THESIS

THE RATE OF DECAY OF FRESH FISSION PRODUCTS FROM A NUCLEAR REACTOR

Submitted by

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ABSTRACT

THE RATE OF DECAY OF FRESH FISSION PRODUCTS FROM A NUCLEAR REACTOR

Determining the rate of decay of fresh fission products from a nuclear reactor is complex because of the number of isotopes involved, different types of decay, half-lives of the isotopes, and some isotopes decay into other radioactive isotopes. Traditionally, a simplified rule of $t^{-1.2}$ or 7s and 10s is used to determine the dose rate from nuclear weapons and can be to estimate the dose rate from fresh fission products of a nuclear reactor. An experiment was designed to determine the dose rate with respect to time from fresh fission products of a nuclear reactor. The experiment exposed 0.5 grams of U_3O_8 to a fast neutron fluence rate of $1.09 \times 10^{10} \frac{\text{neutrons}}{\text{cm}^2 \cdot \text{s}}$ and a thermal neutron fluence rate of $7.5 \times 10^{11} \frac{\text{neutrons}}{\text{cm}^2 \cdot \text{s}}$ from a TRIGA Research Reactor (Lakewood, CO) for ten minutes. The dose rate from the fission products was measured by four Mirion DMC 2000XB electronic personal dosimeters over a period of six days. The resulting dose rate with respect to time had a slope of $t^{-1.024}$ and could be simplified to a rule of 10s: the dose rate of fresh fission products from a nuclear reactor decreases by a factor of 10 for every 10 units of time.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

-Hypothesis: The time rate of change of dose rate of fresh fission products from a nuclear reactor follows a predictable rate.

History provides many examples of radiological accidents where fission products are released to the environment. Quantifying the decrease in dose rate of fresh fission products from nuclear weapons has been calculated and measured since the 1940s. For example, the $t^{1.2}$ slope (Way, Wigner, 1948) was developed for nuclear weapons. The premise of this calculation is to take the initial dose rate after a nuclear weapon was detonated and the dose rate at any given time can be time can be calculated. A simplification of this method is the Rule of 7s and 10s (Wood, et al, 1977), meaning for every 7 units of time after a nuclear explosion, the dose rate will decrease by a factor of 10. Both the $t^{-1.2}$ slope and the rule of 7s and 10s are useful for nuclear weapons and provides a good starting point for nuclear reactors, one must keep in mind the last nuclear weapon was used in 1945 and tested in the 1960s. Also, the complexity and security of nuclear weapons makes them a much smaller risk from accidents and misuse.

Nuclear Power (reactors) is fairly prevalent throughout the world in the production of energy and the creation of medical isotopes. Recent events such as Chernobyl and Fukishima have shown that reactors can emit many radioisotopes in a short amount of time. The question now becomes, is the dose rate of fresh fission products from a nuclear reactor the same as a nuclear weapon ($t^{-1.2}$ and Rule of 7s and 10s)? One of the major differences between a reactor and a weapon is the enrichment of uranium-235 (^{235}U). In a reactor, the ^{235}U is typically of low enrichment and a nuclear weapon is highly enriched. Also the fast and thermal neutron fluxes in a reactor are different than a nuclear weapon. This now begs the question as to whether the $t^{-1.2}$ or Rule of 7s and 10s can be applied to nuclear power.

Determining the potential dose rate from nuclear fallout is a complex task and is dependent on many factors including: amount of activity released, the radionuclides released, size of particles released, wind direction and speed, and how the activity decays over time. Dose rate is function of the particular isotopes[1] present, and the more isotopes added makes determining the decay rate more complex. Looking specifically at the mixture of radionuclides released from a nuclear reactor after a fission event and the radiological decay behavior of that mixture as a function of time may provide a quick guide for actions required by emergency response personnel and local populations immediately following a nuclear accident. The number of atoms that will fission is defined by:

$$N_{\text{fission}} = N_{\text{i,sample}} \sum\left(\dot{\Phi}_i \sigma_{i,fission}\right) t, \qquad (1)$$

Table 1: Definition of Terms for Equation 1

Term	Definition	Units
$N_{fission}$	Number of atoms that will fission	number of atoms
$N_{\text{i,sample}}$	Number of fissile atoms in the sample	number of atoms
$\dot{\Phi}_i$	Neutron fluence rate	$\frac{\text{neutrons}}{\text{cm}^2 \cdot \text{s}}$
$\sigma_{i,fission}$	Cross section for fission	$\frac{\text{cm}^2}{\text{atom}}$
t	Time of irradiation	seconds (s)

Once an atom absorbs a neutron, the nucleus will split into two fission fragments and excess neutrons as illustrated in figure 1:

[1] Isotopes are elements that have the same number of protons, but different number of neutrons (Gollnick, 2006).

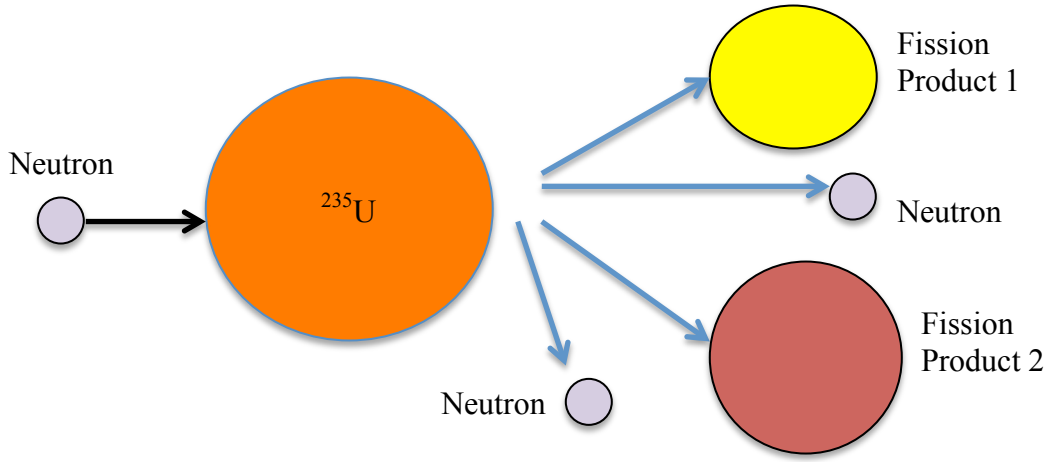

Figure 1: Example of a Fission Process

Each fission fragment has a specific yield depending on its atomic number. Appendix A contains a list of 649 fission products with their corresponding yield calculated in milli-Curies (mCi) and Becquerels (Bq) from a 10-minute exposure of 0.66 grams ($\approx 1.26 \times 10^{21}$ atoms of uranium) of non-enriched tri-uranium octa-oxide (U_3O_8) to a mixed fast ($\approx 1.09 \times 10^{10}$ neutrons cm^{-2} s^{-1}) and thermal neutron fluence rate ($\approx 7.5 \times 10^{11}$ neutrons cm^{-2} s^{-1}). Using the equation above and the specific fission yield for each fission product, the activity of each product can be determined using the following equation:

$$A = \lambda N, \qquad (2)$$

Table 2: Definition of Terms for Equation 2

Term	Definition	Units
A	Activity of the fission product	Bq
λ	Decay constant of the fission product	$\frac{\ln(2)}{\text{half} \cdot \text{life}}$ [2]
N	Number of atoms of the specific fission product	Number of Atoms

Graphing the activity yield of each isotope in Appendix A versus the atomic number generates figure 2.

[2] Half-life is the time it takes for half of a sample to decay away (Gollnick, 2006)

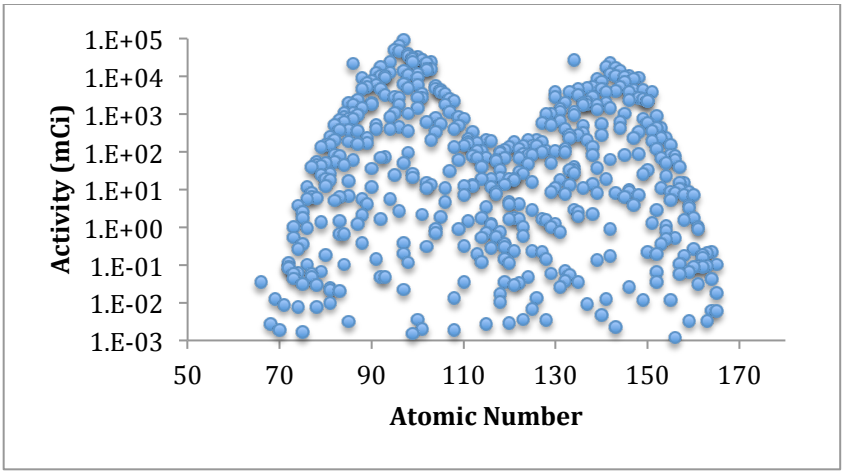

Figure 2: Isotope Activity Yield from Fission

Building upon the fission fragment yields; a dose rate with respect to time can be calculated with the following equations:

$$\dot{X} = \sum_i \frac{\Gamma_i A_i}{r^2} e^{-\lambda_i t}, \qquad (3)$$

$$\dot{E} = \sum_i \sum_r \sum_t \left(\dot{X}_i f_i \right) w_r w_t, \qquad (4)$$

Table 3: Definition of Terms for Equations 3 and 4

Term	Definition	Units
$\dot{X}$	Exposure rate	$\frac{\mathrm{R}}{\mathrm{h}}$
Γ_i	Specific gamma ray constant	$\frac{\mathrm{R} \cdot \mathrm{cm}^2}{\mathrm{mCi} \cdot \mathrm{h}}$
A_i	Activity of the fission product	mCi
r	Distance from the sample	cm
λ_i	Decay factor	$\frac{\ln(2)}{\mathrm{half} \cdot \mathrm{life}}$
t	Time after irradiation	hours (h)
$\dot{E}$	Dose rate	$\frac{\mathrm{rem}}{\mathrm{h}}$
f_i	Conversion factor	$\frac{\mathrm{rads}}{\mathrm{R}}$
w_r	Radiation weighting factor for photons and beta particles (ICRP 103, 2007)	$\frac{\mathrm{rem}}{\mathrm{rad}}$
w_T	Tissue weighting factor for whole body exposure (ICRP 103, 2007)	1

A simplified dose rate versus time curve can be calculated using equations 2, 3 and 4, using the calculated fission yields from Appendix A, and the following assumptions:

Table 4: Model Assumptions

Assumption	Background/Reasoning
The sample can be modeled as a point source	The sample irradiated will be less than one gram and the volume will be relatively small. Measurements will be taken from a distance greater than ½ the largest dimension of the sample
No gas/vapor escapes during the experiment	Sample will be irradiated in sealed plastic container and likelihood of loss is minimal
Isotropic emission from the sample	The sample is approximately spherical and should give off radiation in all directions equally
Background radiation levels are negligible compared to the sample	The experiment was designed so the sample radiation levels are at least an order of magnitude above background radiation
Bremsstrahlung radiation is negligible	This is a simplification for the model presented in Figure 3
Negligible buildup of daughter nuclides	This is a simplification for the model presented in Figure 3
Scatter radiation is negligible	This is a simplification for the model presented in Figure 3
Isotopes with very short and long half-lives can be neglected (summarized in Appendix B)	This is a simplification for the model presented in Figure 3

Figure 3 illustrates the calculated results demonstrating that the dose rate from fission products may follow a predictable rate, which leads to the next step of designing an experiment to determine the dose rate from a uranium sample irradiated by fast and thermal neutrons.

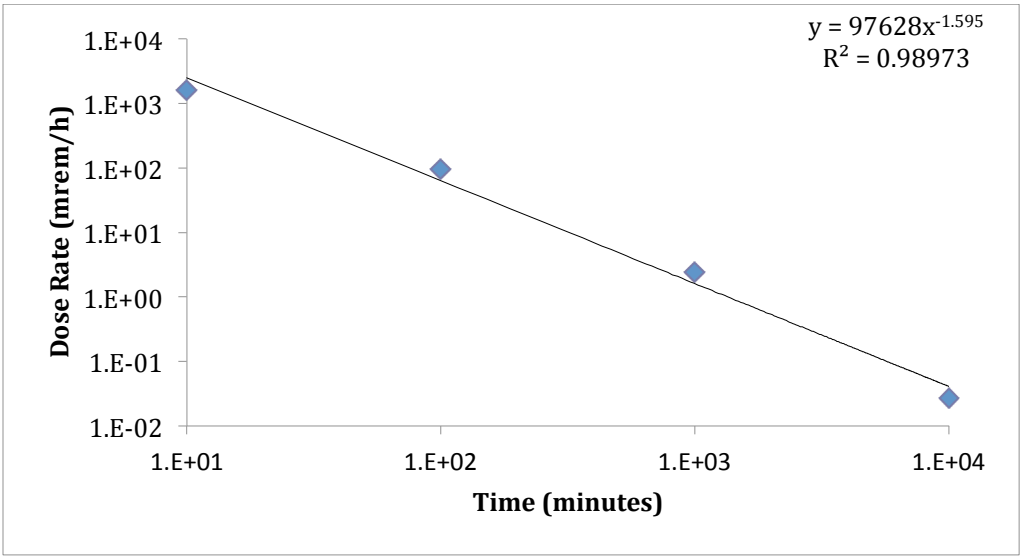

Figure 3: Calculated Dose Rate Versus Time due to Fission Products

MATERIALS AND METHODS

The experiment had three key issues to be addressed: the type of fissile material to utilize, the neutron source, and the collection of dose rate information. For each element, safety and cost were fundamental considerations for selection.

Selection of Fissile/Fertile Material:

Thorium-232 (^{232}Th), Uranium-235 (^{235}U), Uranium-238 (^{238}U), and Plutonium-239 (^{239}Pu) are the most common nuclear materials considered for use in nuclear power industry and weapons. Each isotope was evaluated and the advantages and disadvantages enumerated to ascertain the isotope best suitable to address the hypothesis.

^{232}Th:

^{232}Th is a naturally occurring isotope capable of producing fission in a fast neutron flux[3]. A particularly attractive property of ^{232}Th is its 100% abundance in nature, which means the milling process is chemical in nature vice separating isotopes based on their atomic mass (difficult and expensive). ^{232}Th has a half-life of 1.4×10^{10} years making it very stable before irradiation. The downside to ^{233}Th is it is not the industry standard and upon irradiation it fissions in the following manner (ICRP 38, 1983):

$$^{232}_{90}\mathrm{Th} + {}^{1}_{0}\mathrm{n} \rightarrow {}^{233}_{90}\mathrm{Th}^{*}, \quad (5)$$

$$^{233}_{90}\mathrm{Th}^{*} \rightarrow {}^{233}_{91}\mathrm{Pa} + \beta^{-} + \bar{\nu}, \quad (6)$$

$$^{233}_{91}\mathrm{Pa} \rightarrow {}^{233}_{92}\mathrm{U} + \beta^{-} + \bar{\nu}, \quad (7)$$

$$^{233}_{92}\mathrm{U} + {}^{1}_{0}\mathrm{n} \rightarrow {}^{234}_{92}\mathrm{U}^{*} \rightarrow \mathrm{fp}_1 + \mathrm{fp}_2 + \mathrm{neutrons}, \quad (8)$$

The series of decays following neutron irradiation adds a layer of complexity to the experiment because ^{233}Pa has a half-life of 27.0 days (ICRP 38, 1983). The 27-day half-life would require the entire sample to be irradiated for a significant amount of time before fission

[3] Flux is the increment of neutrons (dN) in the time interval dt (ICRU Report 85, 2011).

could occur or the sample would have to be irradiated on two different occasions to first allow the ^{233}Pa to decay to ^{233}U, than the ^{233}U to fission. Another complicating factor is ^{232}Th is not an industry standard and requires a starter fuel which is normally ^{235}U. For this experiment, the negatives are too restrictive compared to the positives; therefore ^{232}Th was not used in the experiment.

^{235}U:

^{235}U is an industry standard, and like ^{232}Th, ^{235}U has a long half-life of 703.8×10^6 years (ICRP 38, 1983). Figure 4 contains the fission cross-section for ^{235}U (Brookhaven, 2012). Compared to ^{238}U, ^{235}U has a larger fission cross-section across a much larger range of neutron energies.

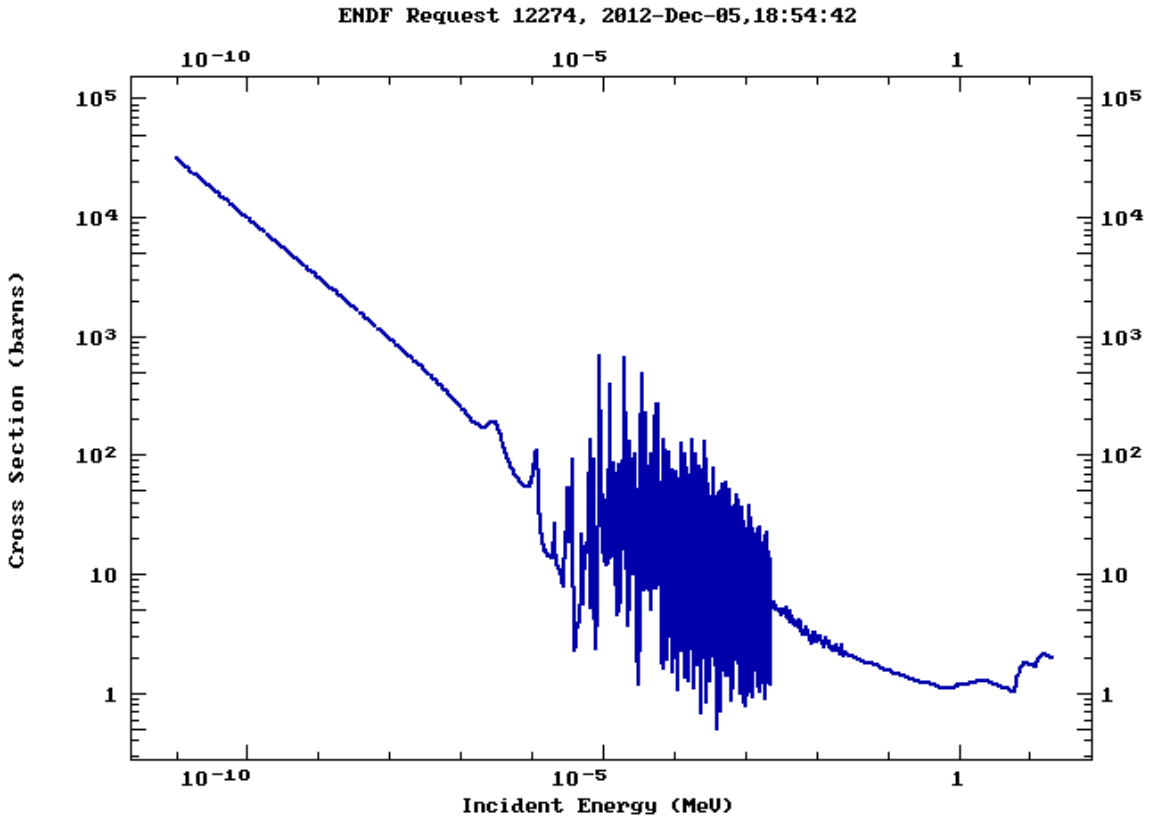

Figure 4: ^{235}U Fission Cross-Section Versus Neutron Energy

As compared to ^{232}Th, fission from ^{235}U is a direct reaction void of intermediate steps:

$$^{235}_{92}\mathrm{U} + {}^{1}_{0}\mathrm{n} \rightarrow FP_1 + FP_2 + \text{neutrons}, \qquad (9)$$

^{235}U is an industry standard used in the generation of electrical power and propulsion, but has the distinct disadvantage of a low natural abundance of 0.7204%. (Holden, 2000) Separating ^{235}U from naturally occurring uranium is expensive, highly regulated, and utilizes a technologically involved process. Due to the ability to use ^{235}U in nuclear weapons, any enrichment is regulated and limited by national laws and international treaties.

^{239}Pu:

^{239}Pu was considered as a potential isotope for this experiment, but due to expense and regulation it was considered not feasible to use for this experiment.

U_3O_8:

As discussed earlier, ^{232}Th and ^{239}Pu and enriching uranium (^{235}U) were not suitable isotopes for this experiment, leaving natural uranium. Natural Uranium is 99.2742 % ^{238}U and 0.7204% ^{235}U (Holden, 2000). ^{238}U has a half-life of 4.469×10^9 years (ICRP 38, 1983) which is about ten times longer than ^{235}U. However, the cross section for fission from neutrons is smaller across the range of neutron energies (Brookhaven, 2012).

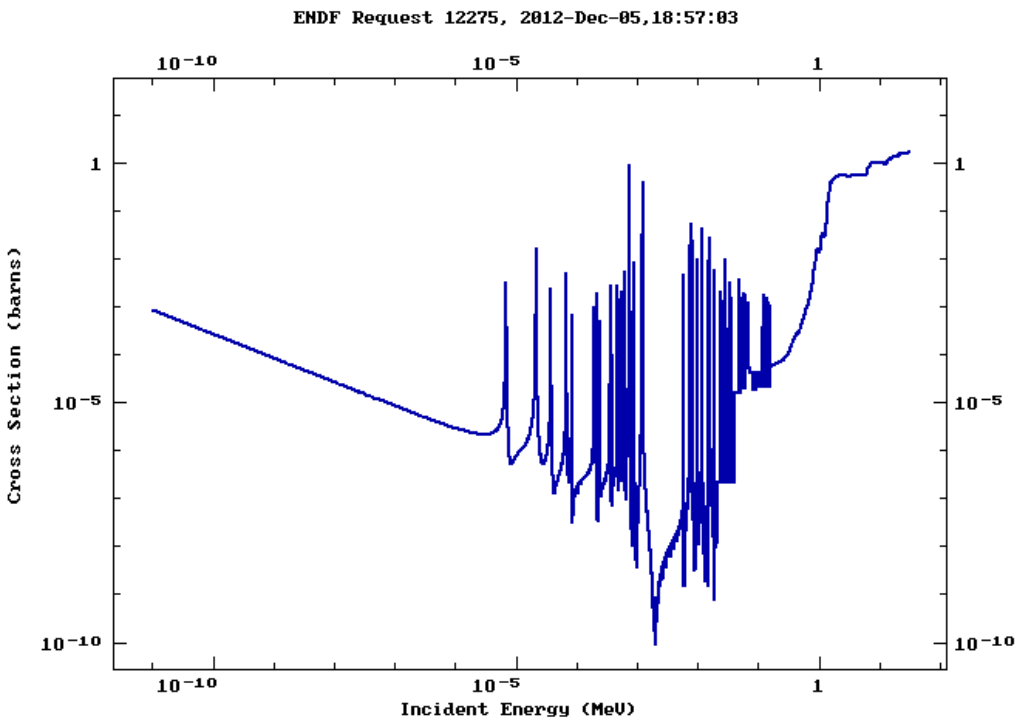

Figure 5: ^{238}U Fission Cross-Section Versus Neutron Energy

The optimal solution was found to be utilizing non-enriched naturally occurring mined and milled uranium. Tri-Uranium Oct-Oxide (U_3O_8) was selected due to availability and cost. U_3O_8 is about 85% naturally occurring uranium and 15% oxygen by weight. The uranium content of the sample is approximately 0.7% ^{235}U and 99.3% ^{238}U.

Neutron Source

Fission requires a neutron source for the reaction to take place. There are several commercially available neutron sources available, which include: plutonium beryllium (^{239}PuBe), Californium-252 (^{252}Cf), Californium-254 (^{254}Cf), and a nuclear reactor (typically research type).

^{239}PuBe:

PuBe sources work based on the binding energy of the last nucleon in the nucleus being 1.67 MeV and the decay of ^{239}Pu yields an alpha particle energy ranging from 4.548 to 5.156 MeV (ICRP 38, 1983). The beryllium and plutonium are combined in such a way that the alpha

particle has a high likelihood to interact with the beryllium nucleus. The plutonium alpha particle will impart sufficient energy to the beryllium nucleus such that a neutron will be released from the beryllium. ^{239}PuBe sources are typically small and have a low neutron emanation rate resulting in long exposure times. ^{239}PuBe is inappropriate because although the neutron spectrum should be monoenergetic, as the alpha particles initiating the reaction are monoenergetic, the actual spectrum is polyenergetic, due to alpha particles losing energy prior to interacting with the beryllium nucleus; the neutron spectrum is unique to ^{239}PuBe sources.

^{252}Cf and ^{254}Cf:

^{252}Cf and ^{254}Cf produce neutrons via spontaneous fission. These sources are typically larger and have higher neutron fluxes than ^{239}PuBe sources. However, they tend to be much more expensive (around $60 per microgram, Martin, et al, 1999) than a ^{239}PuBe source and in many cases are not commercially available (a web search to procure ^{254}Ca yielded zero results). Another downside to ^{252}Cf and ^{254}Cf is that they are produced by bombarding an actinide (^{238}U, ^{241}Am, etc.) with a thermal neutron flux and then chemically separating the Californium (Martin, et al, 1999). Both isotopes have a relatively short half-life: 2.638 years for ^{252}Cf and 60.5 days for ^{254}Cf (ICRP 38, 1983). Like the ^{239}PuBe source, the Californium sources have relatively small neutron fluxes as compared to a reactor, so any experiment would take an extended amount of time. Based on expense, experiment time, and half-life, neither ^{252}Cf nor ^{254}Cf were selected for this experiment.

Reactor:

Reactors are capable of producing very large neutron fluxes, which dramatically reduces the irradiation time required for a sample. Most accidents involving fission products come from a reactor or a shut down reactor. Research reactors enable easy insertion of samples into a large

neutron flux with easy retrieval. Based on these considerations, the following reactor was selected for this experiment:

Table 5: Research Reactor Characteristics

Reactor Type	Training, Research, Isotopes, General Atomics (TRIGA)
Operated by	U. S. Geological Survey (USGS)
Location	Lakewood, CO
Thermal Neutron Fluence Rate	7.5×10^{11} neutrons cm^{-2} s^{-1}
Fast Neutron Fluence Rate	1.09×10^{10} neutrons cm^{-2} s^{-1}

Collection of Dose Rate Information

The collection of dose rate information from fresh fission products requires an instrument able to collect data over a wide range of energies, a long period of time (days), and the collection of data at frequent intervals. Three types of instruments are readily available that meet all or some of this criteria: Thermal Luminescent Dosimeters (TLD) or Optically Stimulated Luminescent (OSL) Dosimeters; proportional, ionization or Geiger Muller (GM) detectors; or a semi-conductor electronic personal dosimeters.

TLD/OSL:

TLDs and OSLs respond over a wide range of energies and have the very distinct advantage of not requiring power. Also, different filters can be used to determine which dose quantity is being collected and the energy spectrum delivering the dose (Gollnick, 2006). The most significant downside to TLDs and OSLs is that they integrate the dose collected over the entire collection period. This would result in a constant dose rate and would negate the purpose of the experiment.

Proportional, Ionization or GM Detectors:

Proportional, Ionization and GM detectors have several advantages for this type of experiment. These detectors have good energy response, and certain types of these detectors can

be directly connected to a computer for automatic data logging. Also, the data logged can be set to a discrete collection rate. However, these types of detectors have limitations. One limitation is the limited response to low energy gamma and X-ray radiation and low efficiency. More importantly, these detectors have a limited battery life and would need to be consistently charged or changed out during the experiment.

Semi-Conductor Electronic Personal Dosimeter:

Semi-Conductor Electronic Personal Dosimeters (EPDs) respond to a wide range of energies found in this experiment. EPDs also have an extended battery life and collection periods of sufficient duration for the experiment. EPDs have the ability to collect dose and dose rate at predetermined intervals and are sensitive to gamma, X-ray, and Beta radiation (Knoll, 2010). Based on these considerations, EPDs were selected for the experiment; specifically Mirion DMC 2000XB (Mirion Technologies, San Ramon, CA) EPDs as summarized in Table 6.

Table 6: EPD Information

Mirion DMC 2000XB Characteristics	
X-ray/Gamma Energies	20 keV – 6 MeV
β Energies	60 keV – 3.5 MeV
Accuracy	± 10%
Linearity	< ± 20% variation up to 100 rem/h
Data Capacity	750 History Events
Collection Rate	10 seconds, 1 minute, 10 minutes 1 hour, 24 hours
Calibration Isotope	^{137}Cs

Methods

The experiment was set up in the following fashion:

1. A 0.66 g sample of U_3O_8 (0.5 g of uranium) was irradiated by the TRIGA reactor for 10 minutes based on:

    a. A 10-minute irradiation would give a calculated dose rate of 1 rem/h (1000 mrem/h).

    b. Minimizing dose rate for safety and facility licensing purposes

c. Extended irradiation would produce additional isotopes which would be more difficult to transport and dispose of

d. Minimize the time for longer lived fission product daughters build up

2. Four EPDs were placed around the sample at a distance of 40 cm

3. EPDs 1 and 2 were set to collect dose rate data at a collection frequency of 10 seconds for 1.5 hours

4. EPDs 3 and 4 were set to collect dose rate data at a collection frequency of 1 minute for 1.5 hours

5. 1.5 hours into the experiment, EPDs 1 though 4 were set to collect dose rate data at a collection frequency of 10 minutes for about 6 days.

Evaluation:

Once the data was collected, EPDs 1, 2, 3, and 4 were tested using Welch's Test (a t-test with different variances and sample sizes) to ensure the collected data matched between stations. Also the data were transcribed into Microsoft Excel (Microsoft, Redmond, WA) and a graph of dose rate versus time was produced on a log-log scale. Using Excel, a trendline, the equation for the trend line, and the corresponding R^2 value were produced.

RESULTS

The experiment was started on 28 Dec 11 at 10:30 am. Each EPD was placed 0.40 meters 40 centimeters, cm) away from the irradiated uranium and collected data for about six days. Appendices C through F contain the data collected by the EPDs. Table 7 contains the total sample size, standard deviation, and variance for the data collected by each EPD.

Table 7: EPD Collected Sample Size, Standard Deviation, and Variance

EPD	Sample Size (n)	Standard Deviation (s)	Variance (s^2)
1	943	80.6	6496.4
2	900	81.3	6609.7
3	578	70.9	5026.8
4	587	65.1	4238.0

As seen in Table 7, each EPD collected a different sample size with its own standard deviation and variance. Since the EPDs were initially set at different collection frequencies, Welch's test was used to evaluate the EPD data for two different cases. Case 1 is where EPDs 1 & 2 were set to collect data every 10 seconds and EPDs 3 & 4 were set to collect data every 1 minute. Case 2 is where EPDs 1 through 4 were set to collect data every 10 minutes. The equation for Welch's Test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}, \quad (10)$$

Table 8: Variables for Welch's Test for the First 1.5 hours (Case 1, collection frequency 10 seconds for EPDs 1 & 2, 1 minute for EPDs 3 & 4)

EPD	Mean ($\bar{X}$)	s	s^2	n	s^2/n
1	87.39	102.3	10470.8	419	24.99
2	84.33	101.9	10398.1	416	24.99
3	108.72	153.1	23439.6	87	269.42
4	106.96	137.6	18941.0	87	217.7

Table 9: Calculated *t*-Values between the EPDs (Case 1, collection frequency 10 seconds for EPDs 1 & 2, 1 minute for EPDs 3 & 4)

EPDs Compared	*t*-Value
1 to 2	0.43
1 to 3	-1.24
1 to 4	-1.26
2 to 3	-1.42
2 to 4	-1.45
3 to 4	-0.080

The calculated *t*-value shows a bigger statistical difference between the EPDs than in in Case 2 (see Tables 10 and 11 below). This is expected because the EPDs started collecting data at different times and at different collection frequencies. Case 2 is a better time period to examine as all the EPDs are set to the same collection frequency and differences in the start times are negligible compared to the collection frequency.

Table 10: Variables for Welch's Test (Case 2, collection frequency of 10 minutes for EPDs 1, 2, 3 & 4)

EPD	$\bar{X}$	s	s^2	n	s^2/n
1	1.009	2.17	4.71	524	0.00899
2	1.015	2.07	4.28	484	0.00884
3	1.003	1.99	3.96	491	0.00807
4	1.017	1.98	3.91	500	0.00781

Table 11: Calculated *t*-Values between the EPDs (Case 2, collection frequency of 10 minutes for EPDs 1, 2, 3 & 4)

EPDs Compared	*t*-Value
1 to 2	-0.045
1 to 3	0.046
1 to 4	-0.062
2 to 3	0.092
2 to 4	-0.015
3 to 4	-0.11

Case 2 shows that when the collection frequencies of the EPDs are the same, the calculated *t*-values are small, meaning the data collected at each of the EPDs resulted from measurements of the same quantity.

EPD Results:

The collected data from the EPDs is contained in Appendices C through F. The dose rate as a function of time for each EPD was graphed on a log-log plot and is presented in figures 6 through 9.

