/28/16 12:51	9/30/16 12:12	54	30.3
SHC 704	6/28/16 12:51	9/30/16 12:12	51	29.4
SHC 685	6/28/16 12:53	9/30/16 12:12	47	27.3

Average Quarterly Dose in mrad: 29.0

DPR05 Near Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 449	6/28/16 12:55	9/30/16 12:15	47	25.2
SHC 816	6/28/16 12:56	9/30/16 12:15	46	26.2
SHC 657	6/28/16 12:57	9/30/16 12:15	38	21.4

Average Quarterly Dose in mrad: 24.3

DPR06 Far Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 761	3/29/16 12:07	7/1/16 13:17	32	18.9
SHC 821	3/29/16 12:07	7/1/16 13:17	42	24.4
SHD 912	3/29/16 12:07	7/1/16 13:17	40	23.6

Average Quarterly Dose in mrad: 22.3

DPR07 East Fence Mid

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 674	6/28/16 13:02	9/30/16 12:25	47	27.2
SGJ 037	6/28/16 13:03	9/30/16 12:25	41	23.6
SHC 755	6/28/16 13:03	9/30/16 12:25	49	29.2

Average Quarterly Dose in mrad: 26.6

DPR08 Northeast Fence Corner - Canister damaged				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 763	6/28/16 13:06	9/30/16 12:28	54	30.2
SHC 760	6/28/16 13:07	9/30/16 12:28	58	32.4
SHD 974	6/28/16 13:08	9/30/16 12:28	63	34.9
Average Quarterly Dose in mrad:				32.5

DPR09 North-Northeast Fence				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHV205	6/28/16 13:11	9/30/16 12:31	45	26.4
SHC 850	6/28/16 13:12	9/30/16 12:31	33	18.3
SHC 647	6/28/16 13:13	9/30/16 12:31	42	23.8
Average Quarterly Dose in mrad:				22.9

DPR10 North Fence Salt Pile				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 658	6/28/16 13:19	9/30/16 12:35	45	26.9
SHC 765	6/28/16 13:19	9/30/16 12:35	46	27.3
SHC 793	6/28/16 13:21	9/30/16 12:35	39	23.7
Average Quarterly Dose in mrad:				26.0

DPR11 Northwest Fence Corner				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGJ 083	6/28/16 13:25	9/30/16 12:40	36	21.2
SGJ 042	6/28/16 13:27	9/30/16 12:40	38	22.6
SGI 986	6/28/16 13:27	9/30/16 12:40	40	23.8
Average Quarterly Dose in mrad:				22.6

DPR12 Waste Handling Building Loading Dock (West)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 769	6/28/16 13:30	9/30/16 12:42	67	37.6
SHC 722	6/28/16 13:30	9/30/16 12:42	45	25.5
SHC 705	6/28/16 13:31	9/30/16 12:42	47	26.8
Average Quarterly Dose in mrad:				30.0

DPR13 Waste Handling Building Loading Dock (Center)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 653	6/28/16 13:34	9/30/16 12:44	50	28.7
SGI 997	6/28/16 13:34	9/30/16 12:44	37	21.9
SIR 478	6/28/16 13:35	9/30/16 12:44	45	24.6
Average Quarterly Dose in mrad:				25.1

DPR14 Waste Handling Building Loading Dock (East)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 842	6/28/16 13:39	9/30/16 12:50	54	30.9
SHC 716	6/28/16 13:39	9/30/16 12:50	43	24.2
SHC 708	6/28/16 13:40	9/30/16 12:50	49	27.8
Average Quarterly Dose in mrad:				27.6

DPR16 Loving Weigh Station				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 675	6/28/16 13:44	9/30/16 12:53	53	29.8
SHC 696	6/28/16 13:45	9/30/16 12:53	47	26.2
SHC 740	6/28/16 13:47	9/30/16 12:53	45	26.7
Average Quarterly Dose in mrad:				27.6

DPR17 Malaga Volunteer Fire Department				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 964	6/28/16 13:51	9/30/16 13:00	62	34.2
SIR 440	6/28/16 13:51	9/30/16 13:00	46	24.8
SIR 641	6/28/16 13:52	9/30/16 13:00	49	26.5
Average Quarterly Dose in mrad:				28.5

DPR18 Hobbs Hwy / North Access Rd				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 839	6/28/16 13:59	9/30/16 13:06	92	52.4*
SHC 687	6/28/16 13:59	9/30/16 13:06	55	30.7
SHC 745	6/28/16 14:00	9/30/16 13:06	64	36.0
Average Quarterly Dose in mrad:				39.7

DPR19 Southeast Control				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 971	6/28/16 14:02	9/30/16 13:09	56	31.8
SHV195	6/28/16 14:03	9/30/16 13:09	53	29.9
SIR 650	6/28/16 14:04	9/30/16 13:09	60	33.1
Average Quarterly Dose in mrad:				31.6