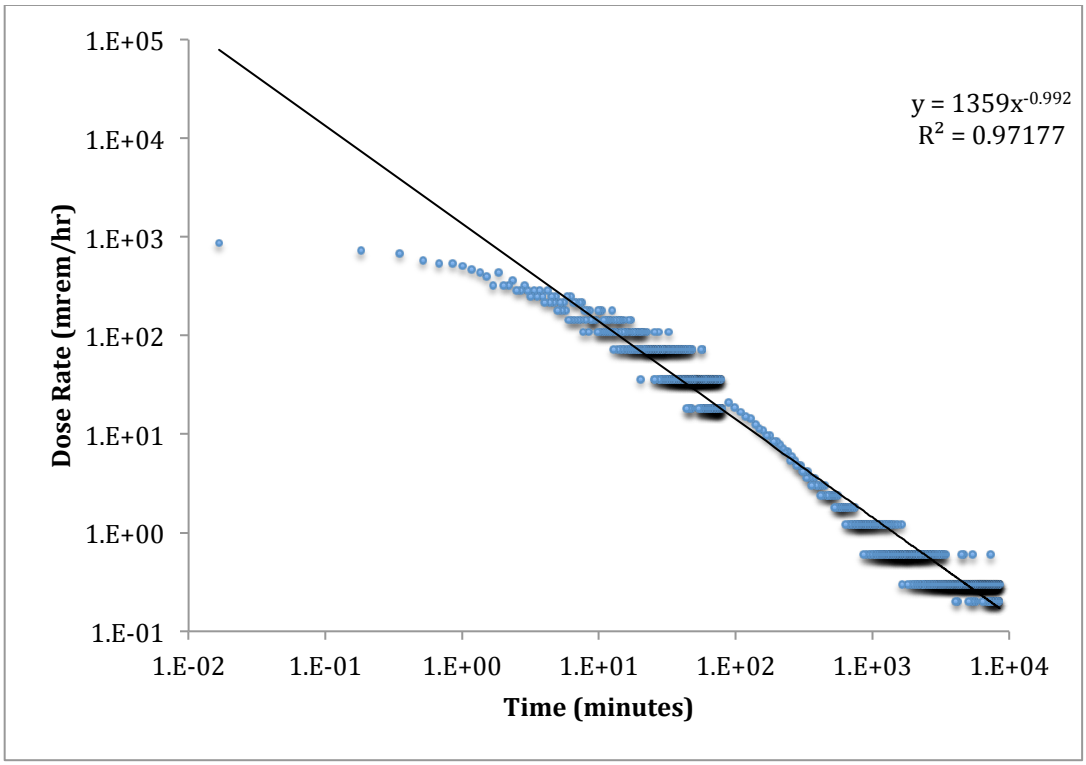

Figure 6: Log-Log Plot of EPD 1 Data

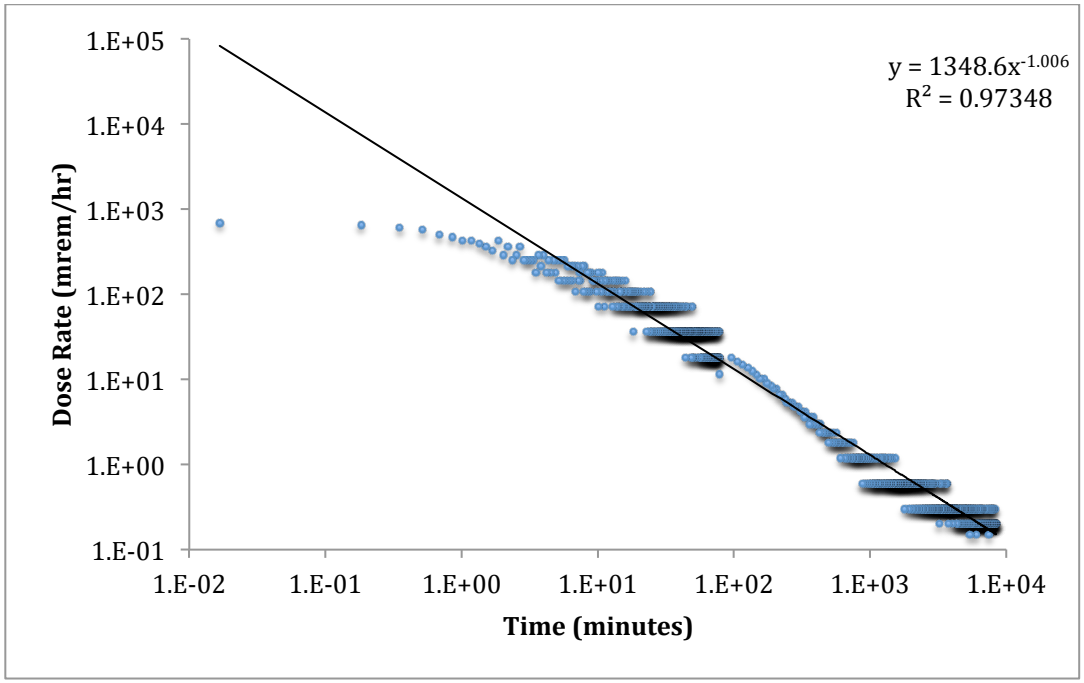

Figure 7: Log-Log Plot of EPD 2 Data

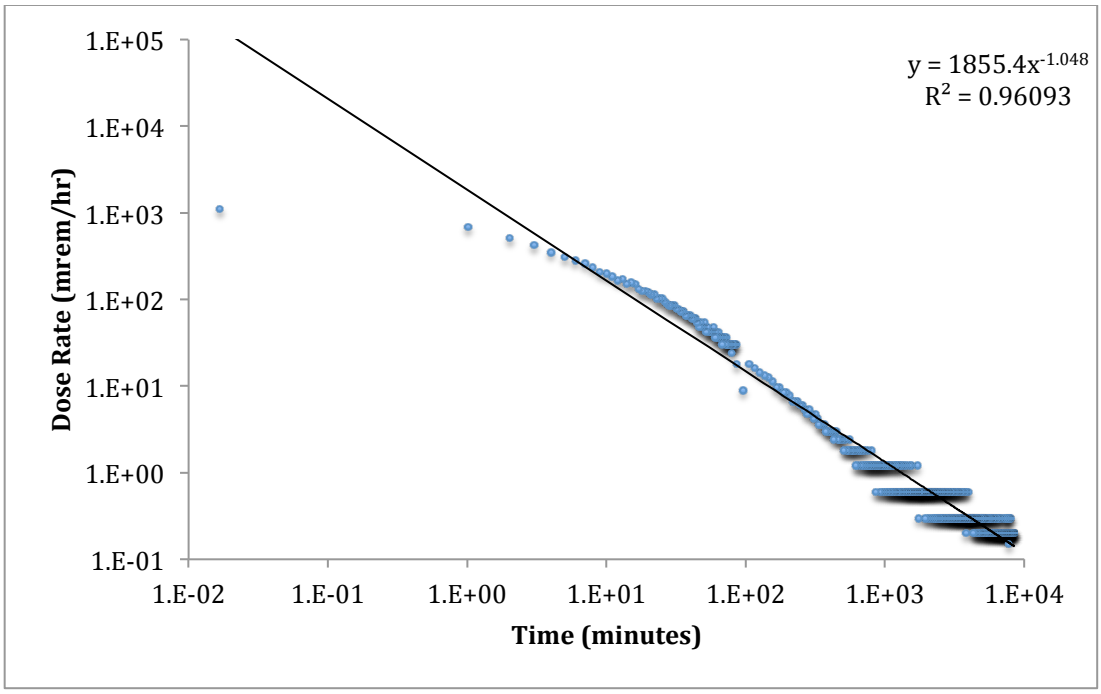

Figure 8: Log-Log Plot of EPD 3 Data

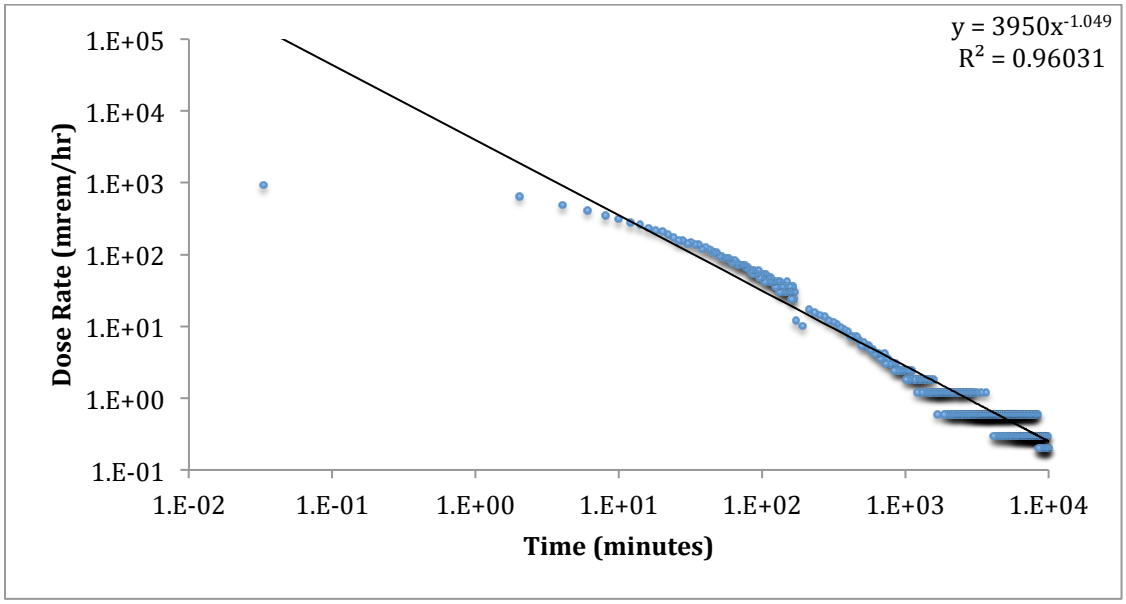

Figure 9: Log-Log Plot of EPD 4 Data

Table 12: Summary of Equations and R^2 Values

EPD	Equation	R^2 Value
1	$\dot{D} = 1359t^{-0.992}$	0.97177
2	$\dot{D} = 1349t^{-1.006}$	0.97348
3	$\dot{D} = 1855t^{-1.048}$	0.96093
4	$\dot{D} = 3950t^{-1.049}$	0.96031

Each of the equations for the dose rate as a function of time is consistent and the R^2 values show a good equation fit. The time rate of change of dose rate of fresh fission products from a reactor follows a predictable rate.

DISCUSSION

Based on figures 6 through 9, fresh fission products from a reactor follow a predictable rate of decay. Comparing the different equations describing the dose rate as a function of time of each of the EPDs yields the following graph:

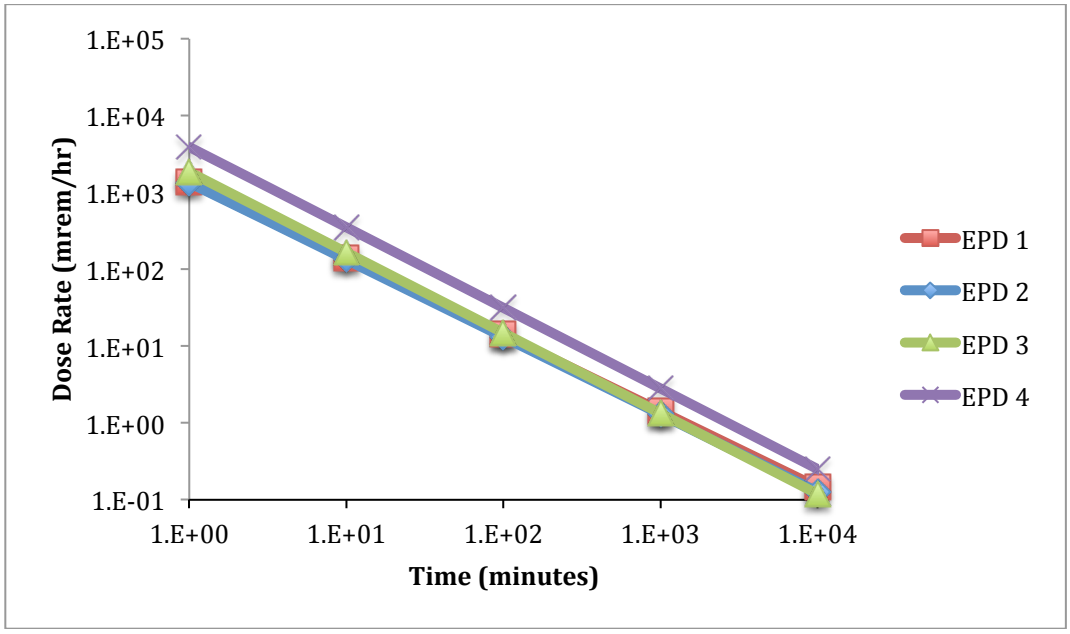

Figure 10: Comparison of EPD Equations

Each equation from the EPDs was evaluated for the time points ranging from 1 to 10^4 minutes in the generation of figure 10. As can be seen in figure 10, the EPDs show an intercept, which is relatively close together, and exhibit very similar slopes. Two methods are readily available to combine all the equations from table 11 into one and determine an overall equation for the change in dose rate. Method 1 is to combine all the data from each of the EPDs, plot, and determine an equation. Method 2 is to average all the parameters of each of the equations, plot, and determine an equation.

Starting with method 1, the data from all the EPDs were imported into one Excel spreadsheet and sorted by collection time. These data were then put into a log-log plot of dose rate as a function of time, and the following graph was generated:

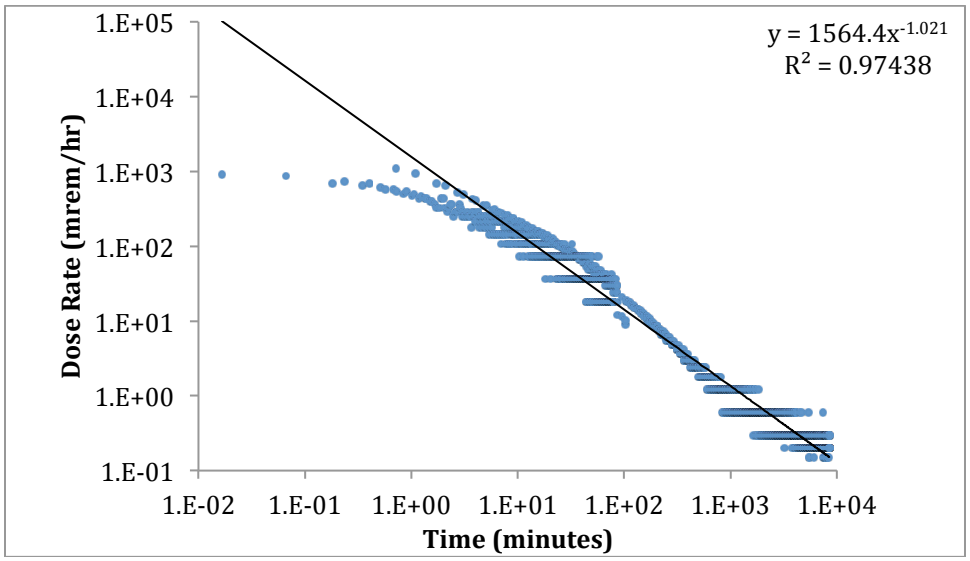

Figure 11: Method 1 Log-Log Graph of All EPD Data

A table comparing the values calculated at given intervals as compared to the values of each individual EPD was created; the following table enumerates the results

Table 13: Method 1 Comparison of Equations

Time (minutes)	Combined EPDs $1564.4t^{-1.021}$	EPD 1 $1359t^{-0.992}$	EPD 2 $1348.6t^{-1.006}$	EPD 3 $1855.4t^{-1.048}$	EPD 4 $3950t^{-1.049}$
1	1564	1359	1349	1855	3950
10	149	138	133	166	353
100	14.1	14	13	15	32
1,000	1.4	1.4	1.3	1.3	2.8
10,000	0.13	0.15	0.13	0.12	0.25
100,000	0.012	0.015	0.013	0.011	0.023
1,000,000	0.0012	0.0015	0.0012	0.00096	0.0020

The value calculated by combining all the EPD data is very similar to each individual EPD. Also the calculated slope of the combined results is close to the average of the four EPDs. The next step was to combine all of the parameters of the four equations in the following manner:

Table 14: Method 2 Parameters

EPD	Front Factor	Dependent Variable	Slope
1	1359	t	-0.992
2	1349	t	-1.006
3	1855	t	-1.048
4	3950	t	-1.049
Average	2128	t	-1.024

The overall average produces an equation for all the EPDs of $2128t^{-1.024}$. As with method 1, the average calculated value of the EPDs can be compared with the values of each individual EPD.

Table 15: Method 2 Comparison of Values

Time (minutes)	Combined EPDs $2128t^{-1.024}$	EPD 1 $1359t^{-0.992}$	EPD 2 $1348.6t^{-1.006}$	EPD 3 $1855.4t^{-1.048}$	EPD 4 $3950t^{-1.049}$
1	2128	1359	1349	1855	3950
10	201	138	133	166	353
100	19	14	13	15	32
1,000	1.8	1.4	1.3	1.3	2.8
10,000	0.17	0.15	0.13	0.12	0.25
100,000	0.016	0.015	0.013	0.011	0.023
1,000,000	0.0011	0.0015	0.0012	0.00096	0.0020

Method 2 shows a similar result as Method 1. The most important aspect is that Method 1 and Method 2 have similar slopes. Thus, regardless of the initial dose rate, the dose rate will decrease at a predictable rate proportional to $t^{-1.024}$. The constant value associated with the time (t) is calculated at time 1 in Excel. For example, if the original dose rate for the experiment was 100,000 mrem/h, the calculated value in front of the t term would have been closer to 100,000, but the slope would have remained at $t^{-1.024}$.

The slope for fresh fission products from a reactor shows similar characteristics as determined by others (Way/Wigner, 1948, Department of Defense, et. al.) for fresh fission products from nuclear weapons. The slope of the dose rate from fresh fission products from nuclear weapons is given as $t^{-1.2}$, often referred to as the rule of 7 and 10s; which means for every 7 units of time that pass, the dose rate decreases by a factor of 10 (Wood, et al, 1977).

Figure 12 compares the time rate of change of dose rate between reactors using $t^{-1.024}$, the dose rate versus time for fission products from a nuclear weapon using the rule of 7 and 10s, and the functional dependence on $t^{-1.2}$.

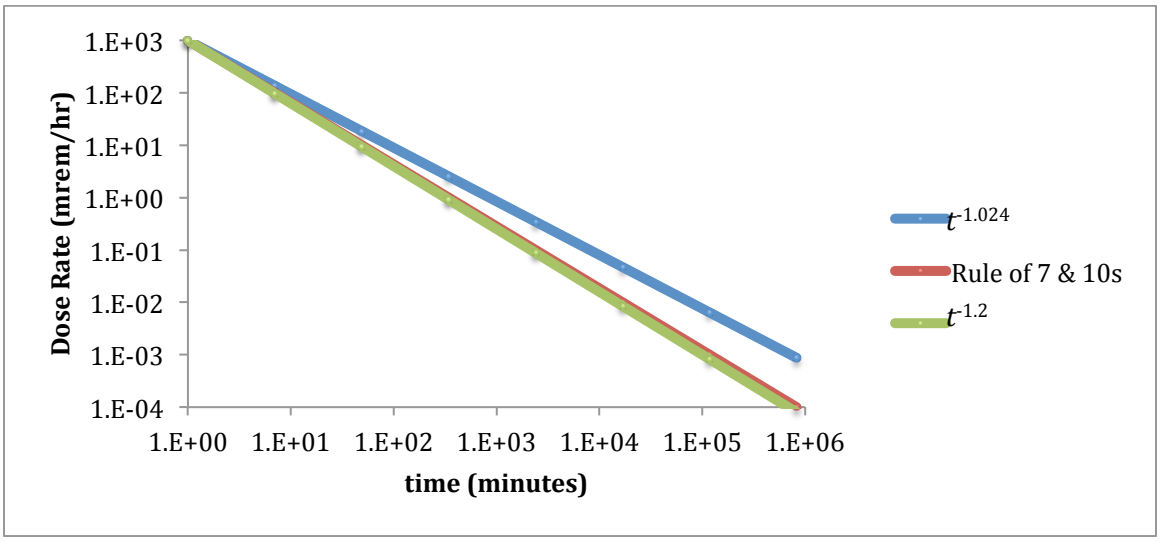

Figure 12: Comparison of Nuclear Reactor and Weapons

There is a clear similarity between the $t^{-1.2}$ and the rule of 7 and 10s; however, comparing the $t^{-1.024}$ slope diverges fairly quickly from the other two plots.

A general rule for fresh fission fragments from a reactor would be a proposed rule of 10. The dose rate from fresh fission products decreases by a factor of 10 for every 10 units of time. Figure 13 shows a comparison between the $t^{-1.024}$ slope and the rule of 10s:

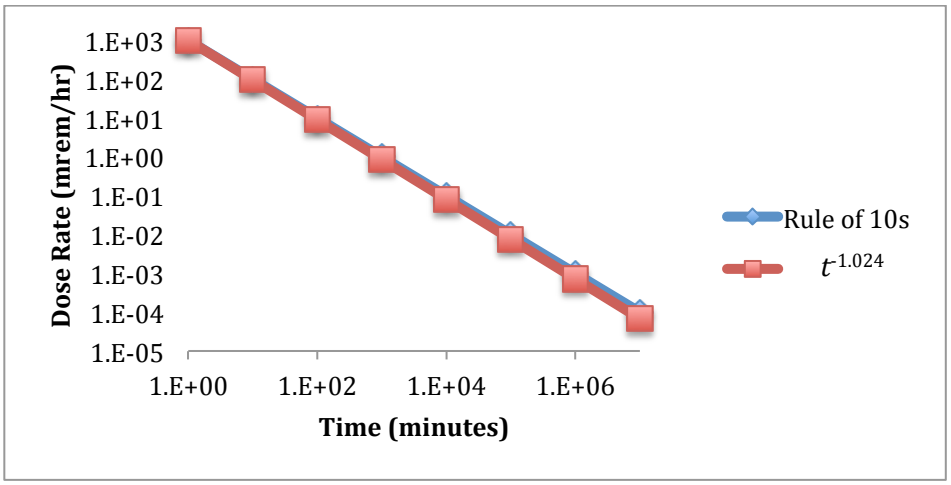

Figure 13: Comparison of Nuclear Reactor and Rule of 10s

The graph displays the strong relationship between the proposed rule of 10s and the $t^{-1.024}$ slope. Table 16 shows the percent difference between the rule of 7s & 10s, Rule of 10s and $t^{-1.024}$ slope:

Table 16: Percent Difference Between Rule of 7s & 10s, Rule of 10s and $t^{-1.024}$

Time (minutes)	Rule of 7s & 10s	$t^{-1.024}$	**% Difference Between $t^{-1.024}$ and 7s & 10s**	Rule of 10s	$t^{-1.024}$	**% Difference Between $t^{-1.024}$ and Rule of 10s**
1	1,000	1,000	**0**	1,000	1,000	**0**
10	63.1	94.6	**0.369**	100	94.6	**5.4**
100	3.98	8.95	**0.602**	10	8.95	**10.5**
1,000	0.251	0.847	**0.749**	1	0.847	**15.3**
10,000	0.0158	0.0802	**0.842**	0.1	0.0802	**19.8**
100,000	0.00100	0.00759	**0.900**	0.01	0.00759	**24.1**
1,000,000	0.0000631	0.000718	**0.937**	0.001	0.000718	**28.2**
10,000,000	0.00000598	0.0000679	**0.940**	0.0001	0.0000679	**32.1**

As seen in figure 13, the initial values of the proposed Rule of 10 and the $t^{-1.024}$ slope are reasonably close. Using the data in table 16, the fit of data for the Rule of 10s and the $t^{-1.024}$ slope is fairly good (even at 10,000,000 minutes, approximately 19 years the percent difference is around 30%). Even better, the proposed Rule of 10s is always higher than the $t^{-1.024}$ slope, meaning the thumb rule would always err at a higher dose rate. However, as can be seen in table 16, the Rule of 7s and 10s does quickly deviates from the $t^{-1.024}$ slope very quickly. Worse than the percent difference, the rule of 7s and 10s is always lower than the $t^{-1.024}$ slope, meaning the rule of 7s and 10s always underestimates the actual dose rate; overall the Rule of 7s and 10s is not a good estimation of dose rate of fresh fission products from a reactor.

CONCLUSION

This experiment showed that the dose rate of fresh fission products from a natural uranium sample irradiated in a mixed neutron flux followed a predictable rate with a slope of

$t^{-1.024}$. As a general rule from the functional dependence of that dose rate on time elapsed since irradiation, the initial dose rate from the fission products should be multiplied by $t^{-1.024}$ to determine the dose rate at any given time.

Historical values obtained for the dose rate of fresh fission products from nuclear weapons ($t^{-1.2}$, rule of 7 and 10s) followed a similar decay pattern exhibited on a log-log plot, however the decrease in dose rate was much more rapid than shown in this experiment.

The dose rate of fresh fission products from a reactor follows a $t^{-1.024}$ slope and a general thumb rule of 10s can be used to model the dose rate.

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Appendix A – Fission Product Yields

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Ce	142	2.63E+22	9.40E-25	1.79E-25	1.25E-26	1.13E-24	4.18E-17
Sm	149	5.26E+21	4.57E-30	7.18E-31	2.69E-32	5.31E-30	1.96E-22
Cd	113	4.73E+21	7.68E-30	5.01E-30	3.07E-32	1.27E-29	4.70E-22
Nd	144	1.20E+21	1.12E-13	7.07E-28	3.82E-31	1.12E-13	4.14E-06
In	115	2.63E+20	8.71E-29	4.57E-29	3.98E-31	1.33E-28	4.92E-21
Rb	87	2.50E+16	1.41E-17	3.51E-18	5.20E-19	1.81E-17	6.70E-10
Cs	135	1.21E+12	5.70E-14	1.12E-14	2.76E-15	7.10E-14	2.63E-06
Zr	93	7.89E+11	2.44E-14	4.13E-15	2.48E-16	2.88E-14	1.07E-06
Tc	99	1.10E+11	1.56E-16	2.90E-17	1.62E-18	1.87E-16	6.92E-09
Sn	126	5.26E+10	1.19E-10	8.52E-11	2.79E-11	2.32E-10	8.58E-03
Se	79	3.42E+10	4.52E-14	2.66E-14	1.82E-15	7.37E-14	2.73E-06
Ho-Meta	166	6.31E+08	2.09E-17	6.31E-18	2.53E-17	5.25E-17	1.94E-09
Tb	158	7.89E+07	2.14E-16	4.04E-17	5.00E-18	2.59E-16	9.58E-09
Sm	151	4.73E+07	1.41E-12	2.27E-13	1.48E-14	1.65E-12	6.11E-05
Sn-Meta	121	2.89E+07	1.35E-10	1.88E-10	7.76E-12	3.31E-10	1.22E-02
Cs	137	1.59E+07	5.31E-07	9.48E-07	6.36E-08	1.54E-06	5.70E+01
Sr	90	1.53E+07	6.76E-07	1.48E-07	6.60E-09	8.31E-07	3.07E+01
Cd-Meta	113	7.68E+06	1.59E-14	1.16E-14	7.09E-17	2.76E-14	1.02E-06
Nb-Meta	93	6.31E+06	1.89E-14	2.22E-15	9.93E-17	2.12E-14	7.84E-07
Kr	85	5.64E+06	6.35E-07	3.61E-08	3.18E-09	6.74E-07	2.49E+01
Eu	154	4.63E+06	5.89E-12	8.86E-13	1.61E-13	6.93E-12	2.56E-04
Eu	155	2.48E+06	1.49E-10	2.93E-11	7.68E-12	1.86E-10	6.88E-03
Sb	125	1.45E+06	2.65E-09	1.73E-09	9.51E-09	1.39E-08	5.14E-01
Pm	147	1.38E+06	2.53E-13	4.12E-14	1.86E-15	2.97E-13	1.10E-05
Tm	171	1.01E+06	0.00E+00	0.00E+00	7.61E-16	7.61E-16	2.82E-08
Ru	106	5.36E+05	2.37E-10	1.07E-10	6.54E-11	4.10E-10	1.52E-02

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Sn-Meta	119	4.22E+05	3.79E-11	4.05E-11	4.06E-13	7.89E-11	2.92E-03
Ce	144	4.10E+05	1.18E-05	2.71E-06	3.15E-07	1.49E-05	5.51E+02
Sn	123	1.86E+05	6.08E-07	1.41E-06	1.62E-07	2.18E-06	8.07E+01
Te-Meta	127	1.57E+05	2.17E-11	1.32E-11	1.67E-13	3.51E-11	1.30E-03
Tb	160	1.04E+05	3.83E-11	7.10E-12	1.64E-12	4.70E-11	1.74E-03
Zr	95	9.22E+04	1.94E-04	1.06E-05	1.22E-06	2.05E-04	7.59E+03
Sb	124	8.67E+04	1.23E-08	1.33E-07	6.95E-09	1.53E-07	5.66E+00
Y	91	8.42E+04	5.50E-07	1.35E-07	9.50E-09	6.94E-07	2.57E+01
Te-Meta	125	8.35E+04	3.87E-14	3.20E-14	2.18E-10	2.18E-10	8.07E-03
Sr	89	7.27E+04	3.38E-05	7.55E-07	5.74E-08	3.46E-05	1.28E+03
Cd-Meta	115	6.42E+04	1.21E-08	2.49E-09	5.59E-11	1.46E-08	5.40E-01
Ru	103	5.65E+04	5.87E-08	1.16E-08	1.21E-09	7.16E-08	2.65E+00
Nb-Meta	95	5.04E+04	2.96E-07	5.81E-09	4.13E-10	3.02E-07	1.12E+01
Te-Meta	129	4.84E+04	4.06E-08	1.61E-08	2.16E-09	5.89E-08	2.18E+00
Ce	141	4.68E+04	1.50E-08	4.54E-08	1.74E-10	6.06E-08	2.24E+00
Eu	156	2.19E+04	1.04E-07	2.50E-08	9.80E-09	1.39E-07	5.14E+00
Pr	143	1.95E+04	3.25E-09	5.47E-10	2.95E-11	3.83E-09	1.42E-01
Ba	140	1.84E+04	3.75E-03	8.52E-04	1.31E-04	4.73E-03	1.75E+05
Sb	126	1.79E+04	5.12E-06	2.93E-07	3.44E-08	5.45E-06	2.02E+02
Xe-Meta	131	1.71E+04	2.85E-09	9.28E-10	1.66E-11	3.80E-09	1.41E-01
Nd	147	1.58E+04	6.01E-07	1.18E-07	8.21E-09	7.28E-07	2.69E+01
Sn	125	1.39E+04	8.65E-05	1.09E-04	4.41E-05	2.39E-04	8.84E+03
Er	169	1.35E+04	3.39E-13	1.10E-13	1.58E-12	2.03E-12	7.51E-05
I	131	1.16E+04	4.76E-05	6.16E-06	6.14E-12	5.37E-05	1.99E+03
Tb	161	9.95E+03	8.41E-10	5.08E-10	1.43E-10	1.49E-09	5.51E-02
Cs	132	9.32E+03	1.11E-09	1.86E-12	2.76E-13	1.11E-09	4.11E-02
Sb-Meta	120	8.29E+03	2.20E-12	3.63E-12	3.08E-14	5.86E-12	2.17E-04
Xe	133	7.55E+03	1.24E-05	1.28E-05	4.99E-06	3.02E-05	1.12E+03

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Sb	127	5.53E+03	1.80E-04	2.95E-05	3.31E-06	2.13E-04	7.88E+03
Nb-Meta	95	5.20E+03	6.70E-07	1.15E-08	8.15E-10	6.82E-07	2.52E+01
Dy	166	4.90E+03	1.14E-09	6.31E-10	4.81E-09	6.58E-09	2.43E-01
Te	132	4.69E+03	4.58E-02	1.50E-02	9.05E-03	6.99E-02	2.59E+06
Mo	99	3.96E+03	1.52E-03	1.21E-05	1.04E-06	1.54E-03	5.70E+04
Y	90	3.84E+03	3.28E-07	7.88E-08	5.70E-09	4.12E-07	1.52E+01
Tm	172	3.82E+03	6.18E-14	1.95E-14	7.30E-12	7.38E-12	2.73E-04
Cu	67	3.72E+03	3.66E-11	9.03E-11	3.83E-10	5.10E-10	1.89E-02
Ni	66	3.28E+03	2.48E-10	9.97E-10	2.22E-09	3.47E-09	1.28E-01
Cd	115	3.21E+03	3.95E-08	1.33E-08	2.99E-10	5.31E-08	1.96E+00
Pm	149	3.19E+03	1.71E-07	3.40E-08	3.34E-09	2.08E-07	7.70E+00
Xe-Meta	133	3.15E+03	8.42E-05	8.85E-05	3.49E-05	2.08E-04	7.70E+03
Er	172	2.95E+03	1.05E-11	6.06E-12	4.95E-09	4.96E-09	1.84E-01
Zn	72	2.79E+03	3.07E-07	7.22E-07	1.18E-07	1.15E-06	4.26E+01
Sm	153	2.78E+03	4.07E-06	1.00E-06	1.61E-07	5.23E-06	1.94E+02
La	140	2.42E+03	3.05E-04	5.60E-06	9.30E-07	3.11E-04	1.15E+04
As	77	2.33E+03	2.60E-07	5.39E-07	1.68E-08	8.16E-07	3.02E+01
Rh	105	2.12E+03	0.00E+00	1.91E-09	1.89E-09	3.81E-09	1.41E-01
Ce	143	1.99E+03	2.21E-03	4.62E-05	4.09E-06	2.26E-03	8.36E+04
Te-Meta	131	1.94E+03	1.68E-02	7.61E-03	1.69E-03	2.61E-02	9.66E+05
Pm	151	1.70E+03	5.31E-05	1.24E-05	2.57E-06	6.80E-05	2.52E+03
Sn	121	1.62E+03	3.12E-05	1.19E-06	4.89E-08	3.24E-05	1.20E+03
Ho	166	1.61E+03	3.54E-12	9.21E-13	3.69E-12	8.15E-12	3.02E-04
As	76	1.58E+03	1.47E-08	2.29E-08	3.20E-10	3.79E-08	1.40E+00
I	133	1.25E+03	1.86E-02	2.03E-02	1.37E-02	5.25E-02	1.94E+06
Ga	72	8.46E+02	6.41E-09	1.26E-08	1.98E-09	2.10E-08	7.77E-01
Pd	112	1.20E+03	1.50E-05	1.64E-05	7.45E-07	3.21E-05	1.19E+03
Zr	97	1.01E+03	1.52E-01	3.67E-02	9.12E-03	1.98E-01	7.33E+06

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Eu	157	9.08E+02	9.84E-06	3.45E-06	1.95E-06	1.52E-05	5.62E+02
Zn-Meta	69	8.25E+02	1.81E-10	3.84E-10	5.21E-10	1.09E-09	4.03E-02
Ge	77	6.78E+02	1.23E-04	3.10E-04	1.36E-05	4.47E-04	1.65E+04
Y	93	6.12E+02	2.50E-02	2.23E-02	5.83E-04	4.79E-02	1.77E+06
Sr	91	5.70E+02	6.18E-02	7.93E-02	1.85E-03	1.43E-01	5.29E+06
Te	127	5.64E+02	2.47E-09	1.29E-09	1.63E-11	3.77E-09	1.39E-01
Sm	156	5.64E+02	7.55E-04	2.70E-04	1.93E-04	1.22E-03	4.51E+04
Eu-Meta	152	5.58E+02	3.42E-11	5.54E-12	3.54E-13	4.01E-11	1.48E-03
Sb	128	5.46E+02	2.75E-03	5.26E-04	1.49E-04	3.43E-03	1.27E+05
Xe	135	5.46E+02	2.02E-02	1.45E-02	1.85E-03	3.66E-02	1.35E+06
Er	171	4.51E+02	4.92E-11	2.75E-11	2.52E-09	2.59E-09	9.58E-02
I	135	3.94E+02	1.04E+00	6.03E-01	3.09E-01	1.96E+00	7.25E+07
Tc-Meta	99	3.61E+02	1.13E-08	1.82E-09	1.02E-10	1.32E-08	4.88E-01
Pr	145	3.59E+02	1.30E-04	2.67E-05	2.86E-06	1.60E-04	5.92E+03
Pd-Meta	111	3.30E+02	2.01E-06	2.30E-06	2.34E-08	4.33E-06	1.60E+02
Ag	113	3.18E+02	2.39E-07	1.62E-07	5.07E-09	4.06E-07	1.50E+01
Ga	73	2.92E+02	5.82E-07	1.07E-06	1.90E-07	1.84E-06	6.81E+01
Kr-Meta	85	2.69E+02	3.08E-03	1.56E-04	1.37E-05	3.25E-03	1.20E+05
Ru	105	2.66E+02	5.85E-08	2.50E-08	1.22E-04	1.22E-04	4.51E+03
Br-Meta	80	2.65E+02	5.88E-08	2.23E-08	9.96E-10	8.21E-08	3.04E+00
Sb	129	2.64E+02	3.41E-02	1.52E-02	1.11E-02	6.04E-02	2.23E+06
Zn-Meta	71	2.38E+02	1.94E-07	4.07E-07	1.81E-07	7.83E-07	2.90E+01
La	141	2.34E+02	1.11E-02	1.31E-03	1.71E-04	1.26E-02	4.66E+05
Y	92	2.12E+02	4.73E-02	9.01E-04	9.89E-05	4.83E-02	1.79E+06
Cd-Meta	117	2.04E+02	2.57E-04	1.49E-04	1.00E-05	4.15E-04	1.54E+04
Ag	112	1.88E+02	6.20E-07	5.31E-08	8.78E-10	6.74E-07	2.49E+01
Ho	167	1.86E+02	7.78E-10	1.86E-10	1.82E-09	2.78E-09	1.03E-01
Kr	88	1.70E+02	1.43E+00	4.84E-01	1.95E-01	2.10E+00	7.77E+07

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Sr-Meta	87	1.69E+02	2.09E-07	3.83E-08	1.46E-09	2.49E-07	9.21E+00
Sr	92	1.63E+02	9.33E-01	6.54E-01	5.71E-02	1.64E+00	6.07E+07
Pm	150	1.61E+02	2.62E-05	1.03E-05	1.84E-06	3.84E-05	1.42E+03
Cd	117	1.49E+02	1.05E-04	5.39E-05	3.64E-06	1.63E-04	6.03E+03
Br	83	1.44E+02	1.90E-02	1.46E-03	1.81E-04	2.07E-02	7.66E+05
Dy	165	1.40E+02	1.54E-08	6.66E-09	2.28E-08	4.49E-08	1.66E+00
I	132	1.37E+02	1.88E-02	4.92E-03	1.31E-02	3.68E-02	1.36E+06
Tb-Meta	162	1.34E+02	4.74E-08	3.20E-08	2.35E-08	1.03E-07	3.81E+00
Sn	127	1.27E+02	9.57E-02	9.13E-02	3.52E-02	2.22E-01	8.21E+06
In-Meta	117	1.16E+02	1.04E-07	6.58E-08	1.47E-09	1.71E-07	6.33E+00
Kr-Meta	83	1.10E+02	1.98E-06	5.09E-07	2.59E-08	2.52E-06	9.32E+01
Nd	149	1.03E+02	9.27E-03	2.21E-03	4.34E-04	1.19E-02	4.40E+05
La	142	9.24E+01	1.47E-01	2.14E-02	5.13E-03	1.73E-01	6.40E+06
As	78	9.07E+01	2.02E-04	2.08E-04	1.53E-05	4.25E-04	1.57E+04
Ge	78	8.70E+01	1.12E-02	1.68E-02	1.55E-03	2.95E-02	1.09E+06
Ba	139	8.38E+01	1.16E-01	1.59E-02	2.99E-03	1.35E-01	5.00E+06
Ge	75	8.28E+01	1.16E-06	1.15E-06	4.61E-08	2.35E-06	8.70E+01
Kr	87	7.62E+01	8.53E-01	3.03E-01	4.11E-02	1.20E+00	4.44E+07
Nb-Meta	97	7.38E+01	2.06E-02	1.94E-03	2.37E-04	2.27E-02	8.40E+05
Te	129	6.96E+01	1.16E-05	3.93E-06	5.26E-07	1.60E-05	5.92E+02
Sn	128	5.91E+01	7.15E-01	5.07E-01	3.11E-01	1.53E+00	5.66E+07
Se-Meta	81	5.73E+01	1.70E-02	4.45E-03	4.07E-04	2.18E-02	8.07E+05
Rh-Meta	103	5.61E+01	1.07E-09	1.77E-10	1.26E-11	1.26E-09	4.66E-02
Zn	69	5.60E+01	6.22E-10	1.15E-09	1.56E-09	3.34E-09	1.24E-01
Te-Meta	133	5.54E+01	7.58E+00	2.44E+00	3.19E+00	1.32E+01	4.88E+08
In-Meta	116	5.42E+01	9.98E-09	7.09E-09	1.19E-10	1.72E-08	6.36E-01
I	134	5.26E+01	1.34E+00	9.35E-01	7.52E-01	3.02E+00	1.12E+08
Nb-Meta	98	5.10E+01	1.06E-01	6.50E-03	1.26E-03	1.14E-01	4.22E+06

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Cd	118	5.03E+01	4.80E-03	5.03E-03	5.13E-04	1.03E-02	3.81E+05
Eu	158	4.59E+01	3.92E-04	2.00E-04	1.52E-04	7.44E-04	2.75E+04
In	117	4.40E+01	1.17E-06	8.52E-07	1.90E-08	2.04E-06	7.55E+01
Te	134	4.20E+01	2.08E+01	9.46E+00	8.48E+00	3.87E+01	1.43E+09
Sn-Meta	123	4.01E+01	1.09E-03	2.29E-03	2.63E-04	3.64E-03	1.35E+05
Sb	130	3.84E+01	7.86E-01	2.61E-01	1.89E-01	1.24E+00	4.59E+07
Cs	138	3.22E+01	1.06E+00	1.14E+00	8.46E-02	2.28E+00	8.44E+07
Br	84	3.18E+01	8.21E-02	1.75E-02	4.25E-03	1.04E-01	3.85E+06
Te	131	2.50E+01	5.45E-01	1.99E-01	1.28E-03	7.45E-01	2.76E+07
Pr	146	2.42E+01	2.10E-02	4.99E-03	8.01E-04	2.68E-02	9.92E+05
Pd	111	2.34E+01	1.52E-05	1.46E-05	1.48E-07	3.00E-05	1.11E+03
Sb	131	2.30E+01	1.01E+01	4.31E+00	3.67E+00	1.81E+01	6.70E+08
Se	83	2.23E+01	9.01E-01	4.62E-01	1.13E-01	1.48E+00	5.48E+07
Sm	155	2.22E+01	8.29E-03	2.36E-03	1.27E-03	1.19E-02	4.40E+05
Ga	70	2.11E+01	9.78E-11	1.77E-10	1.72E-10	4.46E-10	1.65E-02
Sb-Meta	124	2.02E+01	1.68E-05	5.72E-04	2.98E-05	6.19E-04	2.29E+04
Ag	115	2.00E+01	1.36E-03	1.23E-03	1.45E-04	2.73E-03	1.01E+05
Tb	163	1.95E+01	1.54E-06	5.31E-07	2.02E-06	4.09E-06	1.51E+02
Sb-Meta	126	1.90E+01	1.27E-02	3.79E-04	4.47E-05	1.31E-02	4.85E+05
Y	94	1.87E+01	2.93E+00	2.39E+00	1.63E-01	5.48E+00	2.03E+08
Se	81	1.85E+01	7.90E-03	1.88E-03	1.72E-04	9.94E-03	3.68E+05
Ba	141	1.83E+01	1.27E+01	5.63E+00	1.11E+00	1.95E+01	7.22E+08
Tc	104	1.82E+01	7.15E-01	1.15E-01	7.83E-02	9.07E-01	3.36E+07
Eu	159	1.81E+01	1.21E-03	1.05E-03	1.09E-03	3.36E-03	1.24E+05
In-Meta	119	1.79E+01	1.25E-04	1.28E-04	7.25E-06	2.60E-04	9.62E+03
Rb	88	1.77E+01	1.77E-01	2.04E-01	1.03E-02	3.92E-01	1.45E+07
Pr	144	1.73E+01	1.17E-05	1.85E-06	1.57E-07	1.37E-05	5.07E+02
Rb	89	1.54E+01	1.87E+00	1.67E+00	5.19E-01	4.06E+00	1.50E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Xe-Meta	135	1.53E+01	1.63E+00	8.03E-01	9.25E-02	2.53E+00	9.36E+07
Mo	101	1.46E+01	1.79E+00	3.13E-01	6.36E-02	2.17E+00	8.03E+07
Tc	101	1.42E+01	1.59E-03	3.54E-04	3.80E-05	1.98E-03	7.33E+04
Xe	138	1.41E+01	4.79E+01	2.19E+01	1.30E+01	8.29E+01	3.07E+09
La	143	1.41E+01	3.79E+00	4.05E+00	2.86E-01	8.12E+00	3.00E+08
Ce	146	1.35E+01	6.07E+00	2.09E+00	5.82E-01	8.73E+00	3.23E+08
Pr	147	1.34E+01	3.77E+00	7.54E-02	1.67E-02	3.87E+00	1.43E+08
Te	133	1.24E+01	1.30E+01	1.39E+01	5.82E+00	3.28E+01	1.21E+09
Nd	151	1.24E+01	9.00E-01	2.85E-01	1.29E-01	1.31E+00	4.85E+07
Nd	152	1.14E+01	1.74E+00	6.54E-01	4.25E-01	2.82E+00	1.04E+08
Mo	102	1.13E+01	8.09E+00	2.13E+00	6.46E-01	1.09E+01	4.03E+08
Ba	142	1.07E+01	3.95E+01	1.64E+01	5.81E+00	6.17E+01	2.28E+09
Y	95	1.03E+01	1.51E+01	7.56E+00	1.95E+00	2.47E+01	9.14E+08
Sb-Meta	128	1.01E+01	8.86E-02	3.93E-02	1.11E-02	1.39E-01	5.14E+06
Sn-Meta	125	9.50E+00	1.55E-01	5.56E-02	2.26E-02	2.33E-01	8.62E+06
Cs	139	9.30E+00	1.98E+01	1.49E+01	3.36E+00	3.81E+01	1.41E+09
As	79	9.00E+00	4.15E-02	2.09E-02	3.46E-03	6.59E-02	2.44E+06
Dy	168	8.50E+00	6.01E-07	3.59E-07	3.35E-05	3.45E-05	1.28E+03
Gd	162	8.40E+00	1.14E-04	1.25E-04	1.75E-04	4.13E-04	1.53E+04
Ga	74	8.10E+00	2.53E-04	3.46E-04	5.63E-05	6.55E-04	2.42E+04
Sm	157	8.00E+00	4.69E-02	2.61E-02	3.34E-02	1.06E-01	3.92E+06
Tc	105	7.60E+00	8.96E-01	6.49E-02	9.26E-01	1.89E+00	6.99E+07
Tb-Meta	162	7.60E+00	8.35E-07	5.64E-07	4.14E-07	1.81E-06	6.70E+01
Pm-Meta	152	7.50E+00	2.60E-02	7.26E-03	2.56E-03	3.59E-02	1.33E+06
Sr	93	7.40E+00	4.88E+01	1.91E+01	6.64E+00	7.45E+01	2.76E+09
Pr-Meta	144	7.20E+00	2.50E-04	4.46E-05	3.79E-06	2.98E-04	1.10E+04
Sn-Meta	129	6.90E+00	3.99E+00	1.83E+00	2.87E+00	8.69E+00	3.22E+08
Sb-Meta	130	6.50E+00	7.71E+00	2.12E+00	1.54E+00	1.14E+01	4.22E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
By	167	6.20E+00	1.70E-06	7.07E-07	1.73E-05	1.97E-05	7.29E+02
Br-Meta	84	6.00E+00	3.91E-01	1.97E-01	4.79E-02	6.36E-01	2.35E+07
Rh-Meta	108	5.90E+00	0.00E+00	7.62E-11	2.77E-11	1.04E-10	3.85E-03
Sm	158	5.50E+00	6.13E-02	4.88E-02	6.98E-02	1.80E-01	6.66E+06
Pm	153	5.40E+00	2.29E-01	7.95E-02	4.77E-02	3.56E-01	1.32E+07
Cu	66	5.10E+00	3.94E-10	1.46E-09	3.46E-09	5.32E-09	1.97E-01
Ho	169	4.70E+00	6.66E-08	3.96E-08	2.47E-06	2.58E-06	9.55E+01
Ru	108	4.50E+00	5.21E-04	7.20E-04	6.09E-04	1.85E-03	6.85E+04
Tc-Meta	102	4.40E+00	3.05E-01	7.32E-03	1.41E-03	3.14E-01	1.16E+07
In-Meta	118	4.40E+00	5.39E-05	4.34E-05	1.23E-06	9.85E-05	3.64E+03
Rb-Meta	90	4.30E+00	2.31E+01	1.06E+01	2.96E+00	3.66E+01	1.35E+09
Sb	132	4.20E+00	4.35E+01	2.70E+01	3.09E+01	1.01E+02	3.74E+09
Sn-Meta	127	4.15E+00	2.68E-01	9.81E-01	3.78E-01	1.63E+00	6.03E+07
Pm	152	4.10E+00	4.76E-02	1.33E-02	4.68E-03	6.56E-02	2.43E+06
Se-Meta	79	3.89E+00	5.96E-05	3.19E-05	2.18E-06	9.37E-05	3.47E+03
Xe	137	3.82E+00	1.17E+02	6.10E+01	2.55E+01	2.04E+02	7.55E+09
Ru	107	3.80E+00	1.83E-04	1.46E-04	1.21E-04	4.49E-04	1.66E+04
In-Meta	121	3.80E+00	1.20E-02	1.46E-02	3.49E-03	3.01E-02	1.11E+06
Cu-Meta	68	3.79E+00	2.73E-07	6.46E-07	2.78E-06	3.70E-06	1.37E+02
Sn	130	3.70E+00	4.10E+01	2.36E+01	4.02E+01	1.05E+02	3.89E+09
I-Meta	134	3.70E+00	1.38E+01	6.03E+00	7.75E+00	2.76E+01	1.02E+09
Gd	161	3.66E+00	4.26E-04	4.08E-04	2.61E-04	1.09E-03	4.03E+04
Se	84	3.30E+00	2.69E+01	1.19E+01	4.75E+00	4.35E+01	1.61E+09
Kr	89	3.15E+00	1.53E+02	5.36E+01	1.85E+01	2.26E+02	8.36E+09
Ce	145	3.00E+00	4.00E+00	2.02E+00	3.82E-01	6.40E+00	2.37E+08
Tb	164	3.00E+00	8.43E-06	6.95E-06	5.05E-05	6.59E-05	2.44E+03
Ho	168	3.00E+00	5.43E-08	1.88E-08	8.23E-07	8.96E-07	3.32E+01
Cs-Meta	138	2.90E+00	1.08E+01	2.62E+00	9.39E-01	1.44E+01	5.33E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Br	85	2.87E+00	1.15E+01	4.23E+00	1.24E+00	1.70E+01	6.29E+08
Cu	69	2.80E+00	5.72E-06	1.31E-05	3.73E-05	5.62E-05	2.08E+03
Sb-Meta	132	2.80E+00	4.33E+01	3.63E+01	4.09E+01	1.20E+02	4.44E+09
Ho	170	2.80E+00	2.47E-08	2.78E-08	6.15E-06	6.20E-06	2.29E+02
Pm-Meta	154	2.70E+00	2.81E-01	8.97E-02	1.25E-01	4.96E-01	1.84E+07
Cd	119	2.69E+00	1.28E-01	1.43E-01	3.07E-02	3.02E-01	1.12E+07
Ag	116	2.68E+00	2.48E-01	3.20E-02	8.88E-03	2.89E-01	1.07E+07
Rb-Meta	90	2.60E+00	7.51E+00	3.28E+00	9.74E-01	1.18E+01	4.37E+08
Nb-Meta	99	2.60E+00	2.20E+01	3.61E+00	1.01E+00	2.66E+01	9.84E+08
Ba-Meta	137	2.55E+00	7.33E-03	1.63E-03	2.32E-04	9.19E-03	3.40E+05
Sb	133	2.50E+00	1.27E+02	4.01E+01	1.12E+02	2.79E+02	1.03E+10
Pd	114	2.48E+00	2.36E-01	2.55E-01	5.16E-02	5.42E-01	2.01E+07
Zn	71	2.40E+00	4.51E-06	8.28E-06	3.68E-06	1.65E-05	6.11E+02
Sn	129	2.40E+00	1.35E+01	1.51E+01	2.35E+01	5.21E+01	1.93E+09
In	119	2.30E+00	2.88E-02	4.85E-03	2.76E-04	3.39E-02	1.25E+06
Pr	149	2.30E+00	1.81E+01	4.28E+00	3.02E+00	2.54E+01	9.40E+08
Pr	148	2.27E+00	4.81E+00	1.63E+00	6.95E-01	7.13E+00	2.64E+08
Cd-Meta	119	2.20E+00	1.44E-01	1.75E-01	3.75E-02	3.56E-01	1.32E+07
Ga	75	2.10E+00	1.29E-02	1.58E-02	1.51E-03	3.02E-02	1.12E+06
Tb	165	2.10E+00	1.88E-05	1.42E-05	2.05E-04	2.38E-04	8.81E+03
Pm	154	1.70E+00	4.47E-01	1.43E-01	1.99E-01	7.88E-01	2.92E+07
Pd	113	1.64E+00	9.93E-02	8.21E-02	9.24E-03	1.91E-01	7.07E+06
Zn	74	1.60E+00	2.20E-02	3.45E-02	6.59E-03	6.31E-02	2.33E+06
I	136	1.39E+00	1.33E+02	8.79E+01	8.63E+01	3.07E+02	1.14E+10
Rh	109	1.34E+00	2.16E-04	2.59E-04	4.20E-09	4.75E-04	1.76E+04
Dy-Meta	165	1.26E+00	2.55E-07	1.01E-07	3.45E-07	7.01E-07	2.59E+01
Sr	94	1.25E+00	5.07E+02	2.00E+02	1.09E+02	8.16E+02	3.02E+10
Ag	117	1.22E+00	1.75E-01	2.75E-01	1.06E-01	5.57E-01	2.06E+07

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Se-Meta	83	1.17E+00	4.02E+00	1.80E+00	4.40E-01	6.26E+00	2.32E+08
Ag-Meta	113	1.14E+00	4.46E-04	3.31E-04	1.04E-05	7.88E-04	2.92E+04
Mo	103	1.13E+00	1.29E+02	4.66E+01	2.98E+01	2.06E+02	7.62E+09
Gd	163	1.13E+00	4.74E-04	2.75E-04	2.55E-03	3.30E-03	1.22E+05
Ag-Meta	111	1.08E+00	1.08E-07	1.29E-07	2.77E-10	2.37E-07	8.77E+00
Cs	140	1.06E+00	2.74E+02	1.90E+02	7.54E+01	5.40E+02	2.00E+10
Mo	104	1.00E+00	1.59E+02	7.92E+01	9.74E+01	3.35E+02	1.24E+10
Nb-Meta	97	9.68E-01	3.55E-01	3.03E-02	3.71E-03	3.89E-01	1.44E+07
Rb	91	9.67E-01	3.24E+02	1.37E+02	6.30E+01	5.24E+02	1.94E+10
Ce-Meta	139	9.33E-01	1.06E-07	1.59E-08	9.85E-10	1.23E-07	4.55E+00
Ce	147	9.33E-01	1.50E+02	5.41E+01	2.55E+01	2.30E+02	8.51E+09
Ce	148	9.33E-01	1.87E+02	8.20E+01	7.21E+01	3.41E+02	1.26E+10
Br	87	9.32E-01	1.91E+02	1.01E+02	6.36E+01	3.56E+02	1.32E+10
Br	86	9.25E-01	3.49E+01	1.61E+01	8.91E+00	5.99E+01	2.22E+09
Tc	103	9.00E-01	1.28E+01	6.92E-01	2.15E-01	1.37E+01	5.07E+08
Ge-Meta	77	8.83E-01	1.42E-02	3.24E-02	1.41E-03	4.79E-02	1.77E+06
Cd	120	8.47E-01	1.39E+00	1.86E+00	7.96E-01	4.05E+00	1.50E+08
Ge-Meta	75	8.15E-01	7.86E-04	8.50E-04	3.43E-05	1.67E-03	6.18E+04
Pm	155	8.00E-01	2.21E+00	9.90E-01	2.08E+00	5.29E+00	1.96E+08
Pd	115	7.83E-01	1.28E+00	1.53E+00	6.09E-01	3.42E+00	1.27E+08
In-Meta	123	7.83E-01	4.50E-02	3.32E-01	2.29E-01	6.06E-01	2.24E+07
I-Meta	136	7.83E-01	2.24E+02	1.22E+02	1.54E+02	5.01E+02	1.85E+10
Cu-Meta	70	7.83E-01	8.00E-05	1.81E-04	4.27E-04	6.88E-04	2.55E+04
In-Meta	120	7.67E-01	5.77E-02	4.54E-02	6.57E-03	1.10E-01	4.07E+06
Gd	164	7.50E-01	2.79E-04	3.81E-04	5.65E-03	6.31E-03	2.33E+05
Ho-Meta	170	7.17E-01	9.66E-08	1.09E-07	2.40E-05	2.42E-05	8.95E+02
Gd	165	7.05E-01	1.23E-04	1.55E-04	5.72E-03	6.00E-03	2.22E+05
La	144	6.78E-01	2.22E+02	1.80E+02	2.80E+01	4.30E+02	1.59E+10

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Rh-Meta	105	6.67E-01	0.00E+00	8.32E-07	8.22E-07	1.65E-06	6.11E+01
Sn	132	6.67E-01	1.25E+02	3.18E+01	2.54E+02	4.11E+02	1.52E+10
Xe	139	6.62E-01	9.17E+02	3.78E+02	4.47E+02	1.74E+03	6.44E+10
Se	85	6.50E-01	9.66E+01	5.42E+01	3.41E+01	1.85E+02	6.85E+09
Sn	131	6.50E-01	1.90E+02	1.41E+02	3.18E+02	6.49E+02	2.40E+10
Eu	160	6.33E-01	2.00E-02	2.38E-02	4.56E-02	8.93E-02	3.30E+06
Mo	105	6.00E-01	1.56E+02	1.01E+02	3.01E+02	5.58E+02	2.06E+10
Tc	106	6.00E-01	6.27E+00	1.13E+00	3.79E+00	1.12E+01	4.14E+08
Ru	109	5.75E-01	4.18E-01	4.59E-01	2.48E-02	9.02E-01	3.34E+07
As	81	5.50E-01	1.56E+01	8.20E+00	2.28E+00	2.60E+01	9.62E+08
Kr	90	5.38E-01	1.15E+03	4.93E+02	3.10E+02	1.95E+03	7.22E+10
Cu	68	5.17E-01	8.56E-07	1.75E-06	7.56E-06	1.02E-05	3.77E+02
Zr	98	5.12E-01	7.05E+02	2.63E+02	8.56E+01	1.05E+03	3.89E+10
Ge	80	4.92E-01	2.91E+01	1.84E+01	4.29E+00	5.18E+01	1.92E+09
Rh-Meta	110	4.83E-01	1.64E-02	1.82E-02	3.23E-07	3.46E-02	1.28E+06
Ga	76	4.83E-01	3.05E-01	6.41E-01	3.00E-02	9.76E-01	3.61E+07
Nd	153	4.82E-01	3.24E+01	1.40E+01	2.08E+01	6.71E+01	2.48E+09
Eu	161	4.50E-01	1.42E-02	2.24E-02	6.03E-02	9.69E-02	3.59E+06
Pm	156	4.45E-01	2.23E+00	1.29E+00	4.58E+00	8.10E+00	3.00E+08
Nd	154	4.32E-01	1.89E+01	8.66E+00	2.36E+01	5.11E+01	1.89E+09
Sr	95	4.18E-01	1.52E+03	6.90E+02	6.85E+02	2.90E+03	1.07E+11
Cs	141	4.15E-01	9.88E+02	5.55E+02	4.15E+02	1.96E+03	7.25E+10
I	137	4.08E-01	9.01E+02	3.88E+02	7.79E+02	2.07E+03	7.66E+10
Zn	73	4.00E-01	1.63E-02	3.43E-02	8.56E-03	5.91E-02	2.19E+06
La	145	4.00E-01	6.74E+02	2.05E+02	1.60E+02	1.04E+03	3.85E+10
In	121	3.83E-01	9.05E-01	7.09E-01	1.69E-01	1.78E+00	6.59E+07
Pr	151	3.73E-01	8.99E+01	3.87E+01	6.79E+01	1.96E+02	7.25E+09
Tc	107	3.53E-01	8.90E+00	4.80E+00	1.70E+01	3.07E+01	1.14E+09

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Ni	67	3.50E-01	3.63E-05	9.49E-05	5.02E-04	6.33E-04	2.34E+04
Cu	71	3.33E-01	1.47E-03	3.53E-03	3.73E-03	8.72E-03	3.23E+05
Ge	79	3.18E-01	1.03E+01	1.11E+01	2.97E+00	2.44E+01	9.03E+08
Ni	68	3.17E-01	1.86E-04	4.54E-04	2.11E-03	2.75E-03	1.02E+05
As	82	3.17E-01	5.72E+01	1.54E+01	1.05E+01	8.31E+01	3.07E+09
Se-Meta	85	3.17E-01	1.98E+02	1.11E+02	6.72E+01	3.76E+02	1.39E+10
Te	135	3.17E-01	1.43E+03	5.15E+02	1.32E+03	3.26E+03	1.21E+11
Ag-Meta	115	3.12E-01	6.17E-01	7.88E-02	9.31E-03	7.05E-01	2.61E+07
Te	136	2.92E-01	6.36E+02	2.31E+02	1.09E+03	1.96E+03	7.25E+10
Se-Meta	77	2.91E-01	8.91E-07	1.70E-06	2.54E-08	2.62E-06	9.69E+01
Rh	108	2.83E-01	0.00E+00	1.59E-09	5.76E-10	2.16E-09	7.99E-02
Br	88	2.73E-01	7.14E+02	4.03E+02	2.97E+02	1.41E+03	5.22E+10
As	80	2.67E-01	7.22E+00	4.06E+00	6.69E-01	1.19E+01	4.40E+08
Tc	100	2.67E-01	2.94E-03	5.87E-04	5.27E-05	3.58E-03	1.32E+05
Y-Meta	89	2.62E-01	1.01E-04	1.70E-05	9.23E-07	1.19E-04	4.40E+03
Se	86	2.50E-01	4.70E+02	3.25E+02	3.01E+02	1.10E+03	4.07E+10
Nb-Meta	99	2.50E-01	1.69E+01	3.27E+00	9.16E-01	2.10E+01	7.77E+08
Ru	110	2.50E-01	5.56E+00	6.13E+00	2.83E-01	1.20E+01	4.44E+08
Ba	143	2.38E-01	2.42E+03	1.00E+03	6.58E+02	4.07E+03	1.51E+11
As-Meta	82	2.28E-01	1.67E+01	2.14E+01	1.45E+01	5.26E+01	1.95E+09
Xe	140	2.27E-01	2.17E+03	7.54E+02	1.61E+03	4.54E+03	1.68E+11
Cd	121	2.25E-01	4.52E+00	7.86E+00	6.45E+00	1.88E+01	6.96E+08
As	83	2.23E-01	1.83E+02	9.07E+01	9.73E+01	3.71E+02	1.37E+10
Ga	77	2.17E-01	2.64E+00	5.03E+00	5.83E-01	8.25E+00	3.05E+08
Pd	116	2.12E-01	4.53E+00	8.20E+00	6.30E+00	1.90E+01	7.03E+08
In-Meta	125	2.03E-01	3.26E+00	5.97E+00	6.47E+00	1.57E+01	5.81E+08
Ba	144	1.90E-01	2.94E+03	1.05E+03	1.17E+03	5.16E+03	1.91E+11
Sm	159	1.88E-01	5.53E-01	7.57E-01	1.85E+00	3.16E+00	1.17E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Rh	111	1.83E-01	6.74E-01	7.49E-01	7.13E-02	1.49E+00	5.51E+07
Eu	162	1.83E-01	5.35E-03	1.00E-02	7.43E-02	8.97E-02	3.32E+06
Pm	157	1.82E-01	2.27E+00	2.09E+00	1.07E+01	1.51E+01	5.59E+08
Ag-Meta	116	1.75E-01	6.14E-01	4.90E-01	1.36E-01	1.24E+00	4.59E+07
Zn	75	1.70E-01	6.34E-01	9.98E-01	1.48E-01	1.78E+00	6.59E+07
Ni	69	1.67E-01	9.44E-04	2.36E-03	9.41E-03	1.27E-02	4.70E+05
In-Meta	122	1.67E-01	1.06E+00	2.13E+00	1.03E+00	4.23E+00	1.57E+08
Y-Meta	96	1.60E-01	1.77E+03	5.57E+02	4.15E+02	2.74E+03	1.01E+11
Sm	160	1.60E-01	1.85E-01	3.44E-01	1.29E+00	1.82E+00	6.73E+07
Nd	155	1.48E-01	1.66E+01	1.11E+01	5.60E+01	8.37E+01	3.10E+09
Kr	91	1.43E-01	3.10E+03	1.34E+03	1.65E+03	6.09E+03	2.25E+11
Mo	106	1.40E-01	3.60E+02	2.26E+02	1.21E+03	1.80E+03	6.66E+10
Ru	114	1.36E-01	1.79E+00	3.44E+00	1.36E+01	1.89E+01	6.99E+08
As-Meta	74	1.33E-01	1.22E-08	1.46E-08	1.03E-09	2.79E-08	1.03E+00
Ge	81	1.27E-01	1.40E+02	7.61E+01	4.01E+01	2.56E+02	9.47E+09
Eu	163	1.27E-01	2.15E-03	2.19E-03	8.68E-02	9.12E-02	3.37E+06
Zr	100	1.18E-01	5.91E+03	2.73E+03	2.51E+03	1.12E+04	4.14E+11
Nb	101	1.18E-01	2.28E+03	7.59E+02	5.25E+02	3.56E+03	1.32E+11
Cu	72	1.10E-01	1.62E-02	4.70E-02	2.35E-02	8.67E-02	3.21E+06
I	138	1.08E-01	1.84E+03	7.62E+02	2.60E+03	5.20E+03	1.92E+11
La	146	1.05E-01	1.99E+03	8.36E+02	1.09E+03	3.92E+03	1.45E+11
Y	96	1.03E-01	3.04E+02	8.50E+01	6.35E+01	4.53E+02	1.68E+10
Pr	150	1.03E-01	2.96E+02	1.21E+02	1.67E+02	5.84E+02	2.16E+10
In	123	1.00E-01	5.49E+00	1.27E+01	8.77E+00	2.69E+01	9.95E+08
Rb	93	9.75E-02	4.42E+03	2.31E+03	2.42E+03	9.15E+03	3.39E+11
Zn	76	9.50E-02	2.72E+00	8.27E+00	5.08E-01	1.15E+01	4.26E+08
Se	87	9.33E-02	1.10E+03	4.77E+02	8.19E+02	2.40E+03	8.88E+10
As	84	9.17E-02	3.02E+02	1.99E+02	3.55E+02	8.56E+02	3.17E+10

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Nd	156	9.17E-02	7.20E+00	6.54E+00	4.61E+01	5.99E+01	2.22E+09
Tc	102	8.83E-02	1.52E+01	3.65E-01	7.02E-02	1.56E+01	5.77E+08
Ag-Meta	117	8.83E-02	2.42E+00	3.80E+00	1.47E+00	7.69E+00	2.85E+08
Cd	122	8.83E-02	1.89E+01	2.04E+01	2.71E+01	6.65E+01	2.46E+09
Sm	162	8.77E-02	3.25E-03	1.04E-02	1.69E-01	1.82E-01	6.73E+06
Ce	149	8.67E-02	1.13E+03	5.77E+02	8.77E+02	2.59E+03	9.58E+10
Tc	108	8.50E-02	3.93E+01	1.74E+01	8.09E+01	1.38E+02	5.11E+09
Ga	78	8.48E-02	1.71E+01	2.03E+01	6.71E+00	4.41E+01	1.63E+09
Pd	117	8.33E-02	1.48E+01	1.92E+01	2.47E+01	5.86E+01	2.17E+09
In	118	8.33E-02	8.53E-03	8.16E-03	2.29E-04	1.69E-02	6.25E+05
Cu	70	8.33E-02	2.51E-04	4.79E-04	1.14E-03	1.87E-03	6.92E+04
Br-Meta	79	8.10E-02	1.80E-06	9.70E-07	5.69E-08	2.83E-06	1.05E+02
Nb	104	8.00E-02	1.00E+03	5.89E+02	3.23E+03	4.82E+03	1.78E+11
Pm	158	8.00E-02	1.24E+00	1.67E+00	1.22E+01	1.51E+01	5.59E+08
Sm	161	7.97E-02	4.99E-02	1.27E-01	8.76E-01	1.05E+00	3.89E+07
Ge	82	7.67E-02	2.31E+02	1.29E+02	1.46E+02	5.06E+02	1.87E+10
Ag	114	7.67E-02	1.68E+00	7.39E-02	5.82E-03	1.76E+00	6.51E+07
Br-Meta	86	7.50E-02	4.31E+02	1.97E+02	1.10E+02	7.38E+02	2.73E+10
Ru	112	7.50E-02	1.86E+01	2.53E+01	3.41E+01	7.81E+01	2.89E+09
Rb	92	7.47E-02	5.89E+03	2.47E+03	1.77E+03	1.01E+04	3.74E+11
Ce	150	7.33E-02	7.51E+02	4.11E+02	1.06E+03	2.22E+03	8.21E+10
Br	89	7.28E-02	2.01E+03	1.21E+03	2.01E+03	5.22E+03	1.93E+11
Pr	153	7.17E-02	7.19E+01	5.05E+01	3.07E+02	4.29E+02	1.59E+10
La	147	6.70E-02	1.35E+03	1.10E+03	1.99E+03	4.44E+03	1.64E+11
Rh	112	6.67E-02	4.85E+00	5.99E+00	2.43E+00	1.33E+01	4.92E+08
Ag	118	6.67E-02	7.21E+00	7.16E+00	6.00E+00	2.04E+01	7.55E+08
Ba	145	6.67E-02	3.94E+03	2.30E+03	3.49E+03	9.73E+03	3.60E+11
Pd	120	6.52E-02	5.84E+00	9.48E-01	1.16E+01	1.84E+01	6.81E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Cu	73	6.50E-02	1.02E-01	2.65E-01	1.72E-01	5.39E-01	1.99E+07
Ni	72	6.38E-02	1.67E-02	5.82E-02	3.80E-02	1.13E-01	4.18E+06
Y	97	6.27E-02	7.04E+03	3.19E+03	3.63E+03	1.39E+04	5.14E+11
In-Meta	127	6.22E-02	1.41E+01	3.50E+01	4.99E+01	9.90E+01	3.66E+09
Mo	107	5.83E-02	2.91E+02	3.01E+02	1.90E+03	2.49E+03	9.21E+10
Pr	152	5.33E-02	2.71E+02	1.49E+02	4.83E+02	9.03E+02	3.34E+10
In	124	5.30E-02	8.98E+00	3.55E+01	3.71E+01	8.16E+01	3.02E+09
Rh	110	5.17E-02	1.54E-01	1.70E-01	3.02E-06	3.24E-01	1.20E+07
In	120	5.17E-02	8.56E-01	6.73E-01	9.75E-02	1.63E+00	6.03E+07
Ce	152	5.17E-02	5.57E+01	4.52E+01	3.21E+02	4.22E+02	1.56E+10
Nb-Meta	100	5.00E-02	8.96E+02	3.27E+02	1.73E+02	1.40E+03	5.18E+10
Nb	105	5.00E-02	3.90E+02	3.66E+02	3.25E+03	4.00E+03	1.48E+11
Pm	159	5.00E-02	2.98E-01	7.05E-01	7.39E+00	8.40E+00	3.11E+08
Nb-Meta	98	4.83E-02	3.37E+02	2.43E+01	4.72E+00	3.66E+02	1.35E+10
Zr	102	4.83E-02	5.17E+03	3.03E+03	7.63E+03	1.58E+04	5.85E+11
Ga	79	4.75E-02	5.06E+01	4.39E+01	3.49E+01	1.29E+02	4.77E+09
Mo	110	4.62E-02	1.18E+01	1.60E+01	1.21E+02	1.49E+02	5.51E+09
Rb	94	4.55E-02	4.85E+03	2.74E+03	5.03E+03	1.26E+04	4.66E+11
Ru	113	4.50E-02	1.89E+01	2.27E+01	6.09E+01	1.03E+02	3.81E+09
Nd	158	4.48E-02	1.63E-01	3.86E-01	6.74E+00	7.28E+00	2.69E+08
Te	137	4.17E-02	1.32E+03	2.55E+02	3.40E+03	4.97E+03	1.84E+11
Nd	157	4.13E-02	1.65E+00	2.56E+00	3.51E+01	3.93E+01	1.45E+09
Ag-Meta	118	4.00E-02	1.05E+01	1.19E+01	1.00E+01	3.24E+01	1.20E+09
Pd	118	4.00E-02	1.12E+01	2.49E+01	6.49E+01	1.01E+02	3.74E+09
In	125	3.93E-02	1.69E+01	3.09E+01	3.35E+01	8.12E+01	3.00E+09
I	139	3.83E-02	2.82E+03	7.92E+02	4.84E+03	8.46E+03	3.13E+11
Pr	154	3.83E-02	1.84E+01	1.36E+01	2.07E+02	2.39E+02	8.84E+09
Zr	99	3.67E-02	1.37E+04	6.05E+03	3.61E+03	2.34E+04	8.66E+11

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Ba	146	3.67E-02	3.50E+03	2.07E+03	4.87E+03	1.04E+04	3.85E+11
Zn	77	3.50E-02	1.26E+01	2.17E+01	4.30E+00	3.86E+01	1.43E+09
Y-Meta	98	3.50E-02	4.45E+03	2.62E+03	3.89E+03	1.10E+04	4.07E+11
Zr	101	3.50E-02	1.12E+04	6.43E+03	1.03E+04	2.79E+04	1.03E+12
Ag	119	3.50E-02	2.91E+01	3.51E+01	4.74E+01	1.12E+02	4.14E+09
Cd	123	3.48E-02	4.07E+01	2.88E+01	7.25E+01	1.42E+02	5.25E+09
As	85	3.38E-02	5.02E+02	4.04E+02	1.00E+03	1.91E+03	7.07E+10
Ce	154	3.37E-02	3.80E-01	4.82E-01	2.14E+01	2.23E+01	8.25E+08
Tc	111	3.30E-02	1.91E+01	2.40E+01	1.17E+02	1.60E+02	5.92E+09
Ge	83	3.17E-02	2.12E+02	1.60E+02	3.27E+02	7.00E+02	2.59E+10
Br	90	3.17E-02	2.45E+03	1.51E+03	3.81E+03	7.78E+03	2.88E+11
Kr	92	3.07E-02	7.60E+03	2.91E+03	7.35E+03	1.79E+04	6.62E+11
Rh	114	3.00E-02	2.35E+01	3.41E+01	4.78E+01	1.05E+02	3.89E+09
Cs	142	3.00E-02	1.07E+04	4.99E+03	6.85E+03	2.25E+04	8.33E+11
Cs	143	2.97E-02	6.63E+03	2.67E+03	7.26E+03	1.66E+04	6.14E+11
Pd	119	2.93E-02	2.08E+00	1.02E+01	5.65E+01	6.88E+01	2.55E+09
Xe	141	2.87E-02	5.98E+03	2.03E+03	9.37E+03	1.74E+04	6.44E+11
Sb	135	2.85E-02	7.15E+02	5.70E+02	3.23E+03	4.51E+03	1.67E+11
Ru	116	2.83E-02	1.22E-01	4.73E-01	1.09E+01	1.15E+01	4.26E+08
Ga	80	2.80E-02	5.87E+01	4.90E+01	4.73E+01	1.55E+02	5.74E+09
In	126	2.72E-02	1.71E+01	7.07E+01	1.22E+02	2.10E+02	7.77E+09
Eu	164	2.63E-02	1.07E-03	2.66E-03	2.23E-01	2.27E-01	8.40E+06
Zn	78	2.50E-02	2.00E+01	2.26E+01	1.18E+01	5.44E+01	2.01E+09
Se	88	2.50E-02	1.51E+03	1.18E+03	1.95E+03	4.64E+03	1.72E+11
Nb-Meta	100	2.50E-02	1.79E+03	6.55E+02	3.47E+02	2.79E+03	1.03E+11
Nb	103	2.50E-02	7.92E+03	4.78E+03	1.13E+04	2.40E+04	8.88E+11
Mo	108	2.50E-02	1.70E+02	2.83E+02	1.83E+03	2.28E+03	8.44E+10
Ru	111	2.50E-02	6.63E+01	7.34E+01	3.93E+01	1.79E+02	6.62E+09

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
In	122	2.50E-02	7.08E+00	1.42E+01	6.89E+00	2.82E+01	1.04E+09
Y	99	2.45E-02	1.12E+04	6.06E+03	1.38E+04	3.10E+04	1.15E+12
Ce	153	2.45E-02	9.75E+00	1.06E+01	2.05E+02	2.26E+02	8.36E+09
Sn	133	2.40E-02	8.08E+02	3.80E+02	2.53E+03	3.72E+03	1.38E+11
Mo	109	2.35E-02	9.26E+01	1.18E+02	6.44E+02	8.55E+02	3.16E+10
Pd	122	2.35E-02	2.85E-02	2.81E-02	1.60E+00	1.65E+00	6.11E+07
Tc	109	2.33E-02	8.07E+01	9.59E+01	3.16E+02	4.93E+02	1.82E+10
Te	138	2.33E-02	3.98E+02	3.08E+02	2.13E+03	2.83E+03	1.05E+11
Sm	164	2.32E-02	3.66E-05	1.77E-04	4.24E-02	4.26E-02	1.58E+06
Eu	165	2.25E-02	2.42E-04	5.72E-04	1.04E-01	1.05E-01	3.89E+06
Cu	75	2.17E-02	6.55E-01	1.33E+00	5.87E-01	2.57E+00	9.51E+07
Nb	102	2.17E-02	1.02E+04	5.27E+03	7.28E+03	2.28E+04	8.44E+11
Ar	103	2.17E-02	3.23E+03	1.91E+03	1.10E+04	1.61E+04	5.96E+11
Kr	93	2.15E-02	3.17E+03	9.36E+02	6.00E+03	1.01E+04	3.74E+11
Sm	163	2.12E-02	9.09E-04	1.72E-03	2.07E-01	2.10E-01	7.77E+06
Cd	124	2.07E-02	8.22E+01	2.83E+01	9.12E+01	2.02E+02	7.47E+09
Ag	120	2.05E-02	5.99E+00	3.02E+01	9.94E+01	1.36E+02	5.03E+09
In-Meta	129	2.05E-02	1.73E+02	5.35E+01	2.96E+02	5.23E+02	1.94E+10
Rh	117	2.03E-02	3.21E+00	6.01E+00	5.10E+01	6.02E+01	2.23E+09
Xe	142	2.03E-02	3.00E+03	1.84E+03	6.78E+03	1.16E+04	4.29E+11
Ga	81	2.03E-02	5.65E+01	3.23E+01	6.56E+01	1.54E+02	5.70E+09
Ge	84	2.00E-02	1.33E+02	9.93E+01	3.82E+02	6.15E+02	2.28E+10
Zr	104	2.00E-02	5.81E+02	3.83E+02	4.55E+03	5.52E+03	2.04E+11
Xe	144	2.00E-02	4.25E+01	0.00E+00	5.54E+02	5.97E+02	2.21E+10
In	127	1.90E-02	3.05E+02	1.15E+02	1.63E+02	5.82E+02	2.15E+10
Pr	155	1.87E-02	5.06E+00	5.87E+00	1.43E+02	1.54E+02	5.70E+09
La	148	1.83E-02	2.57E+03	1.52E+03	5.36E+03	9.45E+03	3.50E+11
La	149	1.83E-02	6.12E+02	4.54E+02	3.27E+03	4.33E+03	1.60E+11