DPR20 NMED Guadalupe St. Office Interior				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 656	7/1/16 14:18	9/30/16 13:12	50	28.2
SHC 691	7/1/16 14:18	9/30/16 13:12	55	31.2
SHC 812	7/1/16 14:18	9/30/16 13:12	46	26.4
Average Quarterly Dose in mrad:				28.6

DPR21 NMED Guadalupe St. Office Exterior				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 774	7/1/16 14:20	9/30/16 13:17	49	27.7
SHC 785	7/1/16 14:20	9/30/16 13:17	51	29.5
SHC 709	7/1/16 14:20	9/30/16 13:17	55	32.1
Average Quarterly Dose in mrad:				29.8

DPR22 Seven Rivers - Canister not retrieved				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 522	7/7/16 15:09			
SIR 445	7/7/16 15:09			
SIR 457	7/7/16 15:09			
Average Quarterly Dose in mrad:				

DPR23 Loop Rd				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 466	7/7/16 15:12	9/30/16 13:24	55	33.7
SIR 501	7/7/16 15:12	9/30/16 13:24	50	30.5
SIR 656	7/7/16 15:12	9/30/16 13:24	52	31.7
Average Quarterly Dose in mrad:				32.0

DPR24 South Access Rd - Canister found on ground				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 557	7/7/16 15:15	9/30/16 13:27	53	32.3
SIR 454	7/7/16 15:15	9/30/16 13:27	62	38.2
SIR 752	7/7/16 15:15	9/30/16 13:27	61	37.3
Average Quarterly Dose in mrad:				35.9

DPR25 Jal Hwy				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 568	7/7/16 15:18	9/30/16 13:29	53	32.1
SIR 738	7/7/16 15:18	9/30/16 13:29	54	32.7
SIR 525	7/7/16 15:18	9/30/16 13:29	46	27.8
Average Quarterly Dose in mrad:				30.9

CY2016 Fourth Quarter:

DPR01 Parking Lot Entrance				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 650	9/28/16 14:02	1/12/17 11:00	100	49.9*
SHC 659	9/28/16 14:02	1/12/17 11:00	51	25.3
SHC 726	9/28/16 14:02	1/12/17 11:00	53	26.6
Average Quarterly Dose in mrad:				33.9

DPR02 Railroad Track Entrance

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 754	9/28/16 14:05	1/12/17 11:04	51	25.8
SHC 835	9/28/16 14:05	1/12/17 11:04	54	26.7
SHC 856	9/28/16 14:05	1/12/17 11:04	49	24.7
Average Quarterly Dose in mrad:				25.8

DPR03 Southwest Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 931	9/28/16 14:09	1/12/17 11:07	59	27.9
SHV 185	9/28/16 14:09	1/12/17 11:07	57	27.2
SHD 960	9/28/16 14:09	1/12/17 11:07	58	27.9
Average Quarterly Dose in mrad:				27.7

DPR04 South Fence Center

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 550	9/28/16 14:11	1/12/17 11:11	52	24.3
SHC 768	9/28/16 14:11	1/12/17 11:11	51	25.9
SHC 771	9/28/16 14:11	1/12/17 11:11	58	28.8
Average Quarterly Dose in mrad:				26.3

DPR05 Near Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGJ 044	9/28/16 14:17	1/12/17 11:16	44	22.4
SGJ 109	9/28/16 14:17	1/12/17 11:16	44	22.5
SHC 688	9/28/16 14:17	1/12/17 11:16	47	23.7
Average Quarterly Dose in mrad:				22.9

DPR06 Far Southeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 761	9/28/16 14:22	1/12/17 11:29	52	25.4
SHC 821	9/28/16 14:22	1/12/17 11:38	49	23.3
SHD 912	9/28/16 14:22	1/12/17 11:38	56	26.6
Average Quarterly Dose in mrad:				25.1

DPR07 East Fence Mid

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 694	9/28/16 14:25	1/12/17 11:40	53	25.1
SHC 853	9/28/16 14:25	1/12/17 11:40	57	27.2
SHD 962	9/28/16 14:25	1/12/17 11:40	57	27.1
Average Quarterly Dose in mrad:				26.5

DPR08 Northeast Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 686	9/28/16 14:27	1/12/17 11:44	58	28.8
SHD 942	9/28/16 14:27	1/12/17 11:44	60	28.5
SHV 211	9/28/16 14:27	1/12/17 11:44	59	28.8
Average Quarterly Dose in mrad:				28.7

DPR09 North-Northeast Fence

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 830	9/28/16 14:30	1/12/17 11:47	51	24.4
SHD 939	9/28/16 14:30	1/12/17 11:47	54	25.8
SHD 954	9/28/16 14:30	1/12/17 11:47	57	27.0
Average Quarterly Dose in mrad:				25.8