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Sr	96	1.77E-02	2.84E+04	1.64E+04	2.11E+04	6.58E+04	2.43E+12
Sn	134	1.73E-02	1.43E+02	6.32E+01	9.47E+02	1.15E+03	4.26E+10
Cs	144	1.68E-02	3.49E+03	1.49E+03	9.32E+03	1.43E+04	5.29E+11
Zn	79	1.67E-02	1.38E+01	1.04E+01	1.80E+01	4.22E+01	1.56E+09
Nb	106	1.67E-02	1.32E+02	1.72E+02	3.21E+03	3.52E+03	1.30E+11
Ce	151	1.67E-02	8.34E+02	5.43E+02	2.47E+03	3.84E+03	1.42E+11
Rh	115	1.65E-02	3.09E+01	5.40E+01	1.22E+02	2.07E+02	7.66E+09
Mo	112	1.63E-02	8.38E-02	1.80E-01	1.25E+01	1.28E+01	4.74E+08
Ba	150	1.60E-02	4.41E-01	6.15E-01	3.06E+01	3.17E+01	1.17E+09
Zr	106	1.51E-02	1.57E-02	1.21E-01	4.38E+00	4.52E+00	1.67E+08
As	86	1.50E-02	1.86E+02	2.59E+02	1.36E+03	1.81E+03	6.70E+10
Rh	113	1.50E-02	6.40E+01	6.43E+01	4.63E+01	1.75E+02	6.48E+09
Xe	145	1.50E-02	6.70E-01	3.75E+00	7.81E+01	8.25E+01	3.05E+09
Ni	74	1.50E-02	4.29E-02	1.09E-01	1.14E-01	2.66E-01	9.84E+06
Te	140	1.49E-02	1.60E+02	4.02E+00	1.13E+02	2.77E+02	1.02E+10
Ba	147	1.49E-02	2.33E+03	1.08E+03	5.14E+03	8.55E+03	3.16E+11
Ru	115	1.46E-02	2.49E+00	6.60E+00	6.12E+01	7.03E+01	2.60E+09
I	140	1.43E-02	1.34E+03	5.11E+02	5.47E+03	7.32E+03	2.71E+11
Tc	110	1.38E-02	1.18E+02	1.46E+02	5.14E+02	7.77E+02	2.87E+10
Sb	136	1.37E-02	1.18E+02	6.76E+01	1.58E+03	1.76E+03	6.51E+10
As	87	1.33E-02	5.32E+02	8.32E+01	3.36E+02	9.51E+02	3.52E+10
In	128	1.33E-02	2.77E+02	1.95E+02	5.29E+02	1.00E+03	3.70E+10
Sb	134	1.33E-02	7.55E+03	2.42E+03	1.73E+04	2.73E+04	1.01E+12
Pm	161	1.32E-02	4.69E-03	2.27E-02	8.76E-01	9.04E-01	3.34E+07
Nd	160	1.32E-02	5.45E-04	3.59E-03	2.61E-01	2.66E-01	9.84E+06
Kr	95	1.30E-02	7.77E+01	1.15E+02	8.81E+02	1.07E+03	3.96E+10
Ag	121	1.30E-02	2.79E+01	2.44E+01	1.24E+02	1.76E+02	6.51E+09
Nb	107	1.28E-02	2.56E+01	5.32E+01	1.03E+03	1.11E+03	4.11E+10

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Y	100	1.22E-02	6.55E+03	4.72E+03	2.17E+04	3.30E+04	1.22E+12
Pm	160	1.22E-02	8.84E-02	2.98E-01	6.72E+00	7.11E+00	2.63E+08
La	151	1.20E-02	1.22E+01	1.32E+01	3.41E+02	3.67E+02	1.36E+10
Sn	136	1.20E-02	1.86E-01	1.81E-01	1.08E+01	1.12E+01	4.14E+08
Rh	116	1.17E-02	1.05E+01	2.72E+01	1.58E+02	1.96E+02	7.25E+09
Cd	125	1.13E-02	6.88E+01	3.04E+00	7.77E+01	1.50E+02	5.55E+09
Ru	118	1.10E-02	8.84E-04	4.13E-03	7.38E-01	7.43E-01	2.75E+07
Tc	113	1.09E-02	1.82E+00	2.96E+00	6.49E+01	6.97E+01	2.58E+09
Sr	98	1.08E-02	1.05E+04	6.34E+03	1.89E+04	3.57E+04	1.32E+12
Cu	74	1.08E-02	8.98E-01	1.78E+00	1.15E+00	3.82E+00	1.41E+08
Pd	121	1.07E-02	6.23E-01	6.44E-01	1.70E+01	1.83E+01	6.77E+08
Nd	159	1.07E-02	2.33E-02	1.03E-01	3.69E+00	3.82E+00	1.41E+08
Ba	148	1.07E-02	2.92E+02	2.39E+02	2.10E+03	2.64E+03	9.77E+10
In	129	1.05E-02	3.68E+02	1.04E+02	5.79E+02	1.05E+03	3.89E+10
La	150	1.01E-02	1.46E+02	1.25E+02	1.93E+03	2.20E+03	8.14E+10
Ga	82	1.01E-02	8.79E+01	1.56E+01	1.02E+02	2.05E+02	7.59E+09
Cu	76	1.00E-02	1.16E+00	3.44E+00	8.83E-01	5.48E+00	2.03E+08
Ce	156	9.93E-03	8.18E-04	2.79E-03	5.00E-01	5.03E-01	1.86E+07
Y	98	9.83E-03	1.59E+04	9.33E+03	1.38E+04	3.90E+04	1.44E+12
Te	142	9.83E-03	2.96E-02	9.40E-03	8.50E-01	8.89E-01	3.29E+07
Cs	145	9.83E-03	1.08E+03	9.20E+02	5.10E+03	7.10E+03	2.63E+11
Te	139	9.67E-03	9.68E+01	6.69E+01	1.13E+03	1.29E+03	4.77E+10
Xe	146	9.38E-03	1.60E-01	2.40E-01	9.03E+00	9.43E+00	3.49E+08
Ag	122	9.33E-03	1.01E+01	8.49E+00	9.85E+01	1.17E+02	4.33E+09
Zn	80	9.17E-03	3.71E+00	5.10E+00	1.02E+01	1.90E+01	7.03E+08
Br	91	9.00E-03	3.50E+03	9.98E+02	7.60E+03	1.21E+04	4.48E+11
Ge-Meta	73	8.83E-03	8.89E-06	1.30E-05	1.12E-06	2.30E-05	8.51E+02
Ce	155	8.80E-03	4.13E-02	8.91E-02	8.81E+00	8.94E+00	3.31E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Cd	126	8.67E-03	1.31E+02	1.46E+00	8.46E+00	1.41E+02	5.22E+09
Pd	124	8.57E-03	4.51E-03	1.82E-04	4.52E-02	4.99E-02	1.85E+06
Zr	105	8.22E-03	1.99E+03	4.44E+00	2.35E+03	4.35E+03	1.61E+11
Ni	73	8.18E-03	1.23E-01	4.00E-01	4.70E-01	9.93E-01	3.67E+07
Sb	137	7.97E-03	1.33E+03	7.09E+00	4.41E+02	1.78E+03	6.59E+10
Mo	111	7.77E-03	4.18E+00	6.01E+00	2.06E+02	2.16E+02	7.99E+09
Rh	119	7.75E-03	3.41E-02	2.31E-01	1.32E+01	1.34E+01	4.96E+08
Sm	165	7.57E-03	4.78E-06	2.34E-05	1.74E-02	1.75E-02	6.48E+05
I	141	7.50E-03	7.62E+02	1.49E+02	3.09E+03	4.00E+03	1.48E+11
Tc	112	7.18E-03	1.34E+01	2.28E+01	2.94E+02	3.31E+02	1.22E+10
Y	101	7.17E-03	5.45E+03	2.61E+03	1.84E+04	2.64E+04	9.77E+11
Se	90	7.12E-03	2.55E+02	2.25E+02	1.37E+03	1.85E+03	6.85E+10
Sr	97	7.00E-03	3.45E+04	2.24E+04	3.68E+04	9.37E+04	3.47E+12
Ba	152	7.00E-03	2.99E-04	7.75E-04	1.93E-01	1.94E-01	7.18E+06
Sn	135	6.97E-03	1.29E+01	1.56E+01	2.51E+02	2.79E+02	1.03E+10
Se	89	6.83E-03	9.99E+02	1.18E+03	4.41E+03	6.58E+03	2.43E+11
Cd	127	6.67E-03	1.72E+02	1.05E+00	5.57E+00	1.79E+02	6.62E+09
Pr	157	6.33E-03	3.66E-02	1.16E-01	1.00E+01	1.02E+01	3.77E+08
Pr	156	6.32E-03	9.27E-01	1.58E+00	7.68E+01	7.93E+01	2.93E+09
Zr	108	6.30E-03	7.06E-06	1.98E-04	1.29E-02	1.31E-02	4.85E+05
Rb	95	6.28E-03	1.74E+04	9.61E+03	2.34E+04	5.04E+04	1.86E+12
Mo	114	6.28E-03	1.00E-04	4.90E-04	1.21E-01	1.21E-01	4.48E+06
Y	102	6.00E-03	6.27E+03	5.04E+02	7.84E+03	1.46E+04	5.40E+11
Ba	149	6.00E-03	2.41E+01	2.82E+01	7.11E+02	7.63E+02	2.82E+10
Ru	120	5.83E-03	7.30E-06	2.07E-06	2.92E-03	2.93E-03	1.08E+05
Ru	117	5.72E-03	6.25E-02	1.77E-01	8.64E+00	8.88E+00	3.29E+08
Br	92	5.67E-03	6.64E+02	2.43E+02	3.72E+03	4.63E+03	1.71E+11
Ag	125	5.57E-03	4.24E-05	2.82E-05	2.87E+00	2.87E+00	1.06E+08

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
La	153	5.43E-03	3.74E-02	7.36E-02	1.10E+01	1.11E+01	4.11E+08
Pm	162	5.40E-03	1.79E-04	1.19E-03	1.55E-01	1.57E-01	5.81E+06
Cs	146	5.37E-03	2.01E+02	1.88E+02	1.98E+03	2.37E+03	8.77E+10
Rh	118	5.27E-03	9.87E-01	3.14E+00	8.97E+01	9.38E+01	3.47E+09
Nb	109	5.25E-03	1.32E+01	2.01E+01	2.67E+01	5.99E+01	2.22E+09
Nd	161	5.18E-03	1.67E-05	1.66E-04	3.04E-02	3.05E-02	1.13E+06
Ga	83	5.17E-03	5.22E+00	5.99E+00	6.87E+01	8.00E+01	2.96E+09
Ag	123	5.17E-03	7.48E+00	3.58E+00	7.50E+01	8.61E+01	3.19E+09
Ni	76	5.08E-03	1.41E-02	5.76E-02	3.17E-02	1.03E-01	3.81E+06
Cu	77	5.08E-03	1.25E+00	2.96E+00	2.20E+00	6.41E+00	2.37E+08
Pd	123	5.00E-03	1.12E-02	6.32E-03	9.66E-01	9.84E-01	3.64E+07
Xe	143	5.00E-03	1.49E+03	8.40E+02	7.92E+03	1.02E+04	3.77E+11
Kr	96	4.88E-03	1.10E+03	3.15E+01	6.38E+02	1.77E+03	6.55E+10
In	130	4.83E-03	2.74E+02	1.17E+03	1.40E+03	2.85E+03	1.05E+11
Xe-Meta	134	4.83E-03	7.15E+02	1.87E+02	3.54E+01	9.37E+02	3.47E+10
Zn	81	4.83E-03	0.00E+00	2.39E+00	1.52E+01	1.76E+01	6.51E+08
La	152	4.75E-03	1.36E+00	1.94E+00	1.12E+02	1.16E+02	4.29E+09
Cd	128	4.67E-03	1.07E+02	3.25E-01	2.47E+00	1.10E+02	4.07E+09
In	131	4.67E-03	3.34E+02	5.30E+02	5.18E+02	1.38E+03	5.11E+10
Se	91	4.50E-03	2.08E+01	1.41E+01	3.77E+02	4.11E+02	1.52E+10
Cd	129	4.50E-03	2.26E-02	5.52E-02	9.58E-01	1.04E+00	3.85E+07
Sr	99	4.48E-03	4.31E+03	3.29E+03	2.07E+04	2.83E+04	1.05E+12
Ge	85	4.17E-03	7.18E+01	7.78E+01	6.14E+02	7.64E+02	2.83E+10
Rh	121	4.17E-03	4.85E-04	6.78E-04	2.32E-01	2.33E-01	8.62E+06
Ge	86	4.12E-03	2.21E+04	8.94E+00	1.37E+02	2.22E+04	8.21E+11
Nb	108	4.03E-03	3.16E+00	1.35E+01	3.92E+02	4.09E+02	1.51E+10
Ni	75	3.85E-03	5.61E-02	1.53E-01	1.56E-01	3.65E-01	1.35E+07
Co	66	3.83E-03	1.03E-03	4.63E-03	2.94E-02	3.51E-02	1.30E+06

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Ag	124	3.67E-03	2.11E+01	6.57E-01	2.51E+01	4.69E+01	1.74E+09
Sb	139	3.63E-03	5.62E-02	7.36E-02	8.09E+00	8.22E+00	3.04E+08
Ce	157	3.57E-03	1.84E-05	1.25E-04	5.64E-02	5.66E-02	2.09E+06
Kr	94	3.50E-03	3.48E+03	1.17E+03	1.89E+04	2.36E+04	8.73E+11
Tc	114	3.37E-03	2.95E-01	8.91E-01	3.76E+01	3.88E+01	1.44E+09
Sr	100	3.35E-03	3.43E+02	7.05E+02	8.22E+03	9.27E+03	3.43E+11
Cd	130	3.33E-03	3.70E+03	2.22E+01	1.51E-01	3.72E+03	1.38E+11
In	132	3.33E-03	2.62E+02	3.58E+01	1.74E+03	2.04E+03	7.55E+10
I	142	3.33E-03	2.47E+02	4.48E+01	1.13E+03	1.42E+03	5.25E+10
Rb	96	3.32E-03	7.45E+03	4.75E+03	3.33E+04	4.55E+04	1.68E+12
Ru	119	3.25E-03	2.91E-05	2.84E-04	1.42E-01	1.42E-01	5.25E+06
Pr	159	3.02E-03	2.28E-05	2.24E-04	6.55E-02	6.58E-02	2.43E+06
In	133	3.00E-03	8.01E+00	5.94E+00	2.22E+02	2.36E+02	8.73E+09
Br	93	2.93E-03	1.53E+02	1.50E+03	1.59E+03	3.24E+03	1.20E+11
Ag	127	2.92E-03	7.83E-06	9.09E-07	3.79E-05	4.66E-05	1.72E+03
Sb	138	2.88E-03	1.94E+00	2.66E+00	1.29E+02	1.34E+02	4.96E+09
Rh	120	2.87E-03	1.18E-01	2.52E-02	4.55E+00	4.69E+00	1.74E+08
Rb	97	2.82E-03	2.00E+03	1.33E+03	3.00E+03	6.32E+03	2.34E+11
Pr	158	2.82E-03	1.98E-03	1.00E-02	1.58E+00	1.59E+00	5.88E+07
Se	92	2.80E-03	2.20E+00	1.36E+00	6.69E+01	7.05E+01	2.61E+09
Pd	125	2.77E-03	0.00E+00	0.00E+00	7.00E-03	7.00E-03	2.59E+05
Sr	104	2.72E-03	6.90E-03	1.72E-03	6.83E-01	6.92E-01	2.56E+07
Kr	98	2.67E-03	8.58E+01	1.07E-01	8.79E+00	9.47E+01	3.50E+09
Cs	148	2.50E-03	7.36E-01	1.07E+00	8.87E+01	9.05E+01	3.35E+09
La	154	2.48E-03	8.79E-04	2.26E-03	1.09E+00	1.10E+00	4.07E+07
Ag	126	2.33E-03	2.86E-05	5.23E-06	3.65E-04	3.99E-04	1.48E+04
Cd	132	2.27E-03	0.00E+00	4.91E-02	7.57E+00	7.62E+00	2.82E+08
As	88	2.25E-03	8.04E+03	6.12E+01	6.91E+02	8.79E+03	3.25E+11

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Cu	79	2.25E-03	0.00E+00	1.42E-01	1.24E+00	1.38E+00	5.11E+07
Ge	87	2.23E-03	1.43E+02	9.63E-01	1.57E+01	1.59E+02	5.88E+09
Rh	123	2.23E-03	5.52E-07	4.17E-07	1.09E-03	1.09E-03	4.03E+04
Ni	78	2.20E-03	3.26E-04	7.83E-04	6.53E-03	7.64E-03	2.83E+05
Nb	110	2.17E-03	9.92E-01	1.69E+00	4.62E+00	7.30E+00	2.70E+08
Co	73	2.15E-03	1.55E-03	7.29E-03	3.54E-02	4.42E-02	1.64E+06
Ge	88	2.15E-03	3.65E+00	4.55E-02	1.87E+00	5.57E+00	2.06E+08
Y	104	2.13E-03	3.99E+01	7.66E+00	7.35E+02	7.82E+02	2.89E+10
Zn	82	2.12E-03	7.58E-01	2.13E-01	4.19E+00	5.16E+00	1.91E+08
Co	72	2.07E-03	4.07E-03	1.99E-02	5.77E-02	8.16E-02	3.02E+06
Cs	150	2.07E-03	1.40E-04	3.73E-04	2.17E-01	2.17E-01	8.03E+06
As	89	2.02E-03	1.08E+01	6.93E+00	1.56E+02	1.74E+02	6.44E+09
Cu	78	1.97E-03	8.35E-01	1.35E+00	3.92E+00	6.11E+00	2.26E+08
Sr	101	1.92E-03	3.44E+02	9.22E+01	2.36E+03	2.80E+03	1.04E+11
Tc	116	1.92E-03	4.83E-04	3.29E-03	1.18E+00	1.18E+00	4.37E+07
Br	94	1.85E-03	1.27E+01	2.90E+00	3.88E+02	4.04E+02	1.49E+10
Rb	98	1.78E-03	1.99E+02	2.12E+02	4.57E+03	4.98E+03	1.84E+11
Rh	122	1.78E-03	2.40E-05	3.22E-05	3.34E-02	3.34E-02	1.24E+06
Cd	131	1.77E-03	1.16E+03	3.87E+00	1.58E-02	1.17E+03	4.33E+10
Ni	77	1.72E-03	4.75E-03	1.62E-02	3.62E-02	5.72E-02	2.12E+06
Kr	97	1.67E-03	2.50E+00	4.55E+00	4.34E+01	5.04E+01	1.86E+09
Ga	84	1.63E-03	1.04E+03	1.69E+00	5.17E+01	1.09E+03	4.03E+10
Ag	128	1.57E-03	1.05E-06	6.69E-08	4.27E-06	5.38E-06	1.99E+02
Co	74	1.53E-03	2.81E-04	1.07E-03	6.43E-03	7.79E-03	2.88E+05
Cu	80	1.50E-03	4.92E-03	1.12E-02	1.69E-01	1.86E-01	6.88E+06
Br	96	1.48E-03	2.01E-01	1.13E-02	2.38E+00	2.59E+00	9.58E+07
Ga	85	1.45E-03	6.19E-02	1.10E-01	6.52E+00	6.70E+00	2.48E+08
Zn	83	1.40E-03	6.66E-03	1.22E-02	6.32E-01	6.51E-01	2.41E+07

Nuclide	Atomic Mass	$T_{1/2}$ (minutes)	Yield from 235U + n_{th} (mCi)	Yield from 235U + n_f (mCi)	Yield from 238U + n_f (mCi)	Total Yield (mCi)	Total Yield (Bq)
Co	75	1.37E-03	4.01E-05	1.69E-04	9.20E-04	1.13E-03	4.18E+04
In	134	1.35E-03	3.66E-01	2.96E-01	3.33E+01	3.39E+01	1.25E+09
Cu	81	1.23E-03	0.00E+00	5.30E-04	2.43E-02	2.48E-02	9.18E+05
Sr	102	1.13E-03	2.43E+01	1.10E+01	5.66E+02	6.01E+02	2.22E+10
Rb	100	8.83E-04	5.87E+03	1.23E+00	1.35E+02	6.00E+03	2.22E+11

Appendix B – Short List of Fission Products

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant* $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor*	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Cs	140	1.06	8.45	0.965	2.70E+02	1.90E+02	7.50E+01	5.40E+02	2.00E+10
Ag-Meta	111	1.08	0.15	0.964	1.10E-07	1.30E-07	2.80E-10	2.40E-07	8.88E+00
Ag-Meta	113	1.14	1.32	0.96	4.50E-04	3.30E-04	1.00E-05	7.90E-04	2.92E+04
Se-Meta	83	1.17	5.1	0.965	4.00E+00	1.80E+00	4.40E-01	6.30E+00	2.33E+08
Ag	117	1.22	6.18	0.932	1.70E-01	2.80E-01	1.10E-01	5.60E-01	2.07E+07
Dy-Meta	165	1.26	0.115	0.941	2.60E-07	1.00E-07	3.40E-07	7.00E-07	2.59E+01
Rh	109	1.34	1.84	0.96	2.20E-04	2.60E-04	4.20E-09	4.70E-04	1.74E+04
Tb	165	2.1	4.3	0.963	1.90E-05	1.40E-05	2.10E-04	2.40E-04	8.88E+03
Cd-Meta	119	2.2	11.5	0.964	1.40E-01	1.80E-01	3.70E-02	3.60E-01	1.33E+07
Pr	148	2.27	5.13	0.964	4.80E+00	1.60E+00	7.00E-01	7.10E+00	2.63E+08
In	119	2.3	0.473	0.942	2.90E-02	4.90E-03	2.80E-04	3.40E-02	1.26E+06
Sn	129	2.4	5.51	0.965	1.30E+01	1.50E+01	2.30E+01	5.20E+01	1.92E+09
Pd	114	2.48	0.152	0.96	2.40E-01	2.50E-01	5.20E-02	5.40E-01	2.00E+07
Sb	133	2.5	13.6	0.965	1.30E+02	4.00E+01	1.10E+02	2.80E+02	1.04E+10
Ba-Meta	137	2.55	3.43	0.962	7.30E-03	1.60E-03	2.30E-04	9.20E-03	3.40E+05
Nb-Meta	99	2.6	3.69	0.96	2.20E+01	3.60E+00	1.00E+00	2.70E+01	9.99E+08
Rb	90	2.6	8.3	0.962	7.50E+00	3.30E+00	9.70E-01	1.20E+01	4.44E+08
Ag	116	2.68	10.3	0.964	2.50E-01	3.20E-02	8.90E-03	2.90E-01	1.07E+07
Cd	119	2.69	8.1	0.964	1.30E-01	1.40E-01	3.10E-02	3.00E-01	1.11E+07
Pm-Meta	154	2.7	9.34	0.958	2.80E-01	9.00E-02	1.30E-01	5.00E-01	1.85E+07
Cu	69	2.8	2.86	0.965	5.70E-06	1.30E-05	3.70E-05	5.60E-05	2.07E+03
Ho	170	2.8	9.28	0.959	2.50E-08	2.80E-08	6.10E-06	6.20E-06	2.29E+02

* Smith, Exposure Rate Constants and Lead Shielding Values for Over 1,100 Radionuclides

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Br	85	2.87	0.355	0.965	1.20E+01	4.20E+00	1.20E+00	1.70E+01	6.29E+08
Cs-Meta	138	2.9	2.44	0.946	1.10E+01	2.60E+00	9.40E-01	1.40E+01	5.18E+08
Ce	145	3	4.94	0.946	4.00E+00	2.00E+00	3.80E-01	6.40E+00	2.37E+08
Ho	168	3	4.84	0.961	5.40E-08	1.90E-08	8.20E-07	9.00E-07	3.33E+01
Tb	164	3	13	0.962	8.40E-06	7.00E-06	5.00E-05	6.60E-05	2.44E+03
Kr	89	3.15	9.25	0.965	1.50E+02	5.40E+01	1.80E+01	2.30E+02	8.51E+09
Se	84	3.3	2.4	0.965	2.70E+01	1.20E+01	4.80E+00	4.30E+01	1.59E+09
I-Meta	134	3.7	2.31	0.943	1.40E+01	6.00E+00	7.70E+00	2.80E+01	1.04E+09
Sn	130	3.7	5.81	0.954	4.10E+01	2.40E+01	4.00E+01	1.00E+02	3.70E+09
In-Meta	121	3.8	0.839	0.93	1.20E-02	1.50E-02	3.50E-03	3.00E-02	1.11E+06
Ru	107	3.8	1.88	0.964	1.80E-04	1.50E-04	1.20E-04	4.50E-04	1.67E+04
Xe	137	3.82	1.04	0.965	1.20E+02	6.10E+01	2.50E+01	2.00E+02	7.40E+09
Se-Meta	79	3.89	0.0411	0.876	6.00E-05	3.20E-05	2.20E-06	9.40E-05	3.48E+03
Sn-Meta	127	4.15	3.18	0.965	2.70E-01	9.80E-01	3.80E-01	1.60E+00	5.92E+07
Rb-Meta	90	4.3	14.9	0.964	2.30E+01	1.10E+01	3.00E+00	3.70E+01	1.37E+09
In-Meta	118	4.4	14.7	0.965	5.40E-05	4.30E-05	1.20E-06	9.90E-05	3.66E+03
Tc-Meta	102	4.4	12.6	0.965	3.00E-01	7.30E-03	1.40E-03	3.10E-01	1.15E+07
Ru	108	4.5	0.443	0.956	5.20E-04	7.20E-04	6.10E-04	1.90E-03	7.03E+04
Cu	66	5.1	0.525	0.965	3.90E-10	1.50E-09	3.50E-09	5.30E-09	1.96E-01
Rh-Meta	108	5.9	1.82	0.965	0.00E+00	7.60E-11	2.80E-11	1.00E-10	3.70E-03
Br-Meta	84	6	14.5	0.965	3.90E-01	2.00E-01	4.80E-02	6.40E-01	2.37E+07
Dy	167	6.2	3.03	0.959	1.70E-06	7.10E-07	1.70E-05	2.00E-05	7.40E+02
Sb-Meta	130	6.5	14.8	0.964	7.70E+00	2.10E+00	1.50E+00	1.10E+01	4.07E+08
Pr-Meta	144	7.2	0.206	0.924	2.50E-04	4.50E-05	3.80E-06	3.00E-04	1.11E+04
Sr	93	7.4	11.9	0.965	4.90E+01	1.90E+01	6.60E+00	7.50E+01	2.78E+09
Pm-Meta	152	7.5	8.07	0.96	2.60E-02	7.30E-03	2.60E-03	3.60E-02	1.33E+06

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Tc	105	7.6	4.57	0.959	9.00E-01	6.50E-02	9.30E-01	1.90E+00	7.03E+07
Sm	157	8	2.26	0.958	4.70E-02	2.60E-02	3.30E-02	1.10E-01	4.07E+06
Ga	74	8.1	15.1	0.965	2.50E-04	3.50E-04	5.60E-05	6.60E-04	2.44E+04
Gd	162	8.4	2.4	0.963	1.10E-04	1.20E-04	1.70E-04	4.10E-04	1.52E+04
Dy	168	8.5	2.27	0.955	6.00E-07	3.60E-07	3.40E-05	3.40E-05	1.26E+03
As	79	9	0.19	0.965	4.20E-02	2.10E-02	3.50E-03	6.60E-02	2.44E+06
Cs	139	9.3	1.44	0.965	2.00E+01	1.50E+01	3.40E+00	3.80E+01	1.41E+09
Sn-Meta	125	9.5	1.95	0.964	1.60E-01	5.60E-02	2.30E-02	2.30E-01	8.51E+06
Sb-Meta	128	10.1	10.7	0.965	8.90E-02	3.90E-02	1.10E-02	1.40E-01	5.18E+06
Y	95	10.3	4.96	0.964	1.50E+01	7.60E+00	2.00E+00	2.50E+01	9.25E+08
Ba	142	10.7	5.75	0.959	4.00E+01	1.60E+01	5.80E+00	6.20E+01	2.29E+09
Mo	102	11.3	0.107	0.962	8.10E+00	2.10E+00	6.50E-01	1.10E+01	4.07E+08
Nd	152	11.4	1.1	0.957	1.70E+00	6.50E-01	4.20E-01	2.80E+00	1.04E+08
Nd	151	12.4	4.57	0.959	9.00E-01	2.80E-01	1.30E-01	1.30E+00	4.81E+07
Te	133	12.4	6.29	0.964	1.30E+01	1.40E+01	5.80E+00	3.30E+01	1.22E+09
Pr	147	13.4	3.02	0.943	3.80E+00	7.50E-02	1.70E-02	3.90E+00	1.44E+08
La	143	14.1	1.31	0.965	3.80E+00	4.00E+00	2.90E-01	8.10E+00	3.00E+08
Xe	138	14.1	5.46	0.963	4.80E+01	2.20E+01	1.30E+01	8.30E+01	3.07E+09
Tc	101	14.2	1.91	0.964	1.60E-03	3.50E-04	3.80E-05	2.00E-03	7.40E+04
Mo	101	14.6	7.74	0.964	1.80E+00	3.10E-01	6.40E-02	2.20E+00	8.14E+07
Xe-Meta	135	15.3	2.54	0.959	1.60E+00	8.00E-01	9.30E-02	2.50E+00	9.25E+07
Rb	89	15.4	11.1	0.965	1.90E+00	1.70E+00	5.20E-01	4.10E+00	1.52E+08
Pr	144	17.28	0.14	0.965	1.20E-05	1.80E-06	1.60E-07	1.40E-05	5.18E+02
Rb	88	17.7	3.02	0.965	1.80E-01	2.00E-01	1.00E-02	3.90E-01	1.44E+07
In-Meta	119	17.9	4.57	0.959	1.20E-04	1.30E-04	7.30E-06	2.60E-04	9.62E+03
Eu	159	18.1	1.9	0.94	1.20E-03	1.10E-03	1.10E-03	3.40E-03	1.26E+05

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Tc	104	18.2	11.1	0.965	7.10E-01	1.10E-01	7.80E-02	9.10E-01	3.37E+07
Ba	141	18.3	4.99	0.963	1.30E+01	5.60E+00	1.10E+00	1.90E+01	7.03E+08
Y	94	18.7	4.09	0.965	2.90E+00	2.40E+00	1.60E-01	5.50E+00	2.04E+08
Sb-Meta	126	19	8.79	0.965	1.30E-02	3.80E-04	4.50E-05	1.30E-02	4.81E+05
Tb	163	19.5	4.5	0.963	1.50E-06	5.30E-07	2.00E-06	4.10E-06	1.52E+02
Ag	115	20	2.43	0.964	1.40E-03	1.20E-03	1.50E-04	2.70E-03	9.99E+04
Sb-Meta	124	20.2	2.51	0.965	1.70E-05	5.70E-04	3.00E-05	6.20E-04	2.29E+04
Ga	70	21.1	0.388	0.965	9.80E-11	1.80E-10	1.70E-10	4.50E-10	1.67E-02
Sm	155	22.2	0.541	0.953	8.30E-03	2.40E-03	1.30E-03	1.20E-02	4.44E+05
Se	83	22.3	13.7	0.965	9.00E-01	4.60E-01	1.10E-01	1.50E+00	5.55E+07
Sb	131	23	10.8	0.965	1.00E+01	4.30E+00	3.70E+00	1.80E+01	6.66E+08
Pd	111	23.4	0.263	0.959	1.50E-05	1.50E-05	1.50E-07	3.00E-05	1.11E+03
Pr	146	24.2	5.18	0.965	2.10E-02	5.00E-03	8.00E-04	2.70E-02	9.99E+05
Te	131	25	2.36	0.96	5.40E-01	2.00E-01	1.30E-03	7.50E-01	2.78E+07
Br	84	31.8	8.07	0.964	8.20E-02	1.70E-02	4.30E-03	1.00E-01	3.70E+06
Cs	138	32.2	11.7	0.965	1.10E+00	1.10E+00	8.50E-02	2.30E+00	8.51E+07
Sb	130	38.4	18	0.964	7.90E-01	2.60E-01	1.90E-01	1.20E+00	4.44E+07
Sn-Meta	123	40.1	0.823	0.959	1.10E-03	2.30E-03	2.60E-04	3.60E-03	1.33E+05
Te	134	42	5.13	0.958	2.10E+01	9.50E+00	8.50E+00	3.90E+01	1.44E+09
In	117	44	4.01	0.962	1.20E-06	8.50E-07	1.90E-08	2.00E-06	7.40E+01
Eu	158	45.9	6.87	0.959	3.90E-04	2.00E-04	1.50E-04	7.40E-04	2.74E+04
Nb-Meta	98	51	15.1	0.965	1.10E-01	6.50E-03	1.30E-03	1.10E-01	4.07E+06
I	134	52.6	14.1	0.965	1.30E+00	9.30E-01	7.50E-01	3.00E+00	1.11E+08
In-Meta	116	54.2	12.6	0.965	1.00E-08	7.10E-09	1.20E-10	1.70E-08	6.29E-01
Te-Meta	133	55.4	10.2	0.961	7.60E+00	2.40E+00	3.20E+00	1.30E+01	4.81E+08
Rh-Meta	103	56.12	0.15	0.921	1.10E-09	1.80E-10	1.30E-11	1.30E-09	4.81E-02

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Se-Meta	81	57.3	0.0621	0.959	1.70E-02	4.40E-03	4.10E-04	2.20E-02	8.14E+05
Sn	128	59.1	5.15	0.94	7.20E-01	5.10E-01	3.10E-01	1.50E+00	5.55E+07
Te	129	69.6	0.523	0.939	1.20E-05	3.90E-06	5.30E-07	1.60E-05	5.92E+02
Nb-Meta	97	73.8	3.77	0.965	2.10E-02	1.90E-03	2.40E-04	2.30E-02	8.51E+05
Kr	87	76.2	3.81	0.965	8.50E-01	3.00E-01	4.10E-02	1.20E+00	4.44E+07
Ge	75	82.8	0.192	0.965	1.20E-06	1.10E-06	4.60E-08	2.30E-06	8.51E+01
Ba	139	83.76	0.254	0.957	1.20E-01	1.60E-02	3.00E-03	1.30E-01	4.81E+06
Ge	78	87	1.53	0.965	1.10E-02	1.70E-02	1.60E-03	3.00E-02	1.11E+06
As	78	90.72	6.83	0.965	2.00E-04	2.10E-04	1.50E-05	4.20E-04	1.55E+04
La	142	92.4	10.9	0.964	1.50E-01	2.10E-02	5.10E-03	1.70E-01	6.29E+06
In-Meta	117	116.4	0.793	0.948	1.00E-07	6.60E-08	1.50E-09	1.70E-07	6.29E+00
Sn	127	127.2	9.99	0.964	9.60E-02	9.10E-02	3.50E-02	2.20E-01	8.14E+06
Tb-Meta	162	133.8	6.1	0.962	4.70E-08	3.20E-08	2.40E-08	1.00E-07	3.70E+00
I	132	136.8	12.5	0.965	1.90E-02	4.90E-03	1.30E-02	3.70E-02	1.37E+06
Dy	165	139.8	0.158	0.944	1.50E-08	6.70E-09	2.30E-08	4.50E-08	1.67E+00
Br	83	144	0.0393	0.965	1.90E-02	1.50E-03	1.80E-04	2.10E-02	7.77E+05
Cd	117	149.4	5.68	0.963	1.10E-04	5.40E-05	3.60E-06	1.60E-04	5.92E+03
Pm	150	160.8	7.68	0.965	2.60E-05	1.00E-05	1.80E-06	3.80E-05	1.41E+03
Sr	92	162.6	6.77	0.965	9.30E-01	6.50E-01	5.70E-02	1.60E+00	5.92E+07
Sr-Meta	87	168.6	1.87	0.964	2.10E-07	3.80E-08	1.50E-09	2.50E-07	9.25E+00
Kr	88	170.4	8.97	0.964	1.40E+00	4.80E-01	1.90E-01	2.10E+00	7.77E+07
Ho	167	186	2.08	0.959	7.80E-10	1.90E-10	1.80E-09	2.80E-09	1.04E-01
Ag	112	187.8	3.59	0.965	6.20E-07	5.30E-08	8.80E-10	6.70E-07	2.48E+01
Cd-Meta	117	204	10.1	0.965	2.60E-04	1.50E-04	1.00E-05	4.20E-04	1.55E+04
La	141	234	0.13	0.965	1.10E-02	1.30E-03	1.70E-04	1.30E-02	4.81E+05
Zn-Meta	71	238.2	8.83	0.965	1.90E-07	4.10E-07	1.80E-07	7.80E-07	2.89E+01

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Sb	129	264	7.81	0.965	3.40E-02	1.50E-02	1.10E-02	6.00E-02	2.22E+06
Br-Meta	80	265.2	0.257	0.923	5.90E-08	2.20E-08	1.00E-09	8.20E-08	3.03E+00
Ru	105	266.4	4.44	0.961	5.90E-08	2.50E-08	1.20E-04	1.20E-04	4.44E+03
Kr-Meta	85	268.8	0.79	0.964	3.10E-03	1.60E-04	1.40E-05	3.20E-03	1.18E+05
Ga	73	292.2	1.94	0.962	5.80E-07	1.10E-06	1.90E-07	1.80E-06	6.66E+01
Ag	113	318	0.404	0.964	2.40E-07	1.60E-07	5.10E-09	4.10E-07	1.52E+01
Pr	145	358.8	0.0994	0.953	1.30E-04	2.70E-05	2.90E-06	1.60E-04	5.92E+03
Tc-Meta	99	360.6	0.795	0.959	1.10E-08	1.80E-09	1.00E-10	1.30E-08	4.81E-01
I	135	394.2	8.04	0.965	1.00E+00	6.00E-01	3.10E-01	2.00E+00	7.40E+07
Er	171	451.2	2.08	0.956	4.90E-11	2.80E-11	2.50E-09	2.60E-09	9.62E-02
Sb	128	546	17.4	0.965	2.80E-03	5.30E-04	1.50E-04	3.40E-03	1.26E+05
Xe	135	546	1.38	0.963	2.00E-02	1.50E-02	1.80E-03	3.70E-02	1.37E+06
Eu-Meta	152	558	1.68	0.949	3.40E-11	5.50E-12	3.50E-13	4.00E-11	1.48E-03
Sm	156	564	0.673	0.953	7.50E-04	2.70E-04	1.90E-04	1.20E-03	4.44E+04
Te	127	564	0.0287	0.961	2.50E-09	1.30E-09	1.60E-11	3.80E-09	1.41E-01
Sr	91	570	3.86	0.965	6.20E-02	7.90E-02	1.90E-03	1.40E-01	5.18E+06
Y	93	612	0.488	0.965	2.50E-02	2.20E-02	5.80E-04	4.80E-02	1.78E+06
Ge	77	678	5.82	0.965	1.20E-04	3.10E-04	1.40E-05	4.50E-04	1.67E+04
Zn-Meta	69	825	2.38	0.965	1.80E-10	3.80E-10	5.20E-10	1.10E-09	4.07E-02
Ga	72	846	13.4	0.965	6.40E-09	1.30E-08	2.00E-09	2.10E-08	7.77E-01
Eu	157	908	1.8	0.944	9.80E-06	3.50E-06	2.00E-06	1.50E-05	5.55E+02
Gd	159	1116	0.342	0.942	4.70E-07	2.60E-07	7.30E-08	8.10E-07	3.00E+01
Pd	112	1202	0.718	0.876	1.50E-05	1.60E-05	7.50E-07	3.20E-05	1.18E+03
I	133	1248	3.47	0.965	1.90E-02	2.00E-02	1.40E-02	5.30E-02	1.96E+06
As	76	1578	2.3	0.965	1.50E-08	2.30E-08	3.20E-10	3.80E-08	1.41E+00
Ho	166	1608	0.16	0.942	3.50E-12	9.20E-13	3.70E-12	8.20E-12	3.03E-04

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Pm	151	1704	1.9	0.955	5.30E-05	1.20E-05	2.60E-06	6.80E-05	2.52E+03
Te-Meta	131	1944	8.1	0.96	1.70E-02	7.60E-03	1.70E-03	2.60E-02	9.62E+05
Ce	143	1987	1.85	0.944	2.20E-03	4.60E-05	4.10E-06	2.30E-03	8.51E+04
Rh	105	2124	0.44	0.964	0.00E+00	1.90E-09	1.90E-09	3.80E-09	1.41E-01
As	77	2328	0.0452	0.964	2.60E-07	5.40E-07	1.70E-08	8.20E-07	3.03E+01
La	140	2416	11.7	0.965	3.00E-04	5.60E-06	9.30E-07	3.10E-04	1.15E+04
Sm	153	2778	0.481	0.938	4.10E-06	1.00E-06	1.60E-07	5.20E-06	1.92E+02
Zn	72	2790	0.97	0.959	3.10E-07	7.20E-07	1.20E-07	1.10E-06	4.07E+01
Er	172	2952	3	0.952	1.00E-11	6.10E-12	4.90E-09	5.00E-09	1.85E-01
Xe-Meta	133	3154	0.639	0.928	8.40E-05	8.90E-05	3.50E-05	2.10E-04	7.77E+03
Pm	149	3185	0.0659	0.962	1.70E-07	3.40E-08	3.30E-09	2.10E-07	7.77E+00
Cd	115	3208	1.16	0.961	4.00E-08	1.30E-08	3.00E-10	5.30E-08	1.96E+00
Ni	66	3276	2.83	0.965	2.50E-10	1.00E-09	2.20E-09	3.50E-09	1.30E-01
Cu	67	3715	0.574	0.962	3.70E-11	9.00E-11	3.80E-10	5.10E-10	1.89E-02
Tm	172	3816	2.4	0.958	6.20E-14	2.00E-14	7.30E-12	7.40E-12	2.74E-04
Y	90	3845	3.57	0.965	3.30E-07	7.90E-08	5.70E-09	4.10E-07	1.52E+01
Mo	99	3957	0.917	0.959	1.50E-03	1.20E-05	1.00E-06	1.50E-03	5.55E+04
Te	132	4694	1.93	0.944	4.60E-02	1.50E-02	9.00E-03	7.00E-02	2.59E+06
Dy	166	4896	0.315	0.936	1.10E-09	6.30E-10	4.80E-09	6.60E-09	2.44E-01
Nb-Meta	95	5198	1.71	0.938	6.70E-07	1.10E-08	8.20E-10	6.80E-07	2.52E+01
Sb	127	5530	3.96	0.963	1.80E-04	2.90E-05	3.30E-06	2.10E-04	7.77E+03
Xe	133	7550	0.568	0.935	1.20E-05	1.30E-05	5.00E-06	3.00E-05	1.11E+03
Cs	132	9324	4.6	0.947	1.10E-09	1.90E-12	2.80E-13	1.10E-09	4.07E-02
Tb	161	9950	0.571	0.93	8.40E-10	5.10E-10	1.40E-10	1.50E-09	5.55E-02
I	131	11578	2.2	0.963	4.80E-05	6.20E-06	6.10E-12	5.40E-05	2.00E+03
Sn	125	13867	1.76	0.965	8.60E-05	1.10E-04	4.40E-05	2.40E-04	8.88E+03

Nuclide	Atomic Mass	Half-life (minutes)	Gamma Constant $\left(\frac{R \cdot cm^2}{mCi \cdot h}\right)$	f-factor	U235th (mCi)	U235F (mCi)	U238F (mCi)	Total Yield (mCi)	Total Yield (Bq)
Nd	147	15811	0.931	0.943	6.00E-07	1.20E-07	8.20E-09	7.30E-07	2.70E+01
Xe-Meta	131	17136	0.521	0.923	2.90E-09	9.30E-10	1.70E-11	3.80E-09	1.41E-01
Sb	126	17856	15.6	0.965	5.10E-06	2.90E-07	3.40E-08	5.40E-06	2.00E+02
Ba	140	18360	1.14	0.953	3.70E-03	8.50E-04	1.30E-04	4.70E-03	1.74E+05
Eu	156	21888	6.21	0.961	1.00E-07	2.50E-08	9.80E-09	1.40E-07	5.18E+00
Ce	141	46800	0.453	0.953	1.50E-08	4.50E-08	1.70E-10	6.10E-08	2.26E+00
Te-Meta	129	48384	0.497	0.927	4.10E-08	1.60E-08	2.20E-09	5.90E-08	2.18E+00
Ru	103	56549	2.87	0.965	5.90E-08	1.20E-08	1.20E-09	7.20E-08	2.66E+00
Cd-Meta	115	64224	0.175	0.965	1.20E-08	2.50E-09	5.60E-11	1.50E-08	5.55E-01
Te-Meta	125	83520	1.44	0.921	3.90E-14	3.20E-14	2.20E-10	2.20E-10	8.14E-03
Y	91	84240	0.0163	0.876	5.50E-07	1.30E-07	9.50E-09	6.90E-07	2.55E+01
Sb	124	86688	9.57	0.965	1.20E-08	1.30E-07	6.90E-09	1.50E-07	5.55E+00
Zr	95	92189	4.12	0.965	1.90E-04	1.10E-05	1.20E-06	2.10E-04	7.77E+03
Tb	160	104112	6.09	0.96	3.80E-11	7.10E-12	1.60E-12	4.70E-11	1.74E-03
Te-Meta	127	156960	0.448	0.921	2.20E-11	1.30E-11	1.70E-13	3.50E-11	1.30E-03
Sn	123	186048	0.0364	0.965	6.10E-07	1.40E-06	1.60E-07	2.20E-06	8.14E+01
Ce	144	409824	0.135	0.945	1.20E-05	2.70E-06	3.20E-07	1.50E-05	5.55E+02
Sn-Meta	119	421920	0.898	0.921	3.80E-11	4.10E-11	4.10E-13	7.90E-11	2.92E-03
Tm	171	1009843	0.00403	0.936	0.00E+00	0.00E+00	7.60E-16	7.60E-16	2.81E-08

Appendix C: EPD 1 Data

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
3-Jan-12	9:19:55	0.1	0.3
3-Jan-12	8:59:55	0.1	0.2
3-Jan-12	8:29:55	0.1	0.3
3-Jan-12	8:09:55	0.1	0.3
3-Jan-12	7:49:55	0.1	0.3
3-Jan-12	7:29:55	0.1	0.2
3-Jan-12	6:59:55	0.1	0.3
3-Jan-12	6:39:55	0.1	0.2
3-Jan-12	6:09:55	0.1	0.3
3-Jan-12	5:49:55	0.1	0.3
3-Jan-12	5:29:55	0.1	0.3
3-Jan-12	5:09:55	0.1	0.3
3-Jan-12	4:49:55	0.1	0.2
3-Jan-12	4:19:55	0.1	0.3
3-Jan-12	3:59:55	0.1	0.2
3-Jan-12	3:29:55	0.1	0.3
3-Jan-12	3:09:55	0.1	0.2
3-Jan-12	2:39:55	0.1	0.3
3-Jan-12	2:19:55	0.1	0.3
3-Jan-12	1:59:55	0.1	0.2
3-Jan-12	1:29:55	0.1	0.3
3-Jan-12	1:09:55	0.1	0.3
3-Jan-12	0:49:55	0.1	0.3
3-Jan-12	0:29:55	0.1	0.2
2-Jan-12	23:59:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	23:39:55	0.1	0.3
2-Jan-12	23:19:55	0.1	0.3
2-Jan-12	22:59:55	0.1	0.3
2-Jan-12	22:39:55	0.1	0.3
2-Jan-12	22:19:55	0.1	0.2
2-Jan-12	21:49:55	0.1	0.3
2-Jan-12	21:29:55	0.1	0.3
2-Jan-12	21:09:55	0.1	0.3
2-Jan-12	20:49:55	0.1	0.2
2-Jan-12	20:19:55	0.1	0.3
2-Jan-12	19:59:55	0.1	0.3
2-Jan-12	19:39:55	0.1	0.3
2-Jan-12	19:19:55	0.1	0.3
2-Jan-12	18:59:55	0.1	0.2
2-Jan-12	18:29:55	0.1	0.3
2-Jan-12	18:09:55	0.1	0.3
2-Jan-12	17:49:55	0.1	0.3
2-Jan-12	17:29:55	0.1	0.3
2-Jan-12	17:09:55	0.1	0.2
2-Jan-12	16:39:55	0.1	0.3
2-Jan-12	16:19:55	0.1	0.3
2-Jan-12	15:59:55	0.1	0.3
2-Jan-12	15:39:55	0.1	0.3
2-Jan-12	15:19:55	0.1	0.3
2-Jan-12	14:59:55	0.1	0.2
2-Jan-12	14:29:55	0.1	0.3
2-Jan-12	14:09:55	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	13:39:55	0.1	0.6
2-Jan-12	13:29:55	0.1	0.2
2-Jan-12	12:59:55	0.1	0.3
2-Jan-12	12:39:55	0.1	0.2
2-Jan-12	12:09:55	0.1	0.3
2-Jan-12	11:49:55	0.1	0.3
2-Jan-12	11:29:55	0.1	0.3
2-Jan-12	11:09:55	0.1	0.3
2-Jan-12	10:49:55	0.1	0.3
2-Jan-12	10:29:55	0.1	0.2
2-Jan-12	9:59:55	0.1	0.3
2-Jan-12	9:39:55	0.1	0.3
2-Jan-12	9:19:55	0.1	0.3
2-Jan-12	8:59:55	0.1	0.3
2-Jan-12	8:39:55	0.1	0.2
2-Jan-12	8:09:55	0.1	0.3
2-Jan-12	7:49:55	0.1	0.3
2-Jan-12	7:29:55	0.1	0.3
2-Jan-12	7:09:55	0.1	0.3
2-Jan-12	6:49:55	0.1	0.2
2-Jan-12	6:19:55	0.1	0.3
2-Jan-12	5:59:55	0.1	0.3
2-Jan-12	5:39:55	0.1	0.3
2-Jan-12	5:19:55	0.1	0.3
2-Jan-12	4:59:55	0.1	0.3
2-Jan-12	4:39:55	0.1	0.3
2-Jan-12	4:19:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	3:59:55	0.1	0.3
2-Jan-12	3:39:55	0.1	0.3
2-Jan-12	3:19:55	0.1	0.3
2-Jan-12	2:59:55	0.1	0.3
2-Jan-12	2:39:55	0.1	0.3
2-Jan-12	2:19:55	0.1	0.3
2-Jan-12	1:59:55	0.1	0.2
2-Jan-12	1:29:55	0.1	0.3
2-Jan-12	1:09:55	0.1	0.3
2-Jan-12	0:49:55	0.1	0.3
2-Jan-12	0:29:55	0.1	0.3
2-Jan-12	0:09:55	0.1	0.3
1-Jan-12	23:49:55	0.1	0.3
1-Jan-12	23:29:55	0.1	0.3
1-Jan-12	23:09:55	0.1	0.3
1-Jan-12	22:49:55	0.1	0.3
1-Jan-12	22:29:55	0.1	0.3
1-Jan-12	22:09:55	0.1	0.3
1-Jan-12	21:49:55	0.1	0.2
1-Jan-12	21:19:55	0.1	0.3
1-Jan-12	20:59:55	0.1	0.3
1-Jan-12	20:39:55	0.1	0.3
1-Jan-12	20:19:55	0.1	0.3
1-Jan-12	19:59:55	0.1	0.3
1-Jan-12	19:39:55	0.1	0.3
1-Jan-12	19:19:55	0.1	0.3
1-Jan-12	18:59:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	18:39:55	0.1	0.3
1-Jan-12	18:19:55	0.1	0.3
1-Jan-12	17:59:55	0.1	0.3
1-Jan-12	17:39:55	0.1	0.3
1-Jan-12	17:19:55	0.1	0.3
1-Jan-12	16:59:55	0.1	0.3
1-Jan-12	16:39:55	0.1	0.3
1-Jan-12	16:19:55	0.1	0.3
1-Jan-12	15:59:55	0.1	0.3
1-Jan-12	15:39:55	0.1	0.3
1-Jan-12	15:19:55	0.1	0.3
1-Jan-12	14:59:55	0.1	0.3
1-Jan-12	14:39:55	0.1	0.3
1-Jan-12	14:19:55	0.1	0.3
1-Jan-12	13:59:55	0.1	0.3
1-Jan-12	13:39:55	0.1	0.3
1-Jan-12	13:19:55	0.1	0.3
1-Jan-12	12:59:55	0.1	0.3
1-Jan-12	12:39:55	0.1	0.3
1-Jan-12	12:19:55	0.1	0.3
1-Jan-12	11:59:55	0.1	0.3
1-Jan-12	11:39:55	0.1	0.3
1-Jan-12	11:19:55	0.1	0.2
1-Jan-12	10:49:55	0.1	0.3
1-Jan-12	10:29:55	0.1	0.3
1-Jan-12	10:09:55	0.1	0.3
1-Jan-12	9:49:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	9:29:55	0.1	0.3
1-Jan-12	9:09:55	0.1	0.3
1-Jan-12	8:49:55	0.1	0.3
1-Jan-12	8:29:55	0.1	0.3
1-Jan-12	8:09:55	0.1	0.3
1-Jan-12	7:49:55	0.1	0.3
1-Jan-12	7:29:55	0.1	0.3
1-Jan-12	7:09:55	0.1	0.3
1-Jan-12	6:49:55	0.1	0.3
1-Jan-12	6:29:55	0.1	0.2
1-Jan-12	5:59:55	0.1	0.3
1-Jan-12	5:39:55	0.1	0.3
1-Jan-12	5:19:55	0.1	0.3
1-Jan-12	4:59:55	0.1	0.3
1-Jan-12	4:39:55	0.1	0.6
1-Jan-12	4:29:55	0.1	0.3
1-Jan-12	4:09:55	0.1	0.3
1-Jan-12	3:49:55	0.1	0.2
1-Jan-12	3:19:55	0.1	0.3
1-Jan-12	2:59:55	0.1	0.3
1-Jan-12	2:39:55	0.1	0.3
1-Jan-12	2:19:55	0.1	0.3
1-Jan-12	1:59:55	0.1	0.3
1-Jan-12	1:39:55	0.1	0.3
1-Jan-12	1:19:55	0.1	0.3
1-Jan-12	0:59:55	0.1	0.3
1-Jan-12	0:39:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	0:19:55	0.1	0.3
31-Dec-11	23:59:55	0.1	0.3
31-Dec-11	23:39:55	0.1	0.3
31-Dec-11	23:19:55	0.1	0.3
31-Dec-11	22:59:55	0.1	0.2
31-Dec-11	22:29:55	0.1	0.3
31-Dec-11	22:09:55	0.1	0.3
31-Dec-11	21:49:55	0.1	0.3
31-Dec-11	21:29:55	0.1	0.3
31-Dec-11	21:09:55	0.1	0.3
31-Dec-11	20:49:55	0.1	0.3
31-Dec-11	20:29:55	0.1	0.3
31-Dec-11	20:09:55	0.1	0.3
31-Dec-11	19:49:55	0.1	0.3
31-Dec-11	19:29:55	0.1	0.3
31-Dec-11	19:09:55	0.1	0.3
31-Dec-11	18:49:55	0.1	0.3
31-Dec-11	18:29:55	0.1	0.3
31-Dec-11	18:09:55	0.1	0.3
31-Dec-11	17:49:55	0.1	0.3
31-Dec-11	17:29:55	0.1	0.3
31-Dec-11	17:09:55	0.1	0.3
31-Dec-11	16:49:55	0.1	0.6
31-Dec-11	16:39:55	0.1	0.3
31-Dec-11	16:19:55	0.1	0.3
31-Dec-11	15:59:55	0.1	0.3
31-Dec-11	15:39:55	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	15:19:55	0.1	0.3
31-Dec-11	14:59:55	0.1	0.3
31-Dec-11	14:39:55	0.1	0.3
31-Dec-11	14:19:55	0.1	0.3
31-Dec-11	13:59:55	0.1	0.6
31-Dec-11	13:49:55	0.1	0.3
31-Dec-11	13:29:55	0.1	0.3
31-Dec-11	13:09:55	0.1	0.3
31-Dec-11	12:49:55	0.1	0.3
31-Dec-11	12:29:55	0.1	0.3
31-Dec-11	12:09:55	0.1	0.3
31-Dec-11	11:49:55	0.1	0.3
31-Dec-11	11:29:55	0.1	0.3
31-Dec-11	11:09:55	0.1	0.3
31-Dec-11	10:49:55	0.1	0.3
31-Dec-11	10:29:55	0.1	0.3
31-Dec-11	10:09:55	0.1	0.3
31-Dec-11	9:49:55	0.1	0.3
31-Dec-11	9:11:33	0.1	0.2
31-Dec-11	8:41:33	0.1	0.3
31-Dec-11	8:21:33	0.1	0.3
31-Dec-11	8:01:33	0.1	0.3
31-Dec-11	7:41:33	0.1	0.3
31-Dec-11	7:21:33	0.1	0.3
31-Dec-11	7:01:33	0.1	0.2
31-Dec-11	6:31:33	0.1	0.3
31-Dec-11	6:11:33	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	5:51:33	0.1	0.3
31-Dec-11	5:31:33	0.1	0.3
31-Dec-11	5:11:33	0.1	0.3
31-Dec-11	4:51:33	0.1	0.3
31-Dec-11	4:31:33	0.1	0.3
31-Dec-11	4:11:33	0.1	0.3
31-Dec-11	3:51:33	0.1	0.3
31-Dec-11	3:31:33	0.1	0.3
31-Dec-11	3:11:33	0.1	0.3
31-Dec-11	2:51:33	0.1	0.3
31-Dec-11	2:31:33	0.1	0.3
31-Dec-11	2:11:33	0.1	0.3
31-Dec-11	1:51:33	0.1	0.3
31-Dec-11	1:31:33	0.1	0.3
31-Dec-11	1:11:33	0.1	0.3
31-Dec-11	0:51:33	0.1	0.3
31-Dec-11	0:31:33	0.1	0.3
31-Dec-11	0:11:33	0.1	0.3
30-Dec-11	23:51:33	0.1	0.3
30-Dec-11	23:31:33	0.1	0.3
30-Dec-11	23:11:33	0.1	0.3
30-Dec-11	22:51:33	0.1	0.3
30-Dec-11	22:31:33	0.1	0.3
30-Dec-11	22:11:33	0.1	0.3
30-Dec-11	21:51:33	0.1	0.3
30-Dec-11	21:31:33	0.1	0.3
30-Dec-11	21:11:33	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	20:51:33	0.1	0.3
30-Dec-11	20:31:33	0.1	0.3
30-Dec-11	20:11:33	0.1	0.3
30-Dec-11	19:51:33	0.1	0.6
30-Dec-11	19:41:33	0.1	0.3
30-Dec-11	19:21:33	0.1	0.3
30-Dec-11	19:01:33	0.1	0.6
30-Dec-11	18:51:33	0.1	0.3
30-Dec-11	18:31:33	0.1	0.3
30-Dec-11	18:11:33	0.1	0.3
30-Dec-11	17:51:33	0.1	0.3
30-Dec-11	17:31:33	0.1	0.6
30-Dec-11	17:21:33	0.1	0.3
30-Dec-11	17:01:33	0.1	0.3
30-Dec-11	16:41:33	0.1	0.3
30-Dec-11	16:21:33	0.1	0.6
30-Dec-11	16:11:33	0.1	0.3
30-Dec-11	15:51:33	0.1	0.3
30-Dec-11	15:31:33	0.1	0.6
30-Dec-11	15:21:33	0.1	0.3
30-Dec-11	15:01:33	0.1	0.6
30-Dec-11	14:51:33	0.1	0.3
30-Dec-11	14:31:33	0.1	0.3
30-Dec-11	14:11:33	0.1	0.6
30-Dec-11	14:01:33	0.1	0.3
30-Dec-11	13:41:33	0.1	0.3
30-Dec-11	13:21:33	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	13:01:33	0.1	0.3
30-Dec-11	12:41:33	0.1	0.6
30-Dec-11	12:31:33	0.1	0.3
30-Dec-11	12:11:33	0.1	0.3
30-Dec-11	11:51:33	0.1	0.6
30-Dec-11	11:41:33	0.1	0.3
30-Dec-11	11:21:33	0.1	0.3
30-Dec-11	11:01:33	0.1	0.3
30-Dec-11	10:41:33	0.1	0.6
30-Dec-11	10:31:33	0.1	0.3
30-Dec-11	10:11:33	0.1	0.3
30-Dec-11	9:51:33	0.1	0.3
30-Dec-11	9:31:33	0.1	0.6
30-Dec-11	9:21:33	0.1	0.3
30-Dec-11	9:01:33	0.1	0.6
30-Dec-11	8:51:33	0.1	0.3
30-Dec-11	8:31:33	0.1	0.3
30-Dec-11	8:11:33	0.1	0.6
30-Dec-11	8:01:33	0.1	0.3
30-Dec-11	7:41:33	0.1	0.6
30-Dec-11	7:31:33	0.1	0.6
30-Dec-11	7:21:33	0.1	0.3
30-Dec-11	7:01:33	0.1	0.6
30-Dec-11	6:51:33	0.1	0.3
30-Dec-11	6:31:33	0.1	0.3
30-Dec-11	6:11:33	0.1	0.6
30-Dec-11	6:01:33	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	5:41:33	0.1	0.6
30-Dec-11	5:31:33	0.1	0.3
30-Dec-11	5:11:33	0.1	0.6
30-Dec-11	5:01:33	0.1	0.6
30-Dec-11	4:51:33	0.1	0.3
30-Dec-11	4:31:33	0.1	0.6
30-Dec-11	4:21:33	0.1	0.3
30-Dec-11	4:01:33	0.1	0.6
30-Dec-11	3:51:33	0.1	0.3
30-Dec-11	3:31:33	0.1	0.6
30-Dec-11	3:21:33	0.1	0.6
30-Dec-11	3:11:33	0.1	0.3
30-Dec-11	2:51:33	0.1	0.6
30-Dec-11	2:41:33	0.1	0.6
30-Dec-11	2:31:33	0.1	0.3
30-Dec-11	2:11:33	0.1	0.3
30-Dec-11	1:51:33	0.1	0.6
30-Dec-11	1:41:33	0.1	0.6
30-Dec-11	1:31:33	0.1	0.3
30-Dec-11	1:11:33	0.1	0.6
30-Dec-11	1:01:33	0.1	0.6
30-Dec-11	0:51:33	0.1	0.6
30-Dec-11	0:41:33	0.1	0.3
30-Dec-11	0:21:33	0.1	0.6
30-Dec-11	0:11:33	0.1	0.6
30-Dec-11	0:01:33	0.1	0.6
29-Dec-11	23:51:33	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	23:31:33	0.1	0.6
29-Dec-11	23:21:33	0.1	0.6
29-Dec-11	23:11:33	0.1	0.6
29-Dec-11	23:01:33	0.1	0.3
29-Dec-11	22:41:33	0.1	0.6
29-Dec-11	22:31:33	0.1	0.6
29-Dec-11	22:21:33	0.1	0.3
29-Dec-11	22:01:33	0.1	0.6
29-Dec-11	21:51:33	0.1	0.6
29-Dec-11	21:41:33	0.1	0.6
29-Dec-11	21:31:33	0.1	0.3
29-Dec-11	21:11:33	0.1	0.6
29-Dec-11	21:01:33	0.1	0.6
29-Dec-11	20:51:33	0.1	0.3
29-Dec-11	20:31:33	0.1	0.6
29-Dec-11	20:21:33	0.1	0.6
29-Dec-11	20:11:33	0.1	0.6
29-Dec-11	20:01:33	0.1	0.3
29-Dec-11	19:41:33	0.1	0.6
29-Dec-11	19:31:33	0.1	0.6
29-Dec-11	19:21:33	0.1	0.6
29-Dec-11	19:11:33	0.1	0.6
29-Dec-11	19:01:33	0.1	0.6
29-Dec-11	18:51:33	0.1	0.3
29-Dec-11	18:31:33	0.1	0.6
29-Dec-11	18:21:33	0.1	0.6
29-Dec-11	18:11:33	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	18:01:33	0.1	0.6
29-Dec-11	17:51:33	0.1	0.6
29-Dec-11	17:41:33	0.1	0.6
29-Dec-11	17:31:33	0.1	0.6
29-Dec-11	17:21:33	0.1	0.6
29-Dec-11	17:11:33	0.1	0.3
29-Dec-11	16:51:33	0.1	0.6
29-Dec-11	16:41:33	0.1	0.6
29-Dec-11	16:31:33	0.1	0.6
29-Dec-11	16:21:33	0.1	0.6
29-Dec-11	16:11:33	0.1	0.6
29-Dec-11	16:01:33	0.1	0.6
29-Dec-11	15:51:33	0.1	0.6
29-Dec-11	15:41:33	0.1	0.6
29-Dec-11	15:31:33	0.1	0.6
29-Dec-11	15:21:33	0.1	0.6
29-Dec-11	15:11:33	0.1	0.6
29-Dec-11	15:01:33	0.1	0.6
29-Dec-11	14:51:33	0.1	0.6
29-Dec-11	14:41:33	0.1	0.6
29-Dec-11	14:31:33	0.1	0.6
29-Dec-11	14:21:33	0.1	0.3
29-Dec-11	14:01:33	0.2	1.2
29-Dec-11	13:51:33	0.1	0.6
29-Dec-11	13:41:33	0.1	0.6
29-Dec-11	13:31:33	0.1	0.6
29-Dec-11	13:21:33	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	13:11:33	0.1	0.6
29-Dec-11	13:01:33	0.1	0.6
29-Dec-11	12:51:33	0.1	0.6
29-Dec-11	12:41:33	0.1	0.6
29-Dec-11	12:31:33	0.2	1.2
29-Dec-11	12:21:33	0.1	0.6
29-Dec-11	12:11:33	0.1	0.6
29-Dec-11	12:01:33	0.1	0.6
29-Dec-11	11:51:33	0.1	0.6
29-Dec-11	11:41:33	0.1	0.6
29-Dec-11	11:31:33	0.1	0.6
29-Dec-11	11:21:33	0.1	0.6
29-Dec-11	11:11:33	0.1	0.6
29-Dec-11	11:01:33	0.2	1.2
29-Dec-11	10:51:33	0.1	0.6
29-Dec-11	10:41:33	0.1	0.6
29-Dec-11	10:31:33	0.1	0.6
29-Dec-11	10:21:33	0.1	0.6
29-Dec-11	10:11:33	0.1	0.6
29-Dec-11	10:01:33	0.2	1.2
29-Dec-11	9:51:33	0.1	0.6
29-Dec-11	9:41:33	0.1	0.6
29-Dec-11	9:31:33	0.2	1.2
29-Dec-11	9:21:33	0.1	0.6
29-Dec-11	9:11:33	0.1	0.6
29-Dec-11	9:01:33	0.2	1.2
29-Dec-11	8:51:33	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	8:41:33	0.1	0.6
29-Dec-11	8:31:33	0.2	1.2
29-Dec-11	8:21:33	0.1	0.6
29-Dec-11	8:11:33	0.1	0.6
29-Dec-11	8:01:33	0.1	0.6
29-Dec-11	7:51:33	0.2	1.2
29-Dec-11	7:41:33	0.1	0.6
29-Dec-11	7:31:33	0.2	1.2
29-Dec-11	7:21:33	0.1	0.6
29-Dec-11	7:11:33	0.1	0.6
29-Dec-11	7:01:33	0.2	1.2
29-Dec-11	6:51:33	0.1	0.6
29-Dec-11	6:41:33	0.2	1.2
29-Dec-11	6:31:33	0.1	0.6
29-Dec-11	6:21:33	0.1	0.6
29-Dec-11	6:11:33	0.1	0.6
29-Dec-11	6:01:33	0.2	1.2
29-Dec-11	5:51:33	0.1	0.6
29-Dec-11	5:41:33	0.2	1.2
29-Dec-11	5:31:33	0.1	0.6
29-Dec-11	5:21:33	0.2	1.2
29-Dec-11	5:11:33	0.1	0.6
29-Dec-11	5:01:33	0.2	1.2
29-Dec-11	4:51:33	0.1	0.6
29-Dec-11	4:41:33	0.1	0.6
29-Dec-11	4:31:33	0.2	1.2
29-Dec-11	4:21:33	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	4:11:33	0.1	0.6
29-Dec-11	4:01:33	0.2	1.2
29-Dec-11	3:51:33	0.1	0.6
29-Dec-11	3:41:33	0.2	1.2
29-Dec-11	3:31:33	0.2	1.2
29-Dec-11	3:21:33	0.1	0.6
29-Dec-11	3:11:33	0.2	1.2
29-Dec-11	3:01:33	0.2	1.2
29-Dec-11	2:51:33	0.1	0.6
29-Dec-11	2:41:33	0.2	1.2
29-Dec-11	2:31:33	0.2	1.2
29-Dec-11	2:21:33	0.2	1.2
29-Dec-11	2:11:33	0.1	0.6
29-Dec-11	2:01:33	0.2	1.2
29-Dec-11	1:51:33	0.2	1.2
29-Dec-11	1:41:33	0.2	1.2
29-Dec-11	1:31:33	0.2	1.2
29-Dec-11	1:21:33	0.1	0.6
29-Dec-11	1:11:33	0.2	1.2
29-Dec-11	1:01:33	0.2	1.2
29-Dec-11	0:51:33	0.2	1.2
29-Dec-11	0:41:33	0.2	1.2
29-Dec-11	0:31:33	0.2	1.2
29-Dec-11	0:21:33	0.2	1.2
29-Dec-11	0:11:33	0.2	1.2
29-Dec-11	0:01:33	0.2	1.2
28-Dec-11	23:51:33	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	23:41:33	0.2	1.2
28-Dec-11	23:31:33	0.3	1.8
28-Dec-11	23:21:33	0.2	1.2
28-Dec-11	23:11:33	0.3	1.8
28-Dec-11	23:01:33	0.2	1.2
28-Dec-11	22:51:33	0.2	1.2
28-Dec-11	22:41:33	0.3	1.8
28-Dec-11	22:31:33	0.2	1.2
28-Dec-11	22:21:33	0.3	1.8
28-Dec-11	22:11:33	0.2	1.2
28-Dec-11	22:01:33	0.3	1.8
28-Dec-11	21:51:33	0.3	1.8
28-Dec-11	21:41:33	0.2	1.2
28-Dec-11	21:31:33	0.3	1.8
28-Dec-11	21:21:33	0.3	1.8
28-Dec-11	21:11:33	0.3	1.8
28-Dec-11	21:01:33	0.3	1.8
28-Dec-11	20:51:33	0.3	1.8
28-Dec-11	20:41:33	0.3	1.8
28-Dec-11	20:31:33	0.3	1.8
28-Dec-11	20:21:33	0.4	2.4
28-Dec-11	20:11:33	0.3	1.8
28-Dec-11	20:01:33	0.4	2.4
28-Dec-11	19:51:33	0.3	1.8
28-Dec-11	19:41:33	0.4	2.4
28-Dec-11	19:31:33	0.4	2.4
28-Dec-11	19:21:33	0.4	2.4

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	19:11:33	0.4	2.4
28-Dec-11	19:01:33	0.4	2.4
28-Dec-11	18:51:33	0.4	2.4
28-Dec-11	18:41:33	0.4	2.4
28-Dec-11	18:31:33	0.5	3
28-Dec-11	18:21:33	0.4	2.4
28-Dec-11	18:11:33	0.5	3
28-Dec-11	18:01:33	0.4	2.4
28-Dec-11	17:51:33	0.5	3
28-Dec-11	17:41:33	0.5	3
28-Dec-11	17:31:33	0.5	3
28-Dec-11	17:21:33	0.6	3.6
28-Dec-11	17:11:33	0.6	3.6
28-Dec-11	17:01:33	0.5	3
28-Dec-11	16:51:33	0.6	3.6
28-Dec-11	16:41:33	0.7	4.2
28-Dec-11	16:31:33	0.6	3.6
28-Dec-11	16:21:33	0.7	4.2
28-Dec-11	16:11:33	0.7	4.2
28-Dec-11	16:01:33	0.8	4.8
28-Dec-11	15:51:33	0.8	4.8
28-Dec-11	15:41:33	0.8	4.8
28-Dec-11	15:31:33	0.9	5.4
28-Dec-11	15:21:33	1	6
28-Dec-11	15:11:33	0.9	5.4
28-Dec-11	15:01:33	1.1	6.6
28-Dec-11	14:51:33	1.1	6.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	14:41:33	1.2	7.2
28-Dec-11	14:31:33	1.3	7.8
28-Dec-11	14:21:33	1.4	8.4
28-Dec-11	14:11:33	1.4	8.4
28-Dec-11	14:01:33	1.6	9.6
28-Dec-11	13:51:33	1.6	9.6
28-Dec-11	13:41:33	1.8	10.8
28-Dec-11	13:31:33	1.9	11.4
28-Dec-11	13:21:33	2.1	12.6
28-Dec-11	13:11:33	2.4	14.4
28-Dec-11	13:01:33	2.5	15
28-Dec-11	12:51:33	2.8	16.8
28-Dec-11	12:41:33	3.1	18.6
28-Dec-11	12:31:33	3.5	21
28-Dec-11	12:14:36	0.1	18
28-Dec-11	12:14:16	0.1	18
28-Dec-11	12:13:56	0.1	18
28-Dec-11	12:13:36	0.1	36
28-Dec-11	12:13:26	0.1	36
28-Dec-11	12:13:16	0.1	18
28-Dec-11	12:12:56	0.1	36
28-Dec-11	12:12:46	0.1	18
28-Dec-11	12:12:26	0.1	18
28-Dec-11	12:12:06	0.1	36
28-Dec-11	12:11:56	0.1	18
28-Dec-11	12:11:36	0.1	36
28-Dec-11	12:11:26	0.1	18

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:11:06	0.1	36
28-Dec-11	12:10:56	0.1	18
28-Dec-11	12:10:36	0.1	36
28-Dec-11	12:10:26	0.1	18
28-Dec-11	12:10:06	0.1	36
28-Dec-11	12:09:56	0.1	18
28-Dec-11	12:09:36	0.1	18
28-Dec-11	12:09:16	0.1	36
28-Dec-11	12:09:06	0.1	36
28-Dec-11	12:08:56	0.1	18
28-Dec-11	12:08:36	0.1	18
28-Dec-11	12:08:16	0.2	36
28-Dec-11	12:07:56	0.1	18
28-Dec-11	12:07:36	0.1	36
28-Dec-11	12:07:26	0.1	18
28-Dec-11	12:07:06	0.1	18
28-Dec-11	12:06:46	0.1	36
28-Dec-11	12:06:36	0.1	18
28-Dec-11	12:06:16	0.2	36
28-Dec-11	12:05:56	0.1	18
28-Dec-11	12:05:36	0.1	36
28-Dec-11	12:05:26	0.1	36
28-Dec-11	12:05:16	0.1	18
28-Dec-11	12:04:56	0.1	36
28-Dec-11	12:04:46	0.1	36
28-Dec-11	12:04:36	0.1	36
28-Dec-11	12:04:26	0.1	18