DPR10 North Fence Salt Pile

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SGI 957	9/28/16 14:33	1/12/17 11:51	42	21.3
SHC 689	9/28/16 14:33	1/12/17 11:51	54	27.1
SHC 778	9/28/16 14:33	1/12/17 11:51	54	27.2
Average Quarterly Dose in mrad:				25.2

DPR11 Northwest Fence Corner

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 702	9/28/16 14:35	1/12/17 11:59	49	22.9
SHC 678	9/28/16 14:35	1/12/17 11:59	41	17.4
SIR 670	9/28/16 14:35	1/12/17 11:59	48	18.8
Average Quarterly Dose in mrad:				19.7

DPR12 Waste Handling Building Loading Dock (West)

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 644	9/28/16 14:40	1/12/17 12:06	51	25.1
SHC 745	9/28/16 14:40	1/12/17 12:06	52	25.9
SHC 777	9/28/16 14:40	1/12/17 12:06	58	29.4
Average Quarterly Dose in mrad:				26.8

DPR13 Waste Handling Building Loading Dock (Center)

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 672	9/28/16 14:42	1/12/17 12:10	54	26.9
SHC 799	9/28/16 14:42	1/12/17 12:10	47	23.1
SHC 863	9/28/16 14:42	1/12/17 12:10	50	24.8
Average Quarterly Dose in mrad:				24.9

DPR14 Waste Handling Building Loading Dock (East)				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 645	9/28/2016 14:45	1/12/2017 12:13	49	24.0
SHC 715	9/28/2016 14:45	1/12/2017 12:13	46	22.7
SHC 849	9/28/2016 14:45	1/12/2017 12:13	49	24.2
Average Quarterly Dose in mrad:				23.7
DPR16 Loving Weigh Station				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 724	9/28/2016 14:47	1/12/2017 12:17	72	34.4
SHC 725	9/28/2016 14:47	1/12/2017 12:17	66	32.4
SHV 169	9/28/2016 14:47	1/12/2017 12:17	61	28.9
Average Quarterly Dose in mrad:				31.9
DPR17 Malaga Volunteer Fire Department				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHD 893	9/28/2016 14:49	1/12/2017 12:20	60	28.1
SHD 895	9/28/2016 14:49	1/12/2017 12:20	54	25.8
SHD 916	9/28/2016 14:49	1/12/2017 12:20	74	34.8
Average Quarterly Dose in mrad:				29.6
DPR18 Hobbs Hwy / North Access Rd				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 744	9/28/2016 14:52	1/12/2017 12:24	72	34.2
SHD 928	9/28/2016 14:52	1/12/2017 12:24	59	27.9
SHD 983	9/28/2016 14:52	1/12/2017 12:24	64	30.9
Average Quarterly Dose in mrad:				31.0
DPR19 Southeast Control				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 715	9/28/2016 14:54	1/12/2017 12:29	59	27.7
SHC 659	9/28/2016 14:54	1/12/2017 12:29	41	20.9
SHC 726	9/28/2016 14:54	1/12/2017 12:29	60	28.2
Average Quarterly Dose in mrad:				25.6
DPR20 NMED Guadalupe St. Office Interior				
Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SHC 751	9/30/2016 13:12	1/12/2017 12:31	100	50.5*
SHD 902	9/30/2016 13:12	1/12/2017 12:31	113	57.3**
SHD 934	9/30/2016 13:12	1/12/2017 12:31	100	51.5*
Average Quarterly Dose in mrad:				53.1

DPR21 NMED Guadalupe St. Office Exterior

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 543	9/30/2016 13:17	1/12/2017 12:35	51	24.2
SHD 692	9/30/2016 13:17	1/12/2017 12:35	54	26.4
SHD 979	9/30/2016 13:17	1/12/2017 12:35	60	29.6
Average Quarterly Dose in mrad:				26.7

DPR22 Seven Rivers

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
Station Inactive due to theft.				
Average Quarterly Dose in mrad:				

DPR23 Loop Rd

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 628	9/28/16 15:26	1/12/17 12:37	44	20.3
SIR 551	9/28/16 15:26	1/12/17 12:37	64	29.7
SIR 735	9/28/16 15:26	1/12/17 12:37	52	24.0
Average Quarterly Dose in mrad:				24.7

DPR24 South Access Rd

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 450	9/28/16 15:29	1/12/17 12:44	47	21.8
SIR 710	9/28/16 15:29	1/12/17 12:44	52	24.1
SIR 438	9/28/16 15:29	1/12/17 12:44	54	25.1
Average Quarterly Dose in mrad:				23.7

DPR25 Jal Hwy

Electret ID	Start Date and Time	Finish Date and Time	Voltage Drop	Quarterly Dose Normalized
SIR 648	9/28/16 15:32	1/12/17 12:47	49	22.5
SIR 639	9/28/16 15:32	1/12/17 12:47	59	27.3
SIR 451	9/28/16 15:32	1/12/17 12:47	46	21.1
Average Quarterly Dose in mrad:				23.6