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:04:06	0.1	18
28-Dec-11	12:03:46	0.1	36
28-Dec-11	12:03:36	0.1	36
28-Dec-11	12:03:26	0.1	18
28-Dec-11	12:03:06	0.2	36
28-Dec-11	12:02:46	0.1	18
28-Dec-11	12:02:26	0.1	36
28-Dec-11	12:02:16	0.1	36
28-Dec-11	12:02:06	0.1	18
28-Dec-11	12:01:46	0.1	36
28-Dec-11	12:01:36	0.1	36
28-Dec-11	12:01:26	0.1	18
28-Dec-11	12:01:06	0.1	36
28-Dec-11	12:00:56	0.1	36
28-Dec-11	12:00:46	0.1	36
28-Dec-11	12:00:36	0.1	18
28-Dec-11	12:00:16	0.1	36
28-Dec-11	12:00:06	0.1	36
28-Dec-11	11:59:56	0.1	18
28-Dec-11	11:59:36	0.1	18
28-Dec-11	11:59:16	0.2	36
28-Dec-11	11:58:56	0.1	36
28-Dec-11	11:58:46	0.1	36
28-Dec-11	11:58:36	0.1	18
28-Dec-11	11:58:16	0.1	36
28-Dec-11	11:58:06	0.1	36
28-Dec-11	11:57:56	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:57:46	0.1	18
28-Dec-11	11:57:26	0.1	36
28-Dec-11	11:57:16	0.1	36
28-Dec-11	11:57:06	0.1	18
28-Dec-11	11:56:46	0.2	36
28-Dec-11	11:56:26	0.1	36
28-Dec-11	11:56:16	0.1	36
28-Dec-11	11:56:06	0.1	36
28-Dec-11	11:55:56	0.1	18
28-Dec-11	11:55:36	0.2	36
28-Dec-11	11:55:16	0.1	36
28-Dec-11	11:55:06	0.1	36
28-Dec-11	11:54:56	0.1	18
28-Dec-11	11:54:36	0.1	36
28-Dec-11	11:54:26	0.1	36
28-Dec-11	11:54:16	0.1	36
28-Dec-11	11:54:06	0.1	18
28-Dec-11	11:53:46	0.2	36
28-Dec-11	11:53:26	0.1	36
28-Dec-11	11:53:16	0.1	18
28-Dec-11	11:52:56	0.2	72
28-Dec-11	11:52:46	0.1	36
28-Dec-11	11:52:36	0.1	36
28-Dec-11	11:52:26	0.1	18
28-Dec-11	11:52:06	0.2	36
28-Dec-11	11:51:46	0.1	36
28-Dec-11	11:51:36	0.1	18

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:51:16	0.2	72
28-Dec-11	11:51:06	0.1	36
28-Dec-11	11:50:56	0.1	36
28-Dec-11	11:50:46	0.1	18
28-Dec-11	11:50:26	0.2	36
28-Dec-11	11:50:06	0.1	36
28-Dec-11	11:49:56	0.1	36
28-Dec-11	11:49:46	0.1	36
28-Dec-11	11:49:36	0.1	36
28-Dec-11	11:49:26	0.1	36
28-Dec-11	11:49:16	0.1	36
28-Dec-11	11:49:06	0.1	18
28-Dec-11	11:48:46	0.1	36
28-Dec-11	11:48:36	0.2	36
28-Dec-11	11:48:16	0.1	36
28-Dec-11	11:48:06	0.1	36
28-Dec-11	11:47:56	0.1	36
28-Dec-11	11:47:46	0.1	36
28-Dec-11	11:47:36	0.1	36
28-Dec-11	11:47:26	0.1	36
28-Dec-11	11:47:16	0.1	36
28-Dec-11	11:47:06	0.1	36
28-Dec-11	11:46:56	0.1	36
28-Dec-11	11:46:46	0.1	36
28-Dec-11	11:46:36	0.1	36
28-Dec-11	11:46:26	0.1	36
28-Dec-11	11:46:16	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:46:06	0.1	36
28-Dec-11	11:45:56	0.1	36
28-Dec-11	11:45:46	0.1	36
28-Dec-11	11:45:36	0.1	36
28-Dec-11	11:45:26	0.1	36
28-Dec-11	11:45:16	0.1	36
28-Dec-11	11:45:06	0.1	36
28-Dec-11	11:44:56	0.1	36
28-Dec-11	11:44:46	0.2	36
28-Dec-11	11:44:26	0.1	36
28-Dec-11	11:44:16	0.1	36
28-Dec-11	11:44:06	0.1	36
28-Dec-11	11:43:56	0.1	36
28-Dec-11	11:43:46	0.1	36
28-Dec-11	11:43:36	0.2	72
28-Dec-11	11:43:26	0.1	18
28-Dec-11	11:43:06	0.2	72
28-Dec-11	11:42:56	0.1	36
28-Dec-11	11:42:46	0.1	18
28-Dec-11	11:42:26	0.2	72
28-Dec-11	11:42:16	0.1	36
28-Dec-11	11:42:06	0.1	36
28-Dec-11	11:41:56	0.1	36
28-Dec-11	11:41:46	0.1	36
28-Dec-11	11:41:36	0.1	36
28-Dec-11	11:41:26	0.1	36
28-Dec-11	11:41:16	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:41:06	0.1	18
28-Dec-11	11:40:46	0.2	72
28-Dec-11	11:40:36	0.1	36
28-Dec-11	11:40:26	0.1	36
28-Dec-11	11:40:16	0.1	36
28-Dec-11	11:40:06	0.1	36
28-Dec-11	11:39:56	0.1	36
28-Dec-11	11:39:46	0.1	36
28-Dec-11	11:39:36	0.2	72
28-Dec-11	11:39:26	0.1	18
28-Dec-11	11:39:06	0.2	72
28-Dec-11	11:38:56	0.1	36
28-Dec-11	11:38:46	0.1	36
28-Dec-11	11:38:36	0.1	36
28-Dec-11	11:38:26	0.1	36
28-Dec-11	11:38:16	0.2	72
28-Dec-11	11:38:06	0.1	36
28-Dec-11	11:37:56	0.1	36
28-Dec-11	11:37:46	0.1	36
28-Dec-11	11:37:36	0.2	72
28-Dec-11	11:37:26	0.1	36
28-Dec-11	11:37:16	0.1	36
28-Dec-11	11:37:06	0.2	72
28-Dec-11	11:36:56	0.1	36
28-Dec-11	11:36:46	0.1	36
28-Dec-11	11:36:36	0.1	36
28-Dec-11	11:36:26	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:36:16	0.1	36
28-Dec-11	11:36:06	0.1	36
28-Dec-11	11:35:56	0.1	36
28-Dec-11	11:35:46	0.2	72
28-Dec-11	11:35:36	0.1	36
28-Dec-11	11:35:26	0.1	36
28-Dec-11	11:35:16	0.2	72
28-Dec-11	11:35:06	0.1	36
28-Dec-11	11:34:56	0.1	36
28-Dec-11	11:34:46	0.2	72
28-Dec-11	11:34:36	0.1	36
28-Dec-11	11:34:26	0.2	72
28-Dec-11	11:34:16	0.1	36
28-Dec-11	11:34:06	0.1	36
28-Dec-11	11:33:56	0.2	72
28-Dec-11	11:33:46	0.1	36
28-Dec-11	11:33:36	0.2	72
28-Dec-11	11:33:26	0.1	36
28-Dec-11	11:33:16	0.1	36
28-Dec-11	11:33:06	0.1	36
28-Dec-11	11:32:56	0.2	72
28-Dec-11	11:32:46	0.1	36
28-Dec-11	11:32:36	0.2	72
28-Dec-11	11:32:26	0.1	36
28-Dec-11	11:32:16	0.2	72
28-Dec-11	11:32:06	0.1	36
28-Dec-11	11:31:56	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:31:46	0.2	72
28-Dec-11	11:31:36	0.1	36
28-Dec-11	11:31:26	0.2	72
28-Dec-11	11:31:16	0.1	36
28-Dec-11	11:31:06	0.2	72
28-Dec-11	11:30:56	0.1	36
28-Dec-11	11:30:46	0.1	36
28-Dec-11	11:30:36	0.1	36
28-Dec-11	11:30:26	0.2	72
28-Dec-11	11:30:16	0.1	36
28-Dec-11	11:30:06	0.2	72
28-Dec-11	11:29:56	0.1	36
28-Dec-11	11:29:46	0.1	36
28-Dec-11	11:29:36	0.2	72
28-Dec-11	11:29:26	0.2	72
28-Dec-11	11:29:16	0.2	72
28-Dec-11	11:29:06	0.1	36
28-Dec-11	11:28:56	0.1	36
28-Dec-11	11:28:46	0.2	72
28-Dec-11	11:28:36	0.1	36
28-Dec-11	11:28:26	0.2	72
28-Dec-11	11:28:16	0.1	36
28-Dec-11	11:28:06	0.3	108
28-Dec-11	11:27:56	0.1	36
28-Dec-11	11:27:46	0.2	72
28-Dec-11	11:27:36	0.1	36
28-Dec-11	11:27:26	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:27:16	0.2	72
28-Dec-11	11:27:06	0.1	36
28-Dec-11	11:26:56	0.2	72
28-Dec-11	11:26:46	0.1	36
28-Dec-11	11:26:36	0.2	72
28-Dec-11	11:26:26	0.2	72
28-Dec-11	11:26:16	0.1	36
28-Dec-11	11:26:06	0.2	72
28-Dec-11	11:25:56	0.1	36
28-Dec-11	11:25:46	0.2	72
28-Dec-11	11:25:36	0.2	72
28-Dec-11	11:25:26	0.1	36
28-Dec-11	11:25:16	0.2	72
28-Dec-11	11:25:06	0.2	72
28-Dec-11	11:24:56	0.2	72
28-Dec-11	11:24:46	0.1	36
28-Dec-11	11:24:36	0.2	72
28-Dec-11	11:24:26	0.2	72
28-Dec-11	11:24:16	0.2	72
28-Dec-11	11:24:06	0.1	36
28-Dec-11	11:23:56	0.2	72
28-Dec-11	11:23:46	0.2	72
28-Dec-11	11:23:36	0.2	72
28-Dec-11	11:23:26	0.1	36
28-Dec-11	11:23:16	0.3	108
28-Dec-11	11:23:06	0.1	36
28-Dec-11	11:22:56	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:22:46	0.2	72
28-Dec-11	11:22:36	0.2	72
28-Dec-11	11:22:26	0.2	72
28-Dec-11	11:22:16	0.2	72
28-Dec-11	11:22:06	0.2	72
28-Dec-11	11:21:56	0.2	72
28-Dec-11	11:21:46	0.2	72
28-Dec-11	11:21:36	0.2	72
28-Dec-11	11:21:26	0.1	36
28-Dec-11	11:21:16	0.3	108
28-Dec-11	11:21:06	0.1	36
28-Dec-11	11:20:56	0.2	72
28-Dec-11	11:20:46	0.2	72
28-Dec-11	11:20:36	0.2	72
28-Dec-11	11:20:26	0.2	72
28-Dec-11	11:20:16	0.2	72
28-Dec-11	11:20:06	0.2	72
28-Dec-11	11:19:56	0.2	72
28-Dec-11	11:19:46	0.2	72
28-Dec-11	11:19:36	0.2	72
28-Dec-11	11:19:26	0.2	72
28-Dec-11	11:19:16	0.2	72
28-Dec-11	11:19:06	0.2	72
28-Dec-11	11:18:56	0.2	72
28-Dec-11	11:18:46	0.2	72
28-Dec-11	11:18:36	0.2	72
28-Dec-11	11:18:26	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:18:16	0.3	108
28-Dec-11	11:18:06	0.2	72
28-Dec-11	11:17:56	0.2	72
28-Dec-11	11:17:46	0.2	72
28-Dec-11	11:17:36	0.2	72
28-Dec-11	11:17:26	0.2	72
28-Dec-11	11:17:16	0.3	108
28-Dec-11	11:17:06	0.2	72
28-Dec-11	11:16:56	0.2	72
28-Dec-11	11:16:46	0.2	72
28-Dec-11	11:16:36	0.3	108
28-Dec-11	11:16:26	0.2	72
28-Dec-11	11:16:16	0.3	108
28-Dec-11	11:16:06	0.1	36
28-Dec-11	11:15:56	0.3	108
28-Dec-11	11:15:46	0.2	72
28-Dec-11	11:15:36	0.3	108
28-Dec-11	11:15:26	0.2	72
28-Dec-11	11:15:16	0.2	72
28-Dec-11	11:15:06	0.3	108
28-Dec-11	11:14:56	0.2	72
28-Dec-11	11:14:46	0.2	72
28-Dec-11	11:14:36	0.3	108
28-Dec-11	11:14:26	0.2	72
28-Dec-11	11:14:16	0.3	108
28-Dec-11	11:14:06	0.2	72
28-Dec-11	11:13:56	0.3	108

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:13:46	0.2	72
28-Dec-11	11:13:36	0.3	108
28-Dec-11	11:13:26	0.2	72
28-Dec-11	11:13:16	0.3	108
28-Dec-11	11:13:06	0.2	72
28-Dec-11	11:12:56	0.4	144
28-Dec-11	11:12:46	0.2	72
28-Dec-11	11:12:36	0.3	108
28-Dec-11	11:12:26	0.2	72
28-Dec-11	11:12:16	0.4	144
28-Dec-11	11:12:06	0.2	72
28-Dec-11	11:11:56	0.3	108
28-Dec-11	11:11:46	0.3	108
28-Dec-11	11:11:36	0.3	108
28-Dec-11	11:11:26	0.2	72
28-Dec-11	11:11:16	0.3	108
28-Dec-11	11:11:06	0.2	72
28-Dec-11	11:10:56	0.4	144
28-Dec-11	11:10:46	0.3	108
28-Dec-11	11:10:36	0.3	108
28-Dec-11	11:10:26	0.2	72
28-Dec-11	11:10:16	0.4	144
28-Dec-11	11:10:06	0.2	72
28-Dec-11	11:09:56	0.4	144
28-Dec-11	11:09:46	0.3	108
28-Dec-11	11:09:36	0.4	144
28-Dec-11	11:09:26	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:09:16	0.4	144
28-Dec-11	11:09:06	0.3	108
28-Dec-11	11:08:56	0.3	108
28-Dec-11	11:08:46	0.3	108
28-Dec-11	11:08:36	0.4	144
28-Dec-11	11:08:26	0.2	72
28-Dec-11	11:08:16	0.5	180
28-Dec-11	11:08:06	0.3	108
28-Dec-11	11:07:56	0.4	144
28-Dec-11	11:07:46	0.3	108
28-Dec-11	11:07:36	0.4	144
28-Dec-11	11:07:26	0.3	108
28-Dec-11	11:07:16	0.4	144
28-Dec-11	11:07:06	0.3	108
28-Dec-11	11:06:56	0.4	144
28-Dec-11	11:06:46	0.3	108
28-Dec-11	11:06:36	0.4	144
28-Dec-11	11:06:26	0.3	108
28-Dec-11	11:06:16	0.5	180
28-Dec-11	11:06:06	0.3	108
28-Dec-11	11:05:56	0.5	180
28-Dec-11	11:05:46	0.3	108
28-Dec-11	11:05:36	0.5	180
28-Dec-11	11:05:26	0.3	108
28-Dec-11	11:05:16	0.4	144
28-Dec-11	11:05:06	0.4	144
28-Dec-11	11:04:56	0.4	144

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:04:46	0.4	144
28-Dec-11	11:04:36	0.4	144
28-Dec-11	11:04:26	0.4	144
28-Dec-11	11:04:16	0.5	180
28-Dec-11	11:04:06	0.3	108
28-Dec-11	11:03:56	0.5	180
28-Dec-11	11:03:46	0.4	144
28-Dec-11	11:03:36	0.5	180
28-Dec-11	11:03:26	0.3	108
28-Dec-11	11:03:16	0.6	216
28-Dec-11	11:03:06	0.4	144
28-Dec-11	11:02:56	0.6	216
28-Dec-11	11:02:46	0.4	144
28-Dec-11	11:02:36	0.6	216
28-Dec-11	11:02:26	0.4	144
28-Dec-11	11:02:16	0.6	216
28-Dec-11	11:02:06	0.4	144
28-Dec-11	11:01:56	0.7	252
28-Dec-11	11:01:46	0.4	144
28-Dec-11	11:01:36	0.7	252
28-Dec-11	11:01:26	0.5	180
28-Dec-11	11:01:16	0.6	216
28-Dec-11	11:01:06	0.5	180
28-Dec-11	11:00:56	0.6	216
28-Dec-11	11:00:46	0.5	180
28-Dec-11	11:00:36	0.7	252
28-Dec-11	11:00:26	0.6	216

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:00:16	0.7	252
28-Dec-11	11:00:06	0.6	216
28-Dec-11	10:59:56	0.8	288
28-Dec-11	10:59:46	0.6	216
28-Dec-11	10:59:36	0.7	252
28-Dec-11	10:59:26	0.8	288
28-Dec-11	10:59:16	0.7	252
28-Dec-11	10:59:06	0.8	288
28-Dec-11	10:58:56	0.7	252
28-Dec-11	10:58:46	0.8	288
28-Dec-11	10:58:36	0.9	324
28-Dec-11	10:58:26	0.8	288
28-Dec-11	10:58:16	0.8	288
28-Dec-11	10:58:06	1	360
28-Dec-11	10:57:56	0.9	324
28-Dec-11	10:57:46	0.9	324
28-Dec-11	10:57:36	1.2	432
28-Dec-11	10:57:26	0.9	324
28-Dec-11	10:57:16	1.1	396
28-Dec-11	10:57:06	1.2	432
28-Dec-11	10:56:56	1.3	468
28-Dec-11	10:56:46	1.4	504
28-Dec-11	10:56:36	1.5	540
28-Dec-11	10:56:26	1.5	540
28-Dec-11	10:56:16	1.6	576
28-Dec-11	10:56:06	1.9	684
28-Dec-11	10:55:56	2	720

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	10:55:46	2.4	864

Appendix D: EPD 2 Data

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
3-Jan-12	8:39:48	0.1	0.2
3-Jan-12	8:09:48	0.1	0.2
3-Jan-12	7:39:48	0.1	0.2
3-Jan-12	7:09:48	0.1	0.2
3-Jan-12	6:39:48	0.1	0.2
3-Jan-12	6:09:48	0.1	0.2
3-Jan-12	5:39:48	0.1	0.3
3-Jan-12	5:19:48	0.1	0.2
3-Jan-12	4:49:48	0.1	0.2
3-Jan-12	4:19:48	0.1	0.2
3-Jan-12	3:49:48	0.1	0.2
3-Jan-12	3:19:48	0.1	0.2
3-Jan-12	2:49:48	0.1	0.2
3-Jan-12	2:19:48	0.1	0.3
3-Jan-12	1:59:48	0.1	0.2
3-Jan-12	1:29:48	0.1	0.2
3-Jan-12	0:59:48	0.1	0.2
3-Jan-12	0:29:48	0.1	0.3
3-Jan-12	0:09:48	0.1	0.3
2-Jan-12	23:49:48	0.1	0.2
2-Jan-12	23:19:48	0.1	0.2
2-Jan-12	22:49:48	0.1	0.2
2-Jan-12	22:19:48	0.1	0.3
2-Jan-12	21:59:48	0.1	0.2
2-Jan-12	21:29:48	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	20:59:48	0.1	0.3
2-Jan-12	20:39:48	0.1	0.2
2-Jan-12	20:09:48	0.1	0.2
2-Jan-12	19:39:48	0.1	0.2
2-Jan-12	19:09:48	0.1	0.3
2-Jan-12	18:49:48	0.1	0.2
2-Jan-12	18:19:48	0.1	0.3
2-Jan-12	17:59:48	0.1	0.2
2-Jan-12	17:29:48	0.1	0.2
2-Jan-12	16:59:48	0.1	0.15
2-Jan-12	16:19:48	0.1	0.2
2-Jan-12	15:49:48	0.1	0.2
2-Jan-12	15:19:48	0.1	0.3
2-Jan-12	14:59:48	0.1	0.2
2-Jan-12	14:29:48	0.1	0.2
2-Jan-12	13:59:48	0.1	0.2
2-Jan-12	13:29:48	0.1	0.2
2-Jan-12	12:59:48	0.1	0.3
2-Jan-12	12:39:48	0.1	0.2
2-Jan-12	12:09:48	0.1	0.2
2-Jan-12	11:39:48	0.1	0.2
2-Jan-12	11:09:48	0.1	0.2
2-Jan-12	10:39:48	0.1	0.3
2-Jan-12	10:19:48	0.1	0.2
2-Jan-12	9:49:48	0.1	0.2
2-Jan-12	9:19:48	0.1	0.3
2-Jan-12	8:59:48	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	8:29:48	0.1	0.2
2-Jan-12	7:59:48	0.1	0.2
2-Jan-12	7:29:48	0.1	0.2
2-Jan-12	6:59:48	0.1	0.2
2-Jan-12	6:29:48	0.1	0.2
2-Jan-12	5:59:48	0.1	0.3
2-Jan-12	5:39:48	0.1	0.2
2-Jan-12	5:09:48	0.1	0.2
2-Jan-12	4:39:48	0.1	0.2
2-Jan-12	4:09:48	0.1	0.2
2-Jan-12	3:39:48	0.1	0.3
2-Jan-12	3:19:48	0.1	0.2
2-Jan-12	2:49:48	0.1	0.2
2-Jan-12	2:19:48	0.1	0.2
2-Jan-12	1:49:48	0.1	0.3
2-Jan-12	1:29:48	0.1	0.3
2-Jan-12	1:09:48	0.1	0.2
2-Jan-12	0:39:48	0.1	0.2
2-Jan-12	0:09:48	0.1	0.3
1-Jan-12	23:49:48	0.1	0.2
1-Jan-12	23:19:48	0.1	0.3
1-Jan-12	22:59:48	0.1	0.2
1-Jan-12	22:29:48	0.1	0.2
1-Jan-12	21:59:48	0.1	0.3
1-Jan-12	21:39:48	0.1	0.2
1-Jan-12	21:09:48	0.1	0.2
1-Jan-12	20:39:48	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	20:19:48	0.1	0.2
1-Jan-12	19:49:48	0.1	0.2
1-Jan-12	19:19:48	0.1	0.3
1-Jan-12	18:59:48	0.1	0.2
1-Jan-12	18:29:48	0.1	0.2
1-Jan-12	17:59:48	0.1	0.3
1-Jan-12	17:39:48	0.1	0.2
1-Jan-12	17:09:48	0.1	0.3
1-Jan-12	16:49:48	0.1	0.15
1-Jan-12	16:09:48	0.1	0.2
1-Jan-12	15:39:48	0.1	0.3
1-Jan-12	15:19:48	0.1	0.2
1-Jan-12	14:49:48	0.1	0.2
1-Jan-12	14:19:48	0.1	0.3
1-Jan-12	13:59:48	0.1	0.2
1-Jan-12	13:29:48	0.1	0.3
1-Jan-12	13:09:48	0.1	0.2
1-Jan-12	12:39:48	0.1	0.3
1-Jan-12	12:19:48	0.1	0.2
1-Jan-12	11:49:48	0.1	0.2
1-Jan-12	11:19:48	0.1	0.2
1-Jan-12	10:49:48	0.1	0.3
1-Jan-12	10:29:48	0.1	0.3
1-Jan-12	10:09:48	0.1	0.2
1-Jan-12	9:39:48	0.1	0.3
1-Jan-12	9:19:48	0.1	0.2
1-Jan-12	8:49:48	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	8:19:48	0.1	0.3
1-Jan-12	7:59:48	0.1	0.2
1-Jan-12	7:29:48	0.1	0.3
1-Jan-12	7:09:48	0.1	0.2
1-Jan-12	6:39:48	0.1	0.3
1-Jan-12	6:19:48	0.1	0.15
1-Jan-12	5:39:48	0.1	0.3
1-Jan-12	5:19:48	0.1	0.2
1-Jan-12	4:49:48	0.1	0.3
1-Jan-12	4:29:48	0.1	0.3
1-Jan-12	4:09:48	0.1	0.2
1-Jan-12	3:39:48	0.1	0.2
1-Jan-12	3:09:48	0.1	0.3
1-Jan-12	2:49:48	0.1	0.3
1-Jan-12	2:29:48	0.1	0.2
1-Jan-12	1:59:48	0.1	0.3
1-Jan-12	1:39:48	0.1	0.2
1-Jan-12	1:09:48	0.1	0.2
1-Jan-12	0:39:48	0.1	0.3
1-Jan-12	0:19:48	0.1	0.3
31-Dec-11	23:49:48	0.1	0.3
31-Dec-11	23:29:48	0.1	0.2
31-Dec-11	22:59:48	0.1	0.3
31-Dec-11	22:39:48	0.1	0.3
31-Dec-11	22:19:48	0.1	0.2
31-Dec-11	21:49:48	0.1	0.3
31-Dec-11	21:29:48	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	21:09:48	0.1	0.3
31-Dec-11	20:49:48	0.1	0.2
31-Dec-11	20:19:48	0.1	0.3
31-Dec-11	19:59:48	0.1	0.2
31-Dec-11	19:29:48	0.1	0.2
31-Dec-11	18:59:48	0.1	0.3
31-Dec-11	18:39:48	0.1	0.3
31-Dec-11	18:19:48	0.1	0.2
31-Dec-11	17:49:48	0.1	0.3
31-Dec-11	17:29:48	0.1	0.2
31-Dec-11	16:59:48	0.1	0.2
31-Dec-11	16:29:48	0.1	0.3
31-Dec-11	16:09:48	0.1	0.3
31-Dec-11	15:49:48	0.1	0.2
31-Dec-11	15:19:48	0.1	0.3
31-Dec-11	14:59:48	0.1	0.3
31-Dec-11	14:39:48	0.1	0.3
31-Dec-11	14:19:48	0.1	0.2
31-Dec-11	13:49:48	0.1	0.3
31-Dec-11	13:29:48	0.1	0.2
31-Dec-11	12:59:48	0.1	0.3
31-Dec-11	12:39:48	0.1	0.2
31-Dec-11	12:09:48	0.1	0.3
31-Dec-11	11:49:48	0.1	0.2
31-Dec-11	11:19:48	0.1	0.3
31-Dec-11	10:59:48	0.1	0.3
31-Dec-11	10:39:48	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	10:19:48	0.1	0.3
31-Dec-11	9:59:48	0.1	0.3
31-Dec-11	9:11:21	0.1	0.3
31-Dec-11	8:51:21	0.1	0.3
31-Dec-11	8:31:21	0.1	0.3
31-Dec-11	8:11:21	0.1	0.3
31-Dec-11	7:51:21	0.1	0.3
31-Dec-11	7:31:21	0.1	0.3
31-Dec-11	7:11:21	0.1	0.2
31-Dec-11	6:41:21	0.1	0.3
31-Dec-11	6:21:21	0.1	0.3
31-Dec-11	6:01:21	0.1	0.3
31-Dec-11	5:41:21	0.1	0.3
31-Dec-11	5:21:21	0.1	0.3
31-Dec-11	5:01:21	0.1	0.3
31-Dec-11	4:41:21	0.1	0.3
31-Dec-11	4:21:21	0.1	0.3
31-Dec-11	4:01:21	0.1	0.3
31-Dec-11	3:41:21	0.1	0.3
31-Dec-11	3:21:21	0.1	0.3
31-Dec-11	3:01:21	0.1	0.3
31-Dec-11	2:41:21	0.1	0.3
31-Dec-11	2:21:21	0.1	0.3
31-Dec-11	2:01:21	0.1	0.2
31-Dec-11	1:31:21	0.1	0.3
31-Dec-11	1:11:21	0.1	0.3
31-Dec-11	0:51:21	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	0:31:21	0.1	0.3
31-Dec-11	0:11:21	0.1	0.6
31-Dec-11	0:01:21	0.1	0.6
30-Dec-11	23:31:21	0.1	0.6
30-Dec-11	23:21:21	0.1	0.3
30-Dec-11	23:01:21	0.1	0.3
30-Dec-11	22:41:21	0.1	0.3
30-Dec-11	22:21:21	0.1	0.3
30-Dec-11	22:01:21	0.1	0.6
30-Dec-11	21:51:21	0.1	0.3
30-Dec-11	21:31:21	0.1	0.3
30-Dec-11	21:11:21	0.1	0.3
30-Dec-11	20:51:21	0.1	0.3
30-Dec-11	20:31:21	0.1	0.3
30-Dec-11	20:11:21	0.1	0.3
30-Dec-11	19:51:21	0.1	0.6
30-Dec-11	19:41:21	0.1	0.3
30-Dec-11	19:21:21	0.1	0.3
30-Dec-11	19:01:21	0.1	0.6
30-Dec-11	18:51:21	0.1	0.3
30-Dec-11	18:31:21	0.1	0.3
30-Dec-11	18:11:21	0.1	0.3
30-Dec-11	17:51:21	0.1	0.6
30-Dec-11	17:41:21	0.1	0.3
30-Dec-11	17:21:21	0.1	0.3
30-Dec-11	17:01:21	0.1	0.2
30-Dec-11	16:31:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	16:21:21	0.1	0.3
30-Dec-11	16:01:21	0.1	0.3
30-Dec-11	15:41:21	0.1	0.3
30-Dec-11	15:21:21	0.1	0.3
30-Dec-11	15:01:21	0.1	0.3
30-Dec-11	14:41:21	0.1	0.3
30-Dec-11	14:21:21	0.1	0.3
30-Dec-11	14:01:21	0.1	0.6
30-Dec-11	13:51:21	0.1	0.3
30-Dec-11	13:31:21	0.1	0.3
30-Dec-11	13:11:21	0.1	0.3
30-Dec-11	12:51:21	0.1	0.6
30-Dec-11	12:41:21	0.1	0.3
30-Dec-11	12:21:21	0.1	0.3
30-Dec-11	12:01:21	0.1	0.6
30-Dec-11	11:51:21	0.1	0.3
30-Dec-11	11:31:21	0.1	0.3
30-Dec-11	11:11:21	0.1	0.6
30-Dec-11	11:01:21	0.1	0.6
30-Dec-11	10:51:21	0.1	0.3
30-Dec-11	10:31:21	0.1	0.3
30-Dec-11	10:11:21	0.1	0.6
30-Dec-11	10:01:21	0.1	0.3
30-Dec-11	9:41:21	0.1	0.3
30-Dec-11	9:21:21	0.1	0.6
30-Dec-11	9:11:21	0.1	0.3
30-Dec-11	8:51:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	8:41:21	0.1	0.3
30-Dec-11	8:21:21	0.1	0.6
30-Dec-11	8:11:21	0.1	0.3
30-Dec-11	7:51:21	0.1	0.3
30-Dec-11	7:31:21	0.1	0.6
30-Dec-11	7:21:21	0.1	0.3
30-Dec-11	7:01:21	0.1	0.6
30-Dec-11	6:51:21	0.1	0.3
30-Dec-11	6:31:21	0.1	0.3
30-Dec-11	6:11:21	0.1	0.6
30-Dec-11	6:01:21	0.1	0.3
30-Dec-11	5:41:21	0.1	0.6
30-Dec-11	5:31:21	0.1	0.3
30-Dec-11	5:11:21	0.1	0.6
30-Dec-11	5:01:21	0.1	0.3
30-Dec-11	4:41:21	0.1	0.6
30-Dec-11	4:31:21	0.1	0.3
30-Dec-11	4:11:21	0.1	0.6
30-Dec-11	4:01:21	0.1	0.6
30-Dec-11	3:51:21	0.1	0.3
30-Dec-11	3:31:21	0.1	0.6
30-Dec-11	3:21:21	0.1	0.6
30-Dec-11	3:11:21	0.1	0.3
30-Dec-11	2:51:21	0.1	0.6
30-Dec-11	2:41:21	0.1	0.3
30-Dec-11	2:21:21	0.1	0.6
30-Dec-11	2:11:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	2:01:21	0.1	0.6
30-Dec-11	1:51:21	0.1	0.3
30-Dec-11	1:31:21	0.1	0.6
30-Dec-11	1:21:21	0.1	0.6
30-Dec-11	1:11:21	0.1	0.3
30-Dec-11	0:51:21	0.1	0.6
30-Dec-11	0:41:21	0.1	0.3
30-Dec-11	0:21:21	0.1	0.6
30-Dec-11	0:11:21	0.1	0.6
30-Dec-11	0:01:21	0.1	0.6
29-Dec-11	23:51:21	0.1	0.6
29-Dec-11	23:41:21	0.1	0.3
29-Dec-11	23:21:21	0.1	0.6
29-Dec-11	23:11:21	0.1	0.6
29-Dec-11	23:01:21	0.1	0.3
29-Dec-11	22:41:21	0.1	0.6
29-Dec-11	22:31:21	0.1	0.6
29-Dec-11	22:21:21	0.1	0.3
29-Dec-11	22:01:21	0.1	0.6
29-Dec-11	21:51:21	0.1	0.6
29-Dec-11	21:41:21	0.1	0.6
29-Dec-11	21:31:21	0.1	0.6
29-Dec-11	21:21:21	0.1	0.3
29-Dec-11	21:01:21	0.1	0.6
29-Dec-11	20:51:21	0.1	0.6
29-Dec-11	20:41:21	0.1	0.3
29-Dec-11	20:21:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	20:11:21	0.1	0.6
29-Dec-11	20:01:21	0.1	0.6
29-Dec-11	19:51:21	0.1	0.6
29-Dec-11	19:41:21	0.1	0.6
29-Dec-11	19:31:21	0.1	0.6
29-Dec-11	19:21:21	0.1	0.6
29-Dec-11	19:11:21	0.1	0.6
29-Dec-11	19:01:21	0.1	0.3
29-Dec-11	18:41:21	0.1	0.6
29-Dec-11	18:31:21	0.1	0.6
29-Dec-11	18:21:21	0.1	0.6
29-Dec-11	18:11:21	0.1	0.6
29-Dec-11	18:01:21	0.1	0.6
29-Dec-11	17:51:21	0.1	0.6
29-Dec-11	17:41:21	0.1	0.6
29-Dec-11	17:31:21	0.1	0.6
29-Dec-11	17:21:21	0.1	0.6
29-Dec-11	17:11:21	0.1	0.6
29-Dec-11	17:01:21	0.1	0.3
29-Dec-11	16:41:21	0.1	0.6
29-Dec-11	16:31:21	0.1	0.6
29-Dec-11	16:21:21	0.1	0.6
29-Dec-11	16:11:21	0.1	0.6
29-Dec-11	16:01:21	0.1	0.6
29-Dec-11	15:51:21	0.1	0.6
29-Dec-11	15:41:21	0.1	0.6
29-Dec-11	15:31:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	15:21:21	0.1	0.6
29-Dec-11	15:11:21	0.1	0.6
29-Dec-11	15:01:21	0.1	0.6
29-Dec-11	14:51:21	0.1	0.6
29-Dec-11	14:41:21	0.1	0.6
29-Dec-11	14:31:21	0.1	0.6
29-Dec-11	14:21:21	0.1	0.6
29-Dec-11	14:11:21	0.1	0.6
29-Dec-11	14:01:21	0.1	0.6
29-Dec-11	13:51:21	0.1	0.6
29-Dec-11	13:41:21	0.1	0.6
29-Dec-11	13:31:21	0.1	0.6
29-Dec-11	13:21:21	0.1	0.6
29-Dec-11	13:11:21	0.1	0.6
29-Dec-11	13:01:21	0.1	0.6
29-Dec-11	12:51:21	0.1	0.6
29-Dec-11	12:41:21	0.1	0.6
29-Dec-11	12:31:21	0.1	0.6
29-Dec-11	12:21:21	0.2	1.2
29-Dec-11	12:11:21	0.1	0.6
29-Dec-11	12:01:21	0.1	0.6
29-Dec-11	11:51:21	0.1	0.6
29-Dec-11	11:41:21	0.1	0.6
29-Dec-11	11:31:21	0.1	0.6
29-Dec-11	11:21:21	0.1	0.6
29-Dec-11	11:11:21	0.1	0.6
29-Dec-11	11:01:21	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	10:51:21	0.2	1.2
29-Dec-11	10:41:21	0.1	0.6
29-Dec-11	10:31:21	0.1	0.6
29-Dec-11	10:21:21	0.1	0.6
29-Dec-11	10:11:21	0.1	0.6
29-Dec-11	10:01:21	0.2	1.2
29-Dec-11	9:51:21	0.1	0.6
29-Dec-11	9:41:21	0.1	0.6
29-Dec-11	9:31:21	0.1	0.6
29-Dec-11	9:21:21	0.2	1.2
29-Dec-11	9:11:21	0.1	0.6
29-Dec-11	9:01:21	0.1	0.6
29-Dec-11	8:51:21	0.1	0.6
29-Dec-11	8:41:21	0.1	0.6
29-Dec-11	8:31:21	0.2	1.2
29-Dec-11	8:21:21	0.1	0.6
29-Dec-11	8:11:21	0.2	1.2
29-Dec-11	8:01:21	0.1	0.6
29-Dec-11	7:51:21	0.1	0.6
29-Dec-11	7:41:21	0.2	1.2
29-Dec-11	7:31:21	0.1	0.6
29-Dec-11	7:21:21	0.2	1.2
29-Dec-11	7:11:21	0.1	0.6
29-Dec-11	7:01:21	0.1	0.6
29-Dec-11	6:51:21	0.2	1.2
29-Dec-11	6:41:21	0.1	0.6
29-Dec-11	6:31:21	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	6:21:21	0.1	0.6
29-Dec-11	6:11:21	0.1	0.6
29-Dec-11	6:01:21	0.1	0.6
29-Dec-11	5:51:21	0.1	0.6
29-Dec-11	5:41:21	0.2	1.2
29-Dec-11	5:31:21	0.1	0.6
29-Dec-11	5:21:21	0.1	0.6
29-Dec-11	5:11:21	0.2	1.2
29-Dec-11	5:01:21	0.1	0.6
29-Dec-11	4:51:21	0.1	0.6
29-Dec-11	4:41:21	0.2	1.2
29-Dec-11	4:31:21	0.1	0.6
29-Dec-11	4:21:21	0.2	1.2
29-Dec-11	4:11:21	0.1	0.6
29-Dec-11	4:01:21	0.1	0.6
29-Dec-11	3:51:21	0.2	1.2
29-Dec-11	3:41:21	0.2	1.2
29-Dec-11	3:31:21	0.1	0.6
29-Dec-11	3:21:21	0.2	1.2
29-Dec-11	3:11:21	0.1	0.6
29-Dec-11	3:01:21	0.2	1.2
29-Dec-11	2:51:21	0.2	1.2
29-Dec-11	2:41:21	0.1	0.6
29-Dec-11	2:31:21	0.2	1.2
29-Dec-11	2:21:21	0.2	1.2
29-Dec-11	2:11:21	0.1	0.6
29-Dec-11	2:01:21	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	1:51:21	0.2	1.2
29-Dec-11	1:41:21	0.1	0.6
29-Dec-11	1:31:21	0.2	1.2
29-Dec-11	1:21:21	0.2	1.2
29-Dec-11	1:11:21	0.2	1.2
29-Dec-11	1:01:21	0.2	1.2
29-Dec-11	0:51:21	0.2	1.2
29-Dec-11	0:41:21	0.2	1.2
29-Dec-11	0:31:21	0.2	1.2
29-Dec-11	0:21:21	0.2	1.2
29-Dec-11	0:11:21	0.2	1.2
29-Dec-11	0:01:21	0.2	1.2
28-Dec-11	23:51:21	0.2	1.2
28-Dec-11	23:41:21	0.3	1.8
28-Dec-11	23:31:21	0.2	1.2
28-Dec-11	23:21:21	0.2	1.2
28-Dec-11	23:11:21	0.2	1.2
28-Dec-11	23:01:21	0.3	1.8
28-Dec-11	22:51:21	0.2	1.2
28-Dec-11	22:41:21	0.3	1.8
28-Dec-11	22:31:21	0.2	1.2
28-Dec-11	22:21:21	0.3	1.8
28-Dec-11	22:11:21	0.2	1.2
28-Dec-11	22:01:21	0.3	1.8
28-Dec-11	21:51:21	0.2	1.2
28-Dec-11	21:41:21	0.3	1.8
28-Dec-11	21:31:21	0.3	1.8

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	21:21:21	0.3	1.8
28-Dec-11	21:11:21	0.2	1.2
28-Dec-11	21:01:21	0.3	1.8
28-Dec-11	20:51:21	0.3	1.8
28-Dec-11	20:41:21	0.3	1.8
28-Dec-11	20:31:21	0.4	2.4
28-Dec-11	20:21:21	0.3	1.8
28-Dec-11	20:11:21	0.3	1.8
28-Dec-11	20:01:21	0.3	1.8
28-Dec-11	19:51:21	0.4	2.4
28-Dec-11	19:41:21	0.3	1.8
28-Dec-11	19:31:21	0.4	2.4
28-Dec-11	19:21:21	0.3	1.8
28-Dec-11	19:11:21	0.4	2.4
28-Dec-11	19:01:21	0.4	2.4
28-Dec-11	18:51:21	0.4	2.4
28-Dec-11	18:41:21	0.4	2.4
28-Dec-11	18:31:21	0.4	2.4
28-Dec-11	18:21:21	0.5	3
28-Dec-11	18:11:21	0.4	2.4
28-Dec-11	18:01:21	0.5	3
28-Dec-11	17:51:21	0.5	3
28-Dec-11	17:41:21	0.5	3
28-Dec-11	17:31:21	0.6	3.6
28-Dec-11	17:21:21	0.5	3
28-Dec-11	17:11:21	0.6	3.6
28-Dec-11	17:01:21	0.5	3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	16:51:21	0.6	3.6
28-Dec-11	16:41:21	0.7	4.2
28-Dec-11	16:31:21	0.6	3.6
28-Dec-11	16:21:21	0.7	4.2
28-Dec-11	16:11:21	0.7	4.2
28-Dec-11	16:01:21	0.8	4.8
28-Dec-11	15:51:21	0.8	4.8
28-Dec-11	15:41:21	0.8	4.8
28-Dec-11	15:31:21	0.9	5.4
28-Dec-11	15:21:21	0.9	5.4
28-Dec-11	15:11:21	0.9	5.4
28-Dec-11	15:01:21	1	6
28-Dec-11	14:51:21	1.1	6.6
28-Dec-11	14:41:21	1.1	6.6
28-Dec-11	14:31:21	1.3	7.8
28-Dec-11	14:21:21	1.3	7.8
28-Dec-11	14:11:21	1.4	8.4
28-Dec-11	14:01:21	1.5	9
28-Dec-11	13:51:21	1.7	10.2
28-Dec-11	13:41:21	1.7	10.2
28-Dec-11	13:31:21	1.9	11.4
28-Dec-11	13:21:21	2.1	12.6
28-Dec-11	13:11:21	2.3	13.8
28-Dec-11	13:01:21	2.5	15
28-Dec-11	12:51:21	2.7	16.2
28-Dec-11	12:41:21	3	18
28-Dec-11	12:31:21	3.2	11.42857143

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:14:33	0.1	18
28-Dec-11	12:14:13	0.1	18
28-Dec-11	12:13:53	0.1	36
28-Dec-11	12:13:43	0.1	36
28-Dec-11	12:13:33	0.1	18
28-Dec-11	12:13:13	0.1	18
28-Dec-11	12:12:53	0.1	18
28-Dec-11	12:12:33	0.1	36
28-Dec-11	12:12:23	0.1	36
28-Dec-11	12:12:13	0.1	18
28-Dec-11	12:11:53	0.1	18
28-Dec-11	12:11:33	0.1	18
28-Dec-11	12:11:13	0.1	18
28-Dec-11	12:10:53	0.1	36
28-Dec-11	12:10:43	0.1	36
28-Dec-11	12:10:33	0.1	18
28-Dec-11	12:10:13	0.1	18
28-Dec-11	12:09:53	0.1	36
28-Dec-11	12:09:43	0.1	18
28-Dec-11	12:09:23	0.1	18
28-Dec-11	12:09:03	0.1	18
28-Dec-11	12:08:43	0.1	36
28-Dec-11	12:08:33	0.1	36
28-Dec-11	12:08:23	0.1	18
28-Dec-11	12:08:03	0.1	18
28-Dec-11	12:07:43	0.1	36
28-Dec-11	12:07:33	0.1	18

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:07:13	0.1	18
28-Dec-11	12:06:53	0.1	36
28-Dec-11	12:06:43	0.1	36
28-Dec-11	12:06:33	0.1	18
28-Dec-11	12:06:13	0.1	18
28-Dec-11	12:05:53	0.1	36
28-Dec-11	12:05:43	0.1	18
28-Dec-11	12:05:23	0.1	18
28-Dec-11	12:05:03	0.1	36
28-Dec-11	12:04:53	0.1	36
28-Dec-11	12:04:43	0.1	18
28-Dec-11	12:04:23	0.1	18
28-Dec-11	12:04:03	0.1	36
28-Dec-11	12:03:53	0.1	18
28-Dec-11	12:03:33	0.1	36
28-Dec-11	12:03:23	0.1	18
28-Dec-11	12:03:03	0.1	36
28-Dec-11	12:02:53	0.1	18
28-Dec-11	12:02:33	0.1	36
28-Dec-11	12:02:23	0.1	18
28-Dec-11	12:02:03	0.1	36
28-Dec-11	12:01:53	0.1	18
28-Dec-11	12:01:33	0.2	36
28-Dec-11	12:01:13	0.1	18
28-Dec-11	12:00:53	0.1	36
28-Dec-11	12:00:43	0.1	18
28-Dec-11	12:00:23	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:00:13	0.1	18
28-Dec-11	11:59:53	0.1	36
28-Dec-11	11:59:43	0.1	18
28-Dec-11	11:59:23	0.1	36
28-Dec-11	11:59:13	0.1	18
28-Dec-11	11:58:53	0.2	36
28-Dec-11	11:58:33	0.1	36
28-Dec-11	11:58:23	0.1	18
28-Dec-11	11:58:03	0.1	36
28-Dec-11	11:57:53	0.1	18
28-Dec-11	11:57:33	0.1	36
28-Dec-11	11:57:23	0.1	36
28-Dec-11	11:57:13	0.1	36
28-Dec-11	11:57:03	0.1	18
28-Dec-11	11:56:43	0.1	36
28-Dec-11	11:56:33	0.1	18
28-Dec-11	11:56:13	0.1	36
28-Dec-11	11:56:03	0.1	36
28-Dec-11	11:55:53	0.1	36
28-Dec-11	11:55:43	0.1	18
28-Dec-11	11:55:23	0.1	36
28-Dec-11	11:55:13	0.1	18
28-Dec-11	11:54:53	0.1	36
28-Dec-11	11:54:43	0.1	18
28-Dec-11	11:54:23	0.1	36
28-Dec-11	11:54:13	0.1	36
28-Dec-11	11:54:03	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:53:53	0.1	18
28-Dec-11	11:53:33	0.1	36
28-Dec-11	11:53:23	0.1	36
28-Dec-11	11:53:13	0.1	36
28-Dec-11	11:53:03	0.1	36
28-Dec-11	11:52:53	0.1	36
28-Dec-11	11:52:43	0.1	18
28-Dec-11	11:52:23	0.1	36
28-Dec-11	11:52:13	0.1	36
28-Dec-11	11:52:03	0.1	18
28-Dec-11	11:51:43	0.2	36
28-Dec-11	11:51:23	0.1	36
28-Dec-11	11:51:13	0.1	18
28-Dec-11	11:50:53	0.1	36
28-Dec-11	11:50:43	0.2	36
28-Dec-11	11:50:23	0.1	36
28-Dec-11	11:50:13	0.1	36
28-Dec-11	11:50:03	0.1	36
28-Dec-11	11:49:53	0.1	36
28-Dec-11	11:49:43	0.1	36
28-Dec-11	11:49:33	0.1	36
28-Dec-11	11:49:23	0.1	36
28-Dec-11	11:49:13	0.1	36
28-Dec-11	11:49:03	0.1	18
28-Dec-11	11:48:43	0.1	36
28-Dec-11	11:48:33	0.1	36
28-Dec-11	11:48:23	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:48:13	0.1	36
28-Dec-11	11:48:03	0.1	36
28-Dec-11	11:47:53	0.1	36
28-Dec-11	11:47:43	0.1	36
28-Dec-11	11:47:33	0.1	36
28-Dec-11	11:47:23	0.1	18
28-Dec-11	11:47:03	0.2	36
28-Dec-11	11:46:43	0.1	36
28-Dec-11	11:46:33	0.1	36
28-Dec-11	11:46:23	0.1	36
28-Dec-11	11:46:13	0.1	36
28-Dec-11	11:46:03	0.1	36
28-Dec-11	11:45:53	0.1	36
28-Dec-11	11:45:43	0.1	18
28-Dec-11	11:45:23	0.2	72
28-Dec-11	11:45:13	0.1	18
28-Dec-11	11:44:53	0.1	36
28-Dec-11	11:44:43	0.1	36
28-Dec-11	11:44:33	0.2	72
28-Dec-11	11:44:23	0.1	18
28-Dec-11	11:44:03	0.1	36
28-Dec-11	11:43:53	0.1	36
28-Dec-11	11:43:43	0.1	36
28-Dec-11	11:43:33	0.1	36
28-Dec-11	11:43:23	0.1	36
28-Dec-11	11:43:13	0.1	36
28-Dec-11	11:43:03	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:42:53	0.1	36
28-Dec-11	11:42:43	0.1	36
28-Dec-11	11:42:33	0.1	36
28-Dec-11	11:42:23	0.2	36
28-Dec-11	11:42:03	0.1	36
28-Dec-11	11:41:53	0.1	36
28-Dec-11	11:41:43	0.1	36
28-Dec-11	11:41:33	0.2	36
28-Dec-11	11:41:13	0.1	36
28-Dec-11	11:41:03	0.1	36
28-Dec-11	11:40:53	0.2	72
28-Dec-11	11:40:43	0.1	36
28-Dec-11	11:40:33	0.1	36
28-Dec-11	11:40:23	0.1	18
28-Dec-11	11:40:03	0.2	72
28-Dec-11	11:39:53	0.1	36
28-Dec-11	11:39:43	0.1	36
28-Dec-11	11:39:33	0.1	36
28-Dec-11	11:39:23	0.2	72
28-Dec-11	11:39:13	0.1	36
28-Dec-11	11:39:03	0.1	36
28-Dec-11	11:38:53	0.1	36
28-Dec-11	11:38:43	0.1	36
28-Dec-11	11:38:33	0.1	36
28-Dec-11	11:38:23	0.1	36
28-Dec-11	11:38:13	0.1	36
28-Dec-11	11:38:03	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:37:53	0.2	72
28-Dec-11	11:37:43	0.1	36
28-Dec-11	11:37:33	0.1	36
28-Dec-11	11:37:23	0.1	36
28-Dec-11	11:37:13	0.1	36
28-Dec-11	11:37:03	0.1	36
28-Dec-11	11:36:53	0.2	72
28-Dec-11	11:36:43	0.1	36
28-Dec-11	11:36:33	0.1	36
28-Dec-11	11:36:23	0.1	36
28-Dec-11	11:36:13	0.1	36
28-Dec-11	11:36:03	0.2	72
28-Dec-11	11:35:53	0.1	36
28-Dec-11	11:35:43	0.1	36
28-Dec-11	11:35:33	0.1	36
28-Dec-11	11:35:23	0.1	36
28-Dec-11	11:35:13	0.2	72
28-Dec-11	11:35:03	0.1	36
28-Dec-11	11:34:53	0.1	36
28-Dec-11	11:34:43	0.1	36
28-Dec-11	11:34:33	0.1	36
28-Dec-11	11:34:23	0.1	36
28-Dec-11	11:34:13	0.2	72
28-Dec-11	11:34:03	0.1	36
28-Dec-11	11:33:53	0.1	36
28-Dec-11	11:33:43	0.2	72
28-Dec-11	11:33:33	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:33:23	0.1	36
28-Dec-11	11:33:13	0.1	36
28-Dec-11	11:33:03	0.1	36
28-Dec-11	11:32:53	0.2	72
28-Dec-11	11:32:43	0.1	36
28-Dec-11	11:32:33	0.2	72
28-Dec-11	11:32:23	0.1	36
28-Dec-11	11:32:13	0.2	72
28-Dec-11	11:32:03	0.1	36
28-Dec-11	11:31:53	0.1	36
28-Dec-11	11:31:43	0.2	72
28-Dec-11	11:31:33	0.1	36
28-Dec-11	11:31:23	0.2	72
28-Dec-11	11:31:13	0.1	36
28-Dec-11	11:31:03	0.1	36
28-Dec-11	11:30:53	0.2	72
28-Dec-11	11:30:43	0.1	36
28-Dec-11	11:30:33	0.1	36
28-Dec-11	11:30:23	0.1	36
28-Dec-11	11:30:13	0.2	72
28-Dec-11	11:30:03	0.1	36
28-Dec-11	11:29:53	0.2	72
28-Dec-11	11:29:43	0.1	36
28-Dec-11	11:29:33	0.1	36
28-Dec-11	11:29:23	0.2	72
28-Dec-11	11:29:13	0.1	36
28-Dec-11	11:29:03	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:28:53	0.2	72
28-Dec-11	11:28:43	0.2	72
28-Dec-11	11:28:33	0.1	36
28-Dec-11	11:28:23	0.2	72
28-Dec-11	11:28:13	0.1	36
28-Dec-11	11:28:03	0.2	72
28-Dec-11	11:27:53	0.1	36
28-Dec-11	11:27:43	0.2	72
28-Dec-11	11:27:33	0.1	36
28-Dec-11	11:27:23	0.2	72
28-Dec-11	11:27:13	0.1	36
28-Dec-11	11:27:03	0.2	72
28-Dec-11	11:26:53	0.1	36
28-Dec-11	11:26:43	0.2	72
28-Dec-11	11:26:33	0.1	36
28-Dec-11	11:26:23	0.2	72
28-Dec-11	11:26:13	0.1	36
28-Dec-11	11:26:03	0.2	72
28-Dec-11	11:25:53	0.1	36
28-Dec-11	11:25:43	0.2	72
28-Dec-11	11:25:33	0.2	72
28-Dec-11	11:25:23	0.2	72
28-Dec-11	11:25:13	0.1	36
28-Dec-11	11:25:03	0.2	72
28-Dec-11	11:24:53	0.1	36
28-Dec-11	11:24:43	0.2	72
28-Dec-11	11:24:33	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:24:23	0.2	72
28-Dec-11	11:24:13	0.1	36
28-Dec-11	11:24:03	0.2	72
28-Dec-11	11:23:53	0.1	36
28-Dec-11	11:23:43	0.2	72
28-Dec-11	11:23:33	0.2	72
28-Dec-11	11:23:23	0.1	36
28-Dec-11	11:23:13	0.2	72
28-Dec-11	11:23:03	0.1	36
28-Dec-11	11:22:53	0.2	72
28-Dec-11	11:22:43	0.2	72
28-Dec-11	11:22:33	0.2	72
28-Dec-11	11:22:23	0.1	36
28-Dec-11	11:22:13	0.2	72
28-Dec-11	11:22:03	0.2	72
28-Dec-11	11:21:53	0.2	72
28-Dec-11	11:21:43	0.1	36
28-Dec-11	11:21:33	0.2	72
28-Dec-11	11:21:23	0.1	36
28-Dec-11	11:21:13	0.2	72
28-Dec-11	11:21:03	0.2	72
28-Dec-11	11:20:53	0.2	72
28-Dec-11	11:20:43	0.2	72
28-Dec-11	11:20:33	0.2	72
28-Dec-11	11:20:23	0.1	36
28-Dec-11	11:20:13	0.3	108
28-Dec-11	11:20:03	0.1	36

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:19:53	0.3	108
28-Dec-11	11:19:43	0.1	36
28-Dec-11	11:19:33	0.2	72
28-Dec-11	11:19:23	0.2	72
28-Dec-11	11:19:13	0.2	72
28-Dec-11	11:19:03	0.2	72
28-Dec-11	11:18:53	0.2	72
28-Dec-11	11:18:43	0.1	36
28-Dec-11	11:18:33	0.3	108
28-Dec-11	11:18:23	0.2	72
28-Dec-11	11:18:13	0.2	72
28-Dec-11	11:18:03	0.2	72
28-Dec-11	11:17:53	0.2	72
28-Dec-11	11:17:43	0.2	72
28-Dec-11	11:17:33	0.2	72
28-Dec-11	11:17:23	0.2	72
28-Dec-11	11:17:13	0.3	108
28-Dec-11	11:17:03	0.2	72
28-Dec-11	11:16:53	0.2	72
28-Dec-11	11:16:43	0.2	72
28-Dec-11	11:16:33	0.2	72
28-Dec-11	11:16:23	0.2	72
28-Dec-11	11:16:13	0.3	108
28-Dec-11	11:16:03	0.2	72
28-Dec-11	11:15:53	0.2	72
28-Dec-11	11:15:43	0.2	72
28-Dec-11	11:15:33	0.3	108

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:15:23	0.2	72
28-Dec-11	11:15:13	0.2	72
28-Dec-11	11:15:03	0.2	72
28-Dec-11	11:14:53	0.3	108
28-Dec-11	11:14:43	0.2	72
28-Dec-11	11:14:33	0.3	108
28-Dec-11	11:14:23	0.2	72
28-Dec-11	11:14:13	0.3	108
28-Dec-11	11:14:03	0.1	36
28-Dec-11	11:13:53	0.3	108
28-Dec-11	11:13:43	0.2	72
28-Dec-11	11:13:33	0.3	108
28-Dec-11	11:13:23	0.2	72
28-Dec-11	11:13:13	0.3	108
28-Dec-11	11:13:03	0.2	72
28-Dec-11	11:12:53	0.3	108
28-Dec-11	11:12:43	0.2	72
28-Dec-11	11:12:33	0.3	108
28-Dec-11	11:12:23	0.2	72
28-Dec-11	11:12:13	0.3	108
28-Dec-11	11:12:03	0.2	72
28-Dec-11	11:11:53	0.4	144
28-Dec-11	11:11:43	0.2	72
28-Dec-11	11:11:33	0.3	108
28-Dec-11	11:11:23	0.2	72
28-Dec-11	11:11:13	0.3	108
28-Dec-11	11:11:03	0.2	72

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:10:53	0.4	144
28-Dec-11	11:10:43	0.2	72
28-Dec-11	11:10:33	0.3	108
28-Dec-11	11:10:23	0.3	108
28-Dec-11	11:10:13	0.3	108
28-Dec-11	11:10:03	0.2	72
28-Dec-11	11:09:53	0.4	144
28-Dec-11	11:09:43	0.2	72
28-Dec-11	11:09:33	0.4	144
28-Dec-11	11:09:23	0.2	72
28-Dec-11	11:09:13	0.4	144
28-Dec-11	11:09:03	0.3	108
28-Dec-11	11:08:53	0.3	108
28-Dec-11	11:08:43	0.2	72
28-Dec-11	11:08:33	0.4	144
28-Dec-11	11:08:23	0.3	108
28-Dec-11	11:08:13	0.3	108
28-Dec-11	11:08:03	0.3	108
28-Dec-11	11:07:53	0.4	144
28-Dec-11	11:07:43	0.3	108
28-Dec-11	11:07:33	0.4	144
28-Dec-11	11:07:23	0.3	108
28-Dec-11	11:07:13	0.4	144
28-Dec-11	11:07:03	0.2	72
28-Dec-11	11:06:53	0.4	144
28-Dec-11	11:06:43	0.3	108
28-Dec-11	11:06:33	0.5	180

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:06:23	0.3	108
28-Dec-11	11:06:13	0.4	144
28-Dec-11	11:06:03	0.2	72
28-Dec-11	11:05:53	0.5	180
28-Dec-11	11:05:43	0.3	108
28-Dec-11	11:05:33	0.4	144
28-Dec-11	11:05:23	0.4	144
28-Dec-11	11:05:13	0.4	144
28-Dec-11	11:05:03	0.4	144
28-Dec-11	11:04:53	0.5	180
28-Dec-11	11:04:43	0.3	108
28-Dec-11	11:04:33	0.5	180
28-Dec-11	11:04:23	0.3	108
28-Dec-11	11:04:13	0.5	180
28-Dec-11	11:04:03	0.3	108
28-Dec-11	11:03:53	0.6	216
28-Dec-11	11:03:43	0.3	108
28-Dec-11	11:03:33	0.6	216
28-Dec-11	11:03:23	0.4	144
28-Dec-11	11:03:13	0.5	180
28-Dec-11	11:03:03	0.4	144
28-Dec-11	11:02:53	0.6	216
28-Dec-11	11:02:43	0.3	108
28-Dec-11	11:02:33	0.6	216
28-Dec-11	11:02:23	0.4	144
28-Dec-11	11:02:13	0.6	216
28-Dec-11	11:02:03	0.4	144

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:01:53	0.6	216
28-Dec-11	11:01:43	0.4	144
28-Dec-11	11:01:33	0.7	252
28-Dec-11	11:01:23	0.4	144
28-Dec-11	11:01:13	0.7	252
28-Dec-11	11:01:03	0.4	144
28-Dec-11	11:00:53	0.7	252
28-Dec-11	11:00:43	0.5	180
28-Dec-11	11:00:33	0.7	252
28-Dec-11	11:00:23	0.5	180
28-Dec-11	11:00:13	0.7	252
28-Dec-11	11:00:03	0.5	180
28-Dec-11	10:59:53	0.8	288
28-Dec-11	10:59:43	0.6	216
28-Dec-11	10:59:33	0.8	288
28-Dec-11	10:59:23	0.5	180
28-Dec-11	10:59:13	0.7	252
28-Dec-11	10:59:03	0.7	252
28-Dec-11	10:58:53	0.7	252
28-Dec-11	10:58:43	0.7	252
28-Dec-11	10:58:33	1	360
28-Dec-11	10:58:23	0.8	288
28-Dec-11	10:58:13	0.7	252
28-Dec-11	10:58:03	1	360
28-Dec-11	10:57:53	0.8	288
28-Dec-11	10:57:43	1.2	432
28-Dec-11	10:57:33	0.9	324

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	10:57:23	1	360
28-Dec-11	10:57:13	1.1	396
28-Dec-11	10:57:03	1.2	432
28-Dec-11	10:56:53	1.2	432
28-Dec-11	10:56:43	1.3	468
28-Dec-11	10:56:33	1.4	504
28-Dec-11	10:56:23	1.6	576
28-Dec-11	10:56:13	1.7	612
28-Dec-11	10:56:03	1.8	648
28-Dec-11	10:55:53	1.9	684
28-Dec-11	10:55:43	2.5	900

Appendix E: EPD 3 Data

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
3-Jan-12	8:59:38	0.1	0.2
3-Jan-12	8:29:38	0.1	0.2
3-Jan-12	7:59:38	0.1	0.2
3-Jan-12	7:29:38	0.1	0.2
3-Jan-12	6:59:38	0.1	0.2
3-Jan-12	6:29:38	0.1	0.2
3-Jan-12	5:59:38	0.1	0.2
3-Jan-12	5:29:38	0.1	0.2
3-Jan-12	4:59:38	0.1	0.2
3-Jan-12	4:29:38	0.1	0.2
3-Jan-12	3:59:38	0.1	0.2
3-Jan-12	3:29:38	0.1	0.2
3-Jan-12	2:59:38	0.1	0.2
3-Jan-12	2:29:38	0.1	0.2
3-Jan-12	1:59:38	0.1	0.2
3-Jan-12	1:29:38	0.1	0.3
3-Jan-12	1:09:38	0.1	0.2
3-Jan-12	0:39:38	0.1	0.2
3-Jan-12	0:09:38	0.1	0.3
2-Jan-12	23:39:38	0.1	0.2
2-Jan-12	23:09:38	0.1	0.2
2-Jan-12	22:39:38	0.1	0.2
2-Jan-12	22:09:38	0.1	0.3
2-Jan-12	21:49:38	0.1	0.2
2-Jan-12	21:19:38	0.1	0.15

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	20:39:38	0.1	0.3
2-Jan-12	20:19:38	0.1	0.2
2-Jan-12	19:49:38	0.1	0.2
2-Jan-12	19:19:38	0.1	0.3
2-Jan-12	18:59:38	0.1	0.2
2-Jan-12	18:29:38	0.1	0.2
2-Jan-12	17:59:38	0.1	0.3
2-Jan-12	17:39:38	0.1	0.2
2-Jan-12	17:09:38	0.1	0.3
2-Jan-12	16:49:38	0.1	0.2
2-Jan-12	16:19:38	0.1	0.2
2-Jan-12	15:49:38	0.1	0.2
2-Jan-12	15:19:38	0.1	0.2
2-Jan-12	14:49:38	0.1	0.2
2-Jan-12	14:19:38	0.1	0.2
2-Jan-12	13:49:38	0.1	0.2
2-Jan-12	13:19:38	0.1	0.2
2-Jan-12	12:49:38	0.1	0.3
2-Jan-12	12:29:38	0.1	0.2
2-Jan-12	11:59:38	0.1	0.2
2-Jan-12	11:29:38	0.1	0.2
2-Jan-12	10:59:38	0.1	0.2
2-Jan-12	10:29:38	0.1	0.3
2-Jan-12	10:09:38	0.1	0.2
2-Jan-12	9:39:38	0.1	0.2
2-Jan-12	9:09:38	0.1	0.2
2-Jan-12	8:39:38	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	8:09:38	0.1	0.2
2-Jan-12	7:39:38	0.1	0.2
2-Jan-12	7:09:38	0.1	0.2
2-Jan-12	6:39:38	0.1	0.2
2-Jan-12	6:09:38	0.1	0.2
2-Jan-12	5:39:38	0.1	0.2
2-Jan-12	5:09:38	0.1	0.3
2-Jan-12	4:49:38	0.1	0.2
2-Jan-12	4:19:38	0.1	0.2
2-Jan-12	3:49:38	0.1	0.2
2-Jan-12	3:19:38	0.1	0.2
2-Jan-12	2:49:38	0.1	0.3
2-Jan-12	2:29:38	0.1	0.2
2-Jan-12	1:59:38	0.1	0.2
2-Jan-12	1:29:38	0.1	0.3
2-Jan-12	1:09:38	0.1	0.2
2-Jan-12	0:39:38	0.1	0.2
2-Jan-12	0:09:38	0.1	0.3
1-Jan-12	23:49:38	0.1	0.2
1-Jan-12	23:19:38	0.1	0.2
1-Jan-12	22:49:38	0.1	0.2
1-Jan-12	22:19:38	0.1	0.3
1-Jan-12	21:59:38	0.1	0.2
1-Jan-12	21:29:38	0.1	0.3
1-Jan-12	21:09:38	0.1	0.2
1-Jan-12	20:39:38	0.1	0.2
1-Jan-12	20:09:38	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	19:49:38	0.1	0.2
1-Jan-12	19:19:38	0.1	0.2
1-Jan-12	18:49:38	0.1	0.2
1-Jan-12	18:19:38	0.1	0.2
1-Jan-12	17:49:38	0.1	0.2
1-Jan-12	17:19:38	0.1	0.3
1-Jan-12	16:59:38	0.1	0.2
1-Jan-12	16:29:38	0.1	0.2
1-Jan-12	15:59:38	0.1	0.3
1-Jan-12	15:39:38	0.1	0.2
1-Jan-12	15:09:38	0.1	0.2
1-Jan-12	14:39:38	0.1	0.3
1-Jan-12	14:19:38	0.1	0.2
1-Jan-12	13:49:38	0.1	0.2
1-Jan-12	13:19:38	0.1	0.3
1-Jan-12	12:59:38	0.1	0.2
1-Jan-12	12:29:38	0.1	0.2
1-Jan-12	11:59:38	0.1	0.3
1-Jan-12	11:39:38	0.1	0.2
1-Jan-12	11:09:38	0.1	0.3
1-Jan-12	10:49:38	0.1	0.2
1-Jan-12	10:19:38	0.1	0.3
1-Jan-12	9:59:38	0.1	0.2
1-Jan-12	9:29:38	0.1	0.3
1-Jan-12	9:09:38	0.1	0.2
1-Jan-12	8:39:38	0.1	0.3
1-Jan-12	8:19:38	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	7:49:38	0.1	0.2
1-Jan-12	7:19:38	0.1	0.3
1-Jan-12	6:59:38	0.1	0.2
1-Jan-12	6:29:38	0.1	0.2
1-Jan-12	5:59:38	0.1	0.3
1-Jan-12	5:39:38	0.1	0.2
1-Jan-12	5:09:38	0.1	0.3
1-Jan-12	4:49:38	0.1	0.2
1-Jan-12	4:19:38	0.1	0.3
1-Jan-12	3:59:38	0.1	0.2
1-Jan-12	3:29:38	0.1	0.2
1-Jan-12	2:59:38	0.1	0.2
1-Jan-12	2:29:38	0.1	0.3
1-Jan-12	2:09:38	0.1	0.3
1-Jan-12	1:49:38	0.1	0.2
1-Jan-12	1:19:38	0.1	0.3
1-Jan-12	0:59:38	0.1	0.2
1-Jan-12	0:29:38	0.1	0.3
1-Jan-12	0:09:38	0.1	0.3
31-Dec-11	23:39:38	0.1	0.3
31-Dec-11	23:19:38	0.1	0.2
31-Dec-11	22:49:38	0.1	0.3
31-Dec-11	22:29:38	0.1	0.2
31-Dec-11	21:59:38	0.1	0.3
31-Dec-11	21:39:38	0.1	0.3
31-Dec-11	21:19:38	0.1	0.2
31-Dec-11	20:49:38	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	20:29:38	0.1	0.2
31-Dec-11	19:59:38	0.1	0.3
31-Dec-11	19:39:38	0.1	0.3
31-Dec-11	19:19:38	0.1	0.2
31-Dec-11	18:49:38	0.1	0.2
31-Dec-11	18:19:38	0.1	0.3
31-Dec-11	17:59:38	0.1	0.3
31-Dec-11	17:39:38	0.1	0.2
31-Dec-11	17:09:38	0.1	0.2
31-Dec-11	16:39:38	0.1	0.3
31-Dec-11	16:19:38	0.1	0.2
31-Dec-11	15:49:38	0.1	0.3
31-Dec-11	15:29:38	0.1	0.3
31-Dec-11	15:09:38	0.1	0.3
31-Dec-11	14:49:38	0.1	0.3
31-Dec-11	14:29:38	0.1	0.2
31-Dec-11	13:59:38	0.1	0.3
31-Dec-11	13:39:38	0.1	0.3
31-Dec-11	13:19:38	0.1	0.3
31-Dec-11	12:59:38	0.1	0.3
31-Dec-11	12:39:38	0.1	0.2
31-Dec-11	12:09:38	0.1	0.3
31-Dec-11	11:49:38	0.1	0.3
31-Dec-11	11:29:38	0.1	0.3
31-Dec-11	11:09:38	0.1	0.2
31-Dec-11	10:39:38	0.1	0.3
31-Dec-11	10:19:38	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	9:59:38	0.1	0.3
31-Dec-11	9:09:01	0.1	0.3
31-Dec-11	8:49:01	0.1	0.3
31-Dec-11	8:29:01	0.1	0.3
31-Dec-11	8:09:01	0.1	0.3
31-Dec-11	7:49:01	0.1	0.3
31-Dec-11	7:29:01	0.1	0.3
31-Dec-11	7:09:01	0.1	0.3
31-Dec-11	6:49:01	0.1	0.3
31-Dec-11	6:29:01	0.1	0.3
31-Dec-11	6:09:01	0.1	0.3
31-Dec-11	5:49:01	0.1	0.3
31-Dec-11	5:29:01	0.1	0.3
31-Dec-11	5:09:01	0.1	0.6
31-Dec-11	4:59:01	0.1	0.3
31-Dec-11	4:39:01	0.1	0.3
31-Dec-11	4:19:01	0.1	0.3
31-Dec-11	3:59:01	0.1	0.3
31-Dec-11	3:39:01	0.1	0.3
31-Dec-11	3:19:01	0.1	0.3
31-Dec-11	2:59:01	0.1	0.3
31-Dec-11	2:39:01	0.1	0.6
31-Dec-11	2:29:01	0.1	0.2
31-Dec-11	1:59:01	0.1	0.6
31-Dec-11	1:49:01	0.1	0.3
31-Dec-11	1:29:01	0.1	0.3
31-Dec-11	1:09:01	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	0:49:01	0.1	0.3
31-Dec-11	0:29:01	0.1	0.6
31-Dec-11	0:19:01	0.1	0.3
30-Dec-11	23:59:01	0.1	0.3
30-Dec-11	23:39:01	0.1	0.3
30-Dec-11	23:19:01	0.1	0.3
30-Dec-11	22:59:01	0.1	0.3
30-Dec-11	22:39:01	0.1	0.6
30-Dec-11	22:29:01	0.1	0.3
30-Dec-11	22:09:01	0.1	0.3
30-Dec-11	21:49:01	0.1	0.6
30-Dec-11	21:39:01	0.1	0.3
30-Dec-11	21:19:01	0.1	0.3
30-Dec-11	20:59:01	0.1	0.6
30-Dec-11	20:49:01	0.1	0.3
30-Dec-11	20:29:01	0.1	0.3
30-Dec-11	20:09:01	0.1	0.3
30-Dec-11	19:49:01	0.1	0.3
30-Dec-11	19:29:01	0.1	0.6
30-Dec-11	19:19:01	0.1	0.3
30-Dec-11	18:59:01	0.1	0.3
30-Dec-11	18:39:01	0.1	0.6
30-Dec-11	18:29:01	0.1	0.3
30-Dec-11	18:09:01	0.1	0.3
30-Dec-11	17:49:01	0.1	0.6
30-Dec-11	17:39:01	0.1	0.3
30-Dec-11	17:19:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	17:09:01	0.1	0.3
30-Dec-11	16:49:01	0.1	0.6
30-Dec-11	16:39:01	0.1	0.3
30-Dec-11	16:19:01	0.1	0.6
30-Dec-11	16:09:01	0.1	0.3
30-Dec-11	15:49:01	0.1	0.3
30-Dec-11	15:29:01	0.1	0.6
30-Dec-11	15:19:01	0.1	0.3
30-Dec-11	14:59:01	0.1	0.3
30-Dec-11	14:39:01	0.1	0.6
30-Dec-11	14:29:01	0.1	0.3
30-Dec-11	14:09:01	0.1	0.6
30-Dec-11	13:59:01	0.1	0.3
30-Dec-11	13:39:01	0.1	0.6
30-Dec-11	13:29:01	0.1	0.3
30-Dec-11	13:09:01	0.1	0.3
30-Dec-11	12:49:01	0.1	0.6
30-Dec-11	12:39:01	0.1	0.3
30-Dec-11	12:19:01	0.1	0.6
30-Dec-11	12:09:01	0.1	0.3
30-Dec-11	11:49:01	0.1	0.6
30-Dec-11	11:39:01	0.1	0.3
30-Dec-11	11:19:01	0.1	0.3
30-Dec-11	10:59:01	0.1	0.6
30-Dec-11	10:49:01	0.1	0.3
30-Dec-11	10:29:01	0.1	0.6
30-Dec-11	10:19:01	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	9:59:01	0.1	0.6
30-Dec-11	9:49:01	0.1	0.6
30-Dec-11	9:39:01	0.1	0.3
30-Dec-11	9:19:01	0.1	0.6
30-Dec-11	9:09:01	0.1	0.3
30-Dec-11	8:49:01	0.1	0.3
30-Dec-11	8:29:01	0.1	0.6
30-Dec-11	8:19:01	0.1	0.6
30-Dec-11	8:09:01	0.1	0.3
30-Dec-11	7:49:01	0.1	0.6
30-Dec-11	7:39:01	0.1	0.3
30-Dec-11	7:19:01	0.1	0.6
30-Dec-11	7:09:01	0.1	0.3
30-Dec-11	6:49:01	0.1	0.6
30-Dec-11	6:39:01	0.1	0.6
30-Dec-11	6:29:01	0.1	0.3
30-Dec-11	6:09:01	0.1	0.6
30-Dec-11	5:59:01	0.1	0.3
30-Dec-11	5:39:01	0.1	0.6
30-Dec-11	5:29:01	0.1	0.6
30-Dec-11	5:19:01	0.1	0.3
30-Dec-11	4:59:01	0.1	0.6
30-Dec-11	4:49:01	0.1	0.6
30-Dec-11	4:39:01	0.1	0.3
30-Dec-11	4:19:01	0.1	0.6
30-Dec-11	4:09:01	0.1	0.3
30-Dec-11	3:49:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	3:39:01	0.1	0.3
30-Dec-11	3:19:01	0.1	0.6
30-Dec-11	3:09:01	0.1	0.6
30-Dec-11	2:59:01	0.1	0.6
30-Dec-11	2:49:01	0.1	0.3
30-Dec-11	2:29:01	0.1	0.6
30-Dec-11	2:19:01	0.1	0.3
30-Dec-11	1:59:01	0.1	0.6
30-Dec-11	1:49:01	0.1	0.6
30-Dec-11	1:39:01	0.1	0.3
30-Dec-11	1:19:01	0.1	0.6
30-Dec-11	1:09:01	0.1	0.6
30-Dec-11	0:59:01	0.1	0.6
30-Dec-11	0:49:01	0.1	0.3
30-Dec-11	0:29:01	0.1	0.6
30-Dec-11	0:19:01	0.1	0.6
30-Dec-11	0:09:01	0.1	0.6
29-Dec-11	23:59:01	0.1	0.3
29-Dec-11	23:39:01	0.1	0.6
29-Dec-11	23:29:01	0.1	0.6
29-Dec-11	23:19:01	0.1	0.6
29-Dec-11	23:09:01	0.1	0.6
29-Dec-11	22:59:01	0.1	0.6
29-Dec-11	22:49:01	0.1	0.3
29-Dec-11	22:29:01	0.1	0.6
29-Dec-11	22:19:01	0.1	0.6
29-Dec-11	22:09:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	21:59:01	0.1	0.6
29-Dec-11	21:49:01	0.1	0.3
29-Dec-11	21:29:01	0.1	0.6
29-Dec-11	21:19:01	0.1	0.6
29-Dec-11	21:09:01	0.1	0.6
29-Dec-11	20:59:01	0.1	0.6
29-Dec-11	20:49:01	0.1	0.6
29-Dec-11	20:39:01	0.1	0.3
29-Dec-11	20:19:01	0.1	0.6
29-Dec-11	20:09:01	0.1	0.6
29-Dec-11	19:59:01	0.1	0.6
29-Dec-11	19:49:01	0.1	0.6
29-Dec-11	19:39:01	0.1	0.6
29-Dec-11	19:29:01	0.1	0.3
29-Dec-11	19:09:01	0.1	0.6
29-Dec-11	18:59:01	0.1	0.6
29-Dec-11	18:49:01	0.1	0.6
29-Dec-11	18:39:01	0.1	0.6
29-Dec-11	18:29:01	0.1	0.6
29-Dec-11	18:19:01	0.1	0.6
29-Dec-11	18:09:01	0.1	0.6
29-Dec-11	17:59:01	0.1	0.6
29-Dec-11	17:49:01	0.1	0.6
29-Dec-11	17:39:01	0.1	0.6
29-Dec-11	17:29:01	0.1	0.6
29-Dec-11	17:19:01	0.1	0.6
29-Dec-11	17:09:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	16:59:01	0.1	0.6
29-Dec-11	16:49:01	0.1	0.6
29-Dec-11	16:39:01	0.1	0.6
29-Dec-11	16:29:01	0.1	0.6
29-Dec-11	16:19:01	0.1	0.6
29-Dec-11	16:09:01	0.1	0.3
29-Dec-11	15:49:01	0.1	0.6
29-Dec-11	15:39:01	0.1	0.6
29-Dec-11	15:29:01	0.2	1.2
29-Dec-11	15:19:01	0.1	0.6
29-Dec-11	15:09:01	0.1	0.6
29-Dec-11	14:59:01	0.1	0.6
29-Dec-11	14:49:01	0.1	0.6
29-Dec-11	14:39:01	0.1	0.6
29-Dec-11	14:29:01	0.1	0.6
29-Dec-11	14:19:01	0.1	0.6
29-Dec-11	14:09:01	0.1	0.6
29-Dec-11	13:59:01	0.1	0.6
29-Dec-11	13:49:01	0.1	0.6
29-Dec-11	13:39:01	0.1	0.6
29-Dec-11	13:29:01	0.1	0.6
29-Dec-11	13:19:01	0.1	0.6
29-Dec-11	13:09:01	0.1	0.6
29-Dec-11	12:59:01	0.1	0.6
29-Dec-11	12:49:01	0.2	1.2
29-Dec-11	12:39:01	0.1	0.6
29-Dec-11	12:29:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	12:19:01	0.1	0.6
29-Dec-11	12:09:01	0.1	0.6
29-Dec-11	11:59:01	0.2	1.2
29-Dec-11	11:49:01	0.1	0.6
29-Dec-11	11:39:01	0.1	0.6
29-Dec-11	11:29:01	0.1	0.6
29-Dec-11	11:19:01	0.1	0.6
29-Dec-11	11:09:01	0.1	0.6
29-Dec-11	10:59:01	0.1	0.6
29-Dec-11	10:49:01	0.2	1.2
29-Dec-11	10:39:01	0.1	0.6
29-Dec-11	10:29:01	0.1	0.6
29-Dec-11	10:19:01	0.1	0.6
29-Dec-11	10:09:01	0.1	0.6
29-Dec-11	9:59:01	0.2	1.2
29-Dec-11	9:49:01	0.1	0.6
29-Dec-11	9:39:01	0.1	0.6
29-Dec-11	9:29:01	0.1	0.6
29-Dec-11	9:19:01	0.2	1.2
29-Dec-11	9:09:01	0.1	0.6
29-Dec-11	8:59:01	0.1	0.6
29-Dec-11	8:49:01	0.1	0.6
29-Dec-11	8:39:01	0.2	1.2
29-Dec-11	8:29:01	0.1	0.6
29-Dec-11	8:19:01	0.2	1.2
29-Dec-11	8:09:01	0.1	0.6
29-Dec-11	7:59:01	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	7:49:01	0.2	1.2
29-Dec-11	7:39:01	0.1	0.6
29-Dec-11	7:29:01	0.1	0.6
29-Dec-11	7:19:01	0.2	1.2
29-Dec-11	7:09:01	0.1	0.6
29-Dec-11	6:59:01	0.2	1.2
29-Dec-11	6:49:01	0.2	1.2
29-Dec-11	6:39:01	0.1	0.6
29-Dec-11	6:29:01	0.1	0.6
29-Dec-11	6:19:01	0.1	0.6
29-Dec-11	6:09:01	0.2	1.2
29-Dec-11	5:59:01	0.1	0.6
29-Dec-11	5:49:01	0.1	0.6
29-Dec-11	5:39:01	0.2	1.2
29-Dec-11	5:29:01	0.1	0.6
29-Dec-11	5:19:01	0.1	0.6
29-Dec-11	5:09:01	0.2	1.2
29-Dec-11	4:59:01	0.1	0.6
29-Dec-11	4:49:01	0.2	1.2
29-Dec-11	4:39:01	0.2	1.2
29-Dec-11	4:29:01	0.1	0.6
29-Dec-11	4:19:01	0.2	1.2
29-Dec-11	4:09:01	0.1	0.6
29-Dec-11	3:59:01	0.2	1.2
29-Dec-11	3:49:01	0.2	1.2
29-Dec-11	3:39:01	0.1	0.6
29-Dec-11	3:29:01	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	3:19:01	0.1	0.6
29-Dec-11	3:09:01	0.2	1.2
29-Dec-11	2:59:01	0.2	1.2
29-Dec-11	2:49:01	0.1	0.6
29-Dec-11	2:39:01	0.2	1.2
29-Dec-11	2:29:01	0.2	1.2
29-Dec-11	2:19:01	0.1	0.6
29-Dec-11	2:09:01	0.2	1.2
29-Dec-11	1:59:01	0.2	1.2
29-Dec-11	1:49:01	0.2	1.2
29-Dec-11	1:39:01	0.2	1.2
29-Dec-11	1:29:01	0.2	1.2
29-Dec-11	1:19:01	0.1	0.6
29-Dec-11	1:09:01	0.2	1.2
29-Dec-11	0:59:01	0.2	1.2
29-Dec-11	0:49:01	0.2	1.2
29-Dec-11	0:39:01	0.2	1.2
29-Dec-11	0:29:01	0.3	1.8
29-Dec-11	0:19:01	0.2	1.2
29-Dec-11	0:09:01	0.2	1.2
28-Dec-11	23:59:01	0.2	1.2
28-Dec-11	23:49:01	0.2	1.2
28-Dec-11	23:39:01	0.2	1.2
28-Dec-11	23:29:01	0.3	1.8
28-Dec-11	23:19:01	0.2	1.2
28-Dec-11	23:09:01	0.2	1.2
28-Dec-11	22:59:01	0.3	1.8

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	22:49:01	0.2	1.2
28-Dec-11	22:39:01	0.2	1.2
28-Dec-11	22:29:01	0.3	1.8
28-Dec-11	22:19:01	0.3	1.8
28-Dec-11	22:09:01	0.2	1.2
28-Dec-11	21:59:01	0.3	1.8
28-Dec-11	21:49:01	0.3	1.8
28-Dec-11	21:39:01	0.2	1.2
28-Dec-11	21:29:01	0.3	1.8
28-Dec-11	21:19:01	0.2	1.2
28-Dec-11	21:09:01	0.3	1.8
28-Dec-11	20:59:01	0.3	1.8
28-Dec-11	20:49:01	0.3	1.8
28-Dec-11	20:39:01	0.3	1.8
28-Dec-11	20:29:01	0.3	1.8
28-Dec-11	20:19:01	0.4	2.4
28-Dec-11	20:09:01	0.3	1.8
28-Dec-11	19:59:01	0.3	1.8
28-Dec-11	19:49:01	0.3	1.8
28-Dec-11	19:39:01	0.4	2.4
28-Dec-11	19:29:01	0.3	1.8
28-Dec-11	19:19:01	0.4	2.4
28-Dec-11	19:09:01	0.4	2.4
28-Dec-11	18:59:01	0.4	2.4
28-Dec-11	18:49:01	0.4	2.4
28-Dec-11	18:39:01	0.4	2.4
28-Dec-11	18:29:01	0.5	3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	18:19:01	0.5	3
28-Dec-11	18:09:01	0.4	2.4
28-Dec-11	17:59:01	0.5	3
28-Dec-11	17:49:01	0.5	3
28-Dec-11	17:39:01	0.5	3
28-Dec-11	17:29:01	0.5	3
28-Dec-11	17:19:01	0.5	3
28-Dec-11	17:09:01	0.6	3.6
28-Dec-11	16:59:01	0.6	3.6
28-Dec-11	16:49:01	0.6	3.6
28-Dec-11	16:39:01	0.6	3.6
28-Dec-11	16:29:01	0.7	4.2
28-Dec-11	16:19:01	0.8	4.8
28-Dec-11	16:09:01	0.7	4.2
28-Dec-11	15:59:01	0.8	4.8
28-Dec-11	15:49:01	0.9	5.4
28-Dec-11	15:39:01	0.8	4.8
28-Dec-11	15:29:01	0.9	5.4
28-Dec-11	15:19:01	1	6
28-Dec-11	15:09:01	1	6
28-Dec-11	14:59:01	1.1	6.6
28-Dec-11	14:49:01	1.1	6.6
28-Dec-11	14:39:01	1.1	6.6
28-Dec-11	14:29:01	1.3	7.8
28-Dec-11	14:19:01	1.4	8.4
28-Dec-11	14:09:01	1.4	8.4
28-Dec-11	13:59:01	1.6	9.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	13:49:01	1.6	9.6
28-Dec-11	13:39:01	1.9	11.4
28-Dec-11	13:29:01	2.1	12.6
28-Dec-11	13:19:01	2.2	13.2
28-Dec-11	13:09:01	2.4	14.4
28-Dec-11	12:59:01	2.7	16.2
28-Dec-11	12:49:01	3	18
28-Dec-11	12:39:01	1.5	9
28-Dec-11	12:22:25	0.3	18
28-Dec-11	12:21:25	0.5	30
28-Dec-11	12:20:25	0.5	30
28-Dec-11	12:19:25	0.5	30
28-Dec-11	12:18:25	0.5	30
28-Dec-11	12:17:25	0.5	30
28-Dec-11	12:16:25	0.5	30
28-Dec-11	12:15:25	0.4	24
28-Dec-11	12:14:25	0.5	30
28-Dec-11	12:13:25	0.5	30
28-Dec-11	12:12:25	0.5	30
28-Dec-11	12:11:25	0.5	30
28-Dec-11	12:10:25	0.5	30
28-Dec-11	12:09:25	0.5	30
28-Dec-11	12:08:25	0.6	36
28-Dec-11	12:07:25	0.5	30
28-Dec-11	12:06:25	0.6	36
28-Dec-11	12:05:25	0.6	36
28-Dec-11	12:04:25	0.5	30

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:03:25	0.6	36
28-Dec-11	12:02:25	0.6	36
28-Dec-11	12:01:25	0.6	36
28-Dec-11	12:00:25	0.7	42
28-Dec-11	11:59:25	0.6	36
28-Dec-11	11:58:25	0.6	36
28-Dec-11	11:57:25	0.7	42
28-Dec-11	11:56:25	0.6	36
28-Dec-11	11:55:25	0.8	48
28-Dec-11	11:54:25	0.7	42
28-Dec-11	11:53:25	0.7	42
28-Dec-11	11:52:25	0.7	42
28-Dec-11	11:51:25	0.7	42
28-Dec-11	11:50:25	0.7	42
28-Dec-11	11:49:25	0.8	48
28-Dec-11	11:48:25	0.7	42
28-Dec-11	11:47:25	0.9	54
28-Dec-11	11:46:25	0.8	48
28-Dec-11	11:45:25	0.8	48
28-Dec-11	11:44:25	0.8	48
28-Dec-11	11:43:25	0.9	54
28-Dec-11	11:42:25	0.8	48
28-Dec-11	11:41:25	0.9	54
28-Dec-11	11:40:25	1	60
28-Dec-11	11:39:25	1	60
28-Dec-11	11:38:25	1	60
28-Dec-11	11:37:25	1	60

28-Dec-11	11:36:25	1.1	66
28-Dec-11	11:35:25	1.1	66
28-Dec-11	11:34:25	1.1	66
28-Dec-11	11:33:25	1.1	66
28-Dec-11	11:32:25	1.2	72
28-Dec-11	11:31:25	1.2	72
28-Dec-11	11:30:25	1.2	72
28-Dec-11	11:29:25	1.3	78
28-Dec-11	11:28:25	1.3	78
28-Dec-11	11:27:25	1.4	84
28-Dec-11	11:26:25	1.4	84
28-Dec-11	11:25:25	1.4	84
28-Dec-11	11:24:25	1.4	84
28-Dec-11	11:23:25	1.5	90
28-Dec-11	11:22:25	1.6	96
28-Dec-11	11:21:25	1.7	102
28-Dec-11	11:20:25	1.7	102
28-Dec-11	11:19:25	1.7	102
28-Dec-11	11:18:25	1.9	114
28-Dec-11	11:17:25	1.9	114
28-Dec-11	11:16:25	2	120
28-Dec-11	11:15:25	2.1	126
28-Dec-11	11:14:25	2.1	126
28-Dec-11	11:13:25	2.2	132
28-Dec-11	11:12:25	2.5	150
28-Dec-11	11:11:25	2.6	156
28-Dec-11	11:10:25	2.5	150
28-Dec-11	11:09:25	2.9	174
28-Dec-11	11:08:25	2.8	168
28-Dec-11	11:07:25	3.1	186

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:06:25	3.3	198
28-Dec-11	11:05:25	3.5	210
28-Dec-11	11:04:25	3.9	234
28-Dec-11	11:03:25	4.3	258
28-Dec-11	11:02:25	4.7	282
28-Dec-11	11:01:25	5.1	306
28-Dec-11	11:00:25	5.8	348
28-Dec-11	10:59:25	7.1	426
28-Dec-11	10:58:25	8.6	516
28-Dec-11	10:57:25	11.5	690
28-Dec-11	10:56:25	18.3	1098

Appendix F: EPD 4 Data

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
3-Jan-12	8:59:29	0.1	0.2
3-Jan-12	8:29:29	0.1	0.2
3-Jan-12	7:59:29	0.1	0.2
3-Jan-12	7:29:29	0.1	0.2
3-Jan-12	6:59:29	0.1	0.3
3-Jan-12	6:39:29	0.1	0.2
3-Jan-12	6:09:29	0.1	0.15
3-Jan-12	5:29:29	0.1	0.2
3-Jan-12	4:59:29	0.1	0.2
3-Jan-12	4:29:29	0.1	0.15
3-Jan-12	3:49:29	0.1	0.2
3-Jan-12	3:19:29	0.1	0.2
3-Jan-12	2:49:29	0.1	0.2
3-Jan-12	2:19:29	0.1	0.2
3-Jan-12	1:49:29	0.1	0.2
3-Jan-12	1:19:29	0.1	0.2
3-Jan-12	0:49:29	0.1	0.15
3-Jan-12	0:09:29	0.1	0.3
2-Jan-12	23:49:29	0.1	0.15
2-Jan-12	23:09:29	0.1	0.2
2-Jan-12	22:39:29	0.1	0.2
2-Jan-12	22:09:29	0.1	0.2
2-Jan-12	21:39:29	0.1	0.2
2-Jan-12	21:09:29	0.1	0.2
2-Jan-12	20:39:29	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	20:09:29	0.1	0.15
2-Jan-12	19:29:29	0.1	0.2
2-Jan-12	18:59:29	0.1	0.2
2-Jan-12	18:29:29	0.1	0.3
2-Jan-12	18:09:29	0.1	0.15
2-Jan-12	17:29:29	0.1	0.2
2-Jan-12	16:59:29	0.1	0.3
2-Jan-12	16:39:29	0.1	0.2
2-Jan-12	16:09:29	0.1	0.2
2-Jan-12	15:39:29	0.1	0.2
2-Jan-12	15:09:29	0.1	0.15
2-Jan-12	14:29:29	0.1	0.2
2-Jan-12	13:59:29	0.1	0.2
2-Jan-12	13:29:29	0.1	0.2
2-Jan-12	12:59:29	0.1	0.2
2-Jan-12	12:29:29	0.1	0.2
2-Jan-12	11:59:29	0.1	0.2
2-Jan-12	11:29:29	0.1	0.2
2-Jan-12	10:59:29	0.1	0.2
2-Jan-12	10:29:29	0.1	0.2
2-Jan-12	9:59:29	0.1	0.2
2-Jan-12	9:29:29	0.1	0.2
2-Jan-12	8:59:29	0.1	0.2
2-Jan-12	8:29:29	0.1	0.2
2-Jan-12	7:59:29	0.1	0.3
2-Jan-12	7:39:29	0.1	0.2
2-Jan-12	7:09:29	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
2-Jan-12	6:39:29	0.1	0.2
2-Jan-12	6:09:29	0.1	0.2
2-Jan-12	5:39:29	0.1	0.2
2-Jan-12	5:09:29	0.1	0.2
2-Jan-12	4:39:29	0.1	0.2
2-Jan-12	4:09:29	0.1	0.2
2-Jan-12	3:39:29	0.1	0.2
2-Jan-12	3:09:29	0.1	0.2
2-Jan-12	2:39:29	0.1	0.3
2-Jan-12	2:19:29	0.1	0.2
2-Jan-12	1:49:29	0.1	0.2
2-Jan-12	1:19:29	0.1	0.2
2-Jan-12	0:49:29	0.1	0.2
2-Jan-12	0:19:29	0.1	0.2
1-Jan-12	23:49:29	0.1	0.2
1-Jan-12	23:19:29	0.1	0.2
1-Jan-12	22:49:29	0.1	0.2
1-Jan-12	22:19:29	0.1	0.2
1-Jan-12	21:49:29	0.1	0.2
1-Jan-12	21:19:29	0.1	0.2
1-Jan-12	20:49:29	0.1	0.2
1-Jan-12	20:19:29	0.1	0.2
1-Jan-12	19:49:29	0.1	0.2
1-Jan-12	19:19:29	0.1	0.2
1-Jan-12	18:49:29	0.1	0.2
1-Jan-12	18:19:29	0.1	0.2
1-Jan-12	17:49:29	0.1	0.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	17:19:29	0.1	0.2
1-Jan-12	16:49:29	0.1	0.3
1-Jan-12	16:29:29	0.1	0.2
1-Jan-12	15:59:29	0.1	0.2
1-Jan-12	15:29:29	0.1	0.2
1-Jan-12	14:59:29	0.1	0.2
1-Jan-12	14:29:29	0.1	0.2
1-Jan-12	13:59:29	0.1	0.3
1-Jan-12	13:39:29	0.1	0.2
1-Jan-12	13:09:29	0.1	0.2
1-Jan-12	12:39:29	0.1	0.2
1-Jan-12	12:09:29	0.1	0.2
1-Jan-12	11:39:29	0.1	0.3
1-Jan-12	11:19:29	0.1	0.2
1-Jan-12	10:49:29	0.1	0.3
1-Jan-12	10:29:29	0.1	0.2
1-Jan-12	9:59:29	0.1	0.3
1-Jan-12	9:39:29	0.1	0.2
1-Jan-12	9:09:29	0.1	0.2
1-Jan-12	8:39:29	0.1	0.2
1-Jan-12	8:09:29	0.1	0.2
1-Jan-12	7:39:29	0.1	0.2
1-Jan-12	7:09:29	0.1	0.3
1-Jan-12	6:49:29	0.1	0.15
1-Jan-12	6:09:29	0.1	0.2
1-Jan-12	5:39:29	0.1	0.2
1-Jan-12	5:09:29	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
1-Jan-12	4:49:29	0.1	0.2
1-Jan-12	4:19:29	0.1	0.2
1-Jan-12	3:49:29	0.1	0.3
1-Jan-12	3:29:29	0.1	0.2
1-Jan-12	2:59:29	0.1	0.2
1-Jan-12	2:29:29	0.1	0.3
1-Jan-12	2:09:29	0.1	0.2
1-Jan-12	1:39:29	0.1	0.2
1-Jan-12	1:09:29	0.1	0.3
1-Jan-12	0:49:29	0.1	0.2
1-Jan-12	0:19:29	0.1	0.2
31-Dec-11	23:49:29	0.1	0.2
31-Dec-11	23:19:29	0.1	0.3
31-Dec-11	22:59:29	0.1	0.3
31-Dec-11	22:39:29	0.1	0.2
31-Dec-11	22:09:29	0.1	0.2
31-Dec-11	21:39:29	0.1	0.2
31-Dec-11	21:09:29	0.1	0.3
31-Dec-11	20:49:29	0.1	0.2
31-Dec-11	20:19:29	0.1	0.3
31-Dec-11	19:59:29	0.1	0.2
31-Dec-11	19:29:29	0.1	0.3
31-Dec-11	19:09:29	0.1	0.2
31-Dec-11	18:39:29	0.1	0.2
31-Dec-11	18:09:29	0.1	0.3
31-Dec-11	17:49:29	0.1	0.2
31-Dec-11	17:19:29	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	16:59:29	0.1	0.3
31-Dec-11	16:39:29	0.1	0.3
31-Dec-11	16:19:29	0.1	0.3
31-Dec-11	15:59:29	0.1	0.2
31-Dec-11	15:29:29	0.1	0.3
31-Dec-11	15:09:29	0.1	0.2
31-Dec-11	14:39:29	0.1	0.3
31-Dec-11	14:19:29	0.1	0.3
31-Dec-11	13:59:29	0.1	0.3
31-Dec-11	13:39:29	0.1	0.2
31-Dec-11	13:09:29	0.1	0.3
31-Dec-11	12:49:29	0.1	0.2
31-Dec-11	12:19:29	0.1	0.3
31-Dec-11	11:59:29	0.1	0.2
31-Dec-11	11:29:29	0.1	0.3
31-Dec-11	11:09:29	0.1	0.3
31-Dec-11	10:49:29	0.1	0.2
31-Dec-11	10:19:29	0.1	0.3
31-Dec-11	9:59:29	0.1	0.3
31-Dec-11	9:09:15	0.1	0.6
31-Dec-11	8:59:15	0.1	0.3
31-Dec-11	8:39:15	0.1	0.3
31-Dec-11	8:19:15	0.1	0.3
31-Dec-11	7:59:15	0.1	0.6
31-Dec-11	7:49:15	0.1	0.3
31-Dec-11	7:29:15	0.1	0.3
31-Dec-11	7:09:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
31-Dec-11	6:59:15	0.1	0.3
31-Dec-11	6:39:15	0.1	0.3
31-Dec-11	6:19:15	0.1	0.3
31-Dec-11	5:59:15	0.1	0.6
31-Dec-11	5:49:15	0.1	0.3
31-Dec-11	5:29:15	0.1	0.6
31-Dec-11	5:19:15	0.1	0.3
31-Dec-11	4:59:15	0.1	0.3
31-Dec-11	4:39:15	0.1	0.6
31-Dec-11	4:29:15	0.1	0.3
31-Dec-11	4:09:15	0.1	0.6
31-Dec-11	3:59:15	0.1	0.3
31-Dec-11	3:39:15	0.1	0.3
31-Dec-11	3:19:15	0.1	0.6
31-Dec-11	3:09:15	0.1	0.3
31-Dec-11	2:49:15	0.1	0.3
31-Dec-11	2:29:15	0.1	0.6
31-Dec-11	2:19:15	0.1	0.3
31-Dec-11	1:59:15	0.1	0.6
31-Dec-11	1:49:15	0.1	0.3
31-Dec-11	1:29:15	0.1	0.3
31-Dec-11	1:09:15	0.1	0.6
31-Dec-11	0:59:15	0.1	0.3
31-Dec-11	0:39:15	0.1	0.3
31-Dec-11	0:19:15	0.1	0.6
31-Dec-11	0:09:15	0.1	0.6
30-Dec-11	23:59:15	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	23:39:15	0.1	0.6
30-Dec-11	23:29:15	0.1	0.3
30-Dec-11	23:09:15	0.1	0.6
30-Dec-11	22:59:15	0.1	0.3
30-Dec-11	22:39:15	0.1	0.3
30-Dec-11	22:19:15	0.1	0.3
30-Dec-11	21:59:15	0.1	0.6
30-Dec-11	21:49:15	0.1	0.6
30-Dec-11	21:39:15	0.1	0.3
30-Dec-11	21:19:15	0.1	0.3
30-Dec-11	20:59:15	0.1	0.6
30-Dec-11	20:49:15	0.1	0.3
30-Dec-11	20:29:15	0.1	0.6
30-Dec-11	20:19:15	0.1	0.3
30-Dec-11	19:59:15	0.1	0.3
30-Dec-11	19:39:15	0.1	0.6
30-Dec-11	19:29:15	0.1	0.3
30-Dec-11	19:09:15	0.1	0.6
30-Dec-11	18:59:15	0.1	0.3
30-Dec-11	18:39:15	0.1	0.6
30-Dec-11	18:29:15	0.1	0.3
30-Dec-11	18:09:15	0.1	0.6
30-Dec-11	17:59:15	0.1	0.3
30-Dec-11	17:39:15	0.1	0.6
30-Dec-11	17:29:15	0.1	0.3
30-Dec-11	17:09:15	0.1	0.6
30-Dec-11	16:59:15	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	16:39:15	0.1	0.6
30-Dec-11	16:29:15	0.1	0.3
30-Dec-11	16:09:15	0.1	0.6
30-Dec-11	15:59:15	0.1	0.3
30-Dec-11	15:39:15	0.1	0.6
30-Dec-11	15:29:15	0.1	0.6
30-Dec-11	15:19:15	0.1	0.3
30-Dec-11	14:59:15	0.1	0.6
30-Dec-11	14:49:15	0.1	0.3
30-Dec-11	14:29:15	0.1	0.6
30-Dec-11	14:19:15	0.1	0.3
30-Dec-11	13:59:15	0.1	0.6
30-Dec-11	13:49:15	0.1	0.6
30-Dec-11	13:39:15	0.1	0.3
30-Dec-11	13:19:15	0.1	0.3
30-Dec-11	12:59:15	0.1	0.6
30-Dec-11	12:49:15	0.1	0.6
30-Dec-11	12:39:15	0.1	0.3
30-Dec-11	12:19:15	0.1	0.3
30-Dec-11	11:59:15	0.1	0.6
30-Dec-11	11:49:15	0.1	0.6
30-Dec-11	11:39:15	0.1	0.6
30-Dec-11	11:29:15	0.1	0.3
30-Dec-11	11:09:15	0.1	0.6
30-Dec-11	10:59:15	0.1	0.6
30-Dec-11	10:49:15	0.1	0.3
30-Dec-11	10:29:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	10:19:15	0.1	0.6
30-Dec-11	10:09:15	0.1	0.3
30-Dec-11	9:49:15	0.1	0.6
30-Dec-11	9:39:15	0.1	0.6
30-Dec-11	9:29:15	0.1	0.3
30-Dec-11	9:09:15	0.1	0.6
30-Dec-11	8:59:15	0.1	0.6
30-Dec-11	8:49:15	0.1	0.3
30-Dec-11	8:29:15	0.1	0.6
30-Dec-11	8:19:15	0.1	0.6
30-Dec-11	8:09:15	0.1	0.6
30-Dec-11	7:59:15	0.1	0.3
30-Dec-11	7:39:15	0.1	0.6
30-Dec-11	7:29:15	0.1	0.6
30-Dec-11	7:19:15	0.1	0.3
30-Dec-11	6:59:15	0.1	0.6
30-Dec-11	6:49:15	0.1	0.6
30-Dec-11	6:39:15	0.1	0.3
30-Dec-11	6:19:15	0.1	0.6
30-Dec-11	6:09:15	0.1	0.6
30-Dec-11	5:59:15	0.1	0.6
30-Dec-11	5:49:15	0.1	0.6
30-Dec-11	5:39:15	0.1	0.3
30-Dec-11	5:19:15	0.1	0.6
30-Dec-11	5:09:15	0.1	0.6
30-Dec-11	4:59:15	0.1	0.6
30-Dec-11	4:49:15	0.1	0.3

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
30-Dec-11	4:29:15	0.1	0.6
30-Dec-11	4:19:15	0.1	0.6
30-Dec-11	4:09:15	0.1	0.6
30-Dec-11	3:59:15	0.1	0.3
30-Dec-11	3:39:15	0.1	0.6
30-Dec-11	3:29:15	0.1	0.6
30-Dec-11	3:19:15	0.1	0.6
30-Dec-11	3:09:15	0.1	0.6
30-Dec-11	2:59:15	0.1	0.3
30-Dec-11	2:39:15	0.1	0.6
30-Dec-11	2:29:15	0.1	0.6
30-Dec-11	2:19:15	0.1	0.6
30-Dec-11	2:09:15	0.1	0.3
30-Dec-11	1:49:15	0.1	0.6
30-Dec-11	1:39:15	0.1	0.6
30-Dec-11	1:29:15	0.1	0.6
30-Dec-11	1:19:15	0.1	0.6
30-Dec-11	1:09:15	0.1	0.6
30-Dec-11	0:59:15	0.1	0.3
30-Dec-11	0:39:15	0.1	0.6
30-Dec-11	0:29:15	0.1	0.6
30-Dec-11	0:19:15	0.1	0.6
30-Dec-11	0:09:15	0.1	0.6
29-Dec-11	23:59:15	0.1	0.6
29-Dec-11	23:49:15	0.1	0.3
29-Dec-11	23:29:15	0.1	0.6
29-Dec-11	23:19:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	23:09:15	0.1	0.6
29-Dec-11	22:59:15	0.1	0.6
29-Dec-11	22:49:15	0.1	0.3
29-Dec-11	22:29:15	0.1	0.6
29-Dec-11	22:19:15	0.1	0.6
29-Dec-11	22:09:15	0.1	0.6
29-Dec-11	21:59:15	0.1	0.6
29-Dec-11	21:49:15	0.1	0.6
29-Dec-11	21:39:15	0.1	0.6
29-Dec-11	21:29:15	0.1	0.6
29-Dec-11	21:19:15	0.1	0.6
29-Dec-11	21:09:15	0.1	0.3
29-Dec-11	20:49:15	0.1	0.6
29-Dec-11	20:39:15	0.1	0.6
29-Dec-11	20:29:15	0.1	0.6
29-Dec-11	20:19:15	0.1	0.6
29-Dec-11	20:09:15	0.1	0.6
29-Dec-11	19:59:15	0.1	0.6
29-Dec-11	19:49:15	0.1	0.6
29-Dec-11	19:39:15	0.1	0.6
29-Dec-11	19:29:15	0.1	0.6
29-Dec-11	19:19:15	0.1	0.6
29-Dec-11	19:09:15	0.1	0.6
29-Dec-11	18:59:15	0.1	0.6
29-Dec-11	18:49:15	0.1	0.6
29-Dec-11	18:39:15	0.1	0.6
29-Dec-11	18:29:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	18:19:15	0.1	0.6
29-Dec-11	18:09:15	0.1	0.6
29-Dec-11	17:59:15	0.1	0.6
29-Dec-11	17:49:15	0.1	0.6
29-Dec-11	17:39:15	0.1	0.6
29-Dec-11	17:29:15	0.2	1.2
29-Dec-11	17:19:15	0.1	0.6
29-Dec-11	17:09:15	0.1	0.6
29-Dec-11	16:59:15	0.1	0.6
29-Dec-11	16:49:15	0.1	0.6
29-Dec-11	16:39:15	0.1	0.6
29-Dec-11	16:29:15	0.1	0.6
29-Dec-11	16:19:15	0.1	0.6
29-Dec-11	16:09:15	0.1	0.6
29-Dec-11	15:59:15	0.1	0.6
29-Dec-11	15:49:15	0.1	0.6
29-Dec-11	15:39:15	0.1	0.6
29-Dec-11	15:29:15	0.1	0.6
29-Dec-11	15:19:15	0.2	1.2
29-Dec-11	15:09:15	0.1	0.6
29-Dec-11	14:59:15	0.1	0.6
29-Dec-11	14:49:15	0.1	0.6
29-Dec-11	14:39:15	0.1	0.6
29-Dec-11	14:29:15	0.1	0.6
29-Dec-11	14:19:15	0.1	0.6
29-Dec-11	14:09:15	0.1	0.6
29-Dec-11	13:59:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	13:49:15	0.1	0.6
29-Dec-11	13:39:15	0.1	0.6
29-Dec-11	13:29:15	0.1	0.6
29-Dec-11	13:19:15	0.2	1.2
29-Dec-11	13:09:15	0.1	0.6
29-Dec-11	12:59:15	0.1	0.6
29-Dec-11	12:49:15	0.1	0.6
29-Dec-11	12:39:15	0.1	0.6
29-Dec-11	12:29:15	0.1	0.6
29-Dec-11	12:19:15	0.1	0.6
29-Dec-11	12:09:15	0.1	0.6
29-Dec-11	11:59:15	0.2	1.2
29-Dec-11	11:49:15	0.1	0.6
29-Dec-11	11:39:15	0.1	0.6
29-Dec-11	11:29:15	0.2	1.2
29-Dec-11	11:19:15	0.1	0.6
29-Dec-11	11:09:15	0.1	0.6
29-Dec-11	10:59:15	0.1	0.6
29-Dec-11	10:49:15	0.2	1.2
29-Dec-11	10:39:15	0.1	0.6
29-Dec-11	10:29:15	0.1	0.6
29-Dec-11	10:19:15	0.2	1.2
29-Dec-11	10:09:15	0.1	0.6
29-Dec-11	9:59:15	0.2	1.2
29-Dec-11	9:49:15	0.1	0.6
29-Dec-11	9:39:15	0.1	0.6
29-Dec-11	9:29:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	9:19:15	0.2	1.2
29-Dec-11	9:09:15	0.1	0.6
29-Dec-11	8:59:15	0.2	1.2
29-Dec-11	8:49:15	0.1	0.6
29-Dec-11	8:39:15	0.2	1.2
29-Dec-11	8:29:15	0.1	0.6
29-Dec-11	8:19:15	0.1	0.6
29-Dec-11	8:09:15	0.2	1.2
29-Dec-11	7:59:15	0.1	0.6
29-Dec-11	7:49:15	0.2	1.2
29-Dec-11	7:39:15	0.1	0.6
29-Dec-11	7:29:15	0.2	1.2
29-Dec-11	7:19:15	0.1	0.6
29-Dec-11	7:09:15	0.2	1.2
29-Dec-11	6:59:15	0.1	0.6
29-Dec-11	6:49:15	0.2	1.2
29-Dec-11	6:39:15	0.2	1.2
29-Dec-11	6:29:15	0.1	0.6
29-Dec-11	6:19:15	0.1	0.6
29-Dec-11	6:09:15	0.1	0.6
29-Dec-11	5:59:15	0.2	1.2
29-Dec-11	5:49:15	0.1	0.6
29-Dec-11	5:39:15	0.2	1.2
29-Dec-11	5:29:15	0.1	0.6
29-Dec-11	5:19:15	0.1	0.6
29-Dec-11	5:09:15	0.2	1.2
29-Dec-11	4:59:15	0.1	0.6

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	4:49:15	0.2	1.2
29-Dec-11	4:39:15	0.1	0.6
29-Dec-11	4:29:15	0.2	1.2
29-Dec-11	4:19:15	0.1	0.6
29-Dec-11	4:09:15	0.2	1.2
29-Dec-11	3:59:15	0.1	0.6
29-Dec-11	3:49:15	0.2	1.2
29-Dec-11	3:39:15	0.2	1.2
29-Dec-11	3:29:15	0.1	0.6
29-Dec-11	3:19:15	0.2	1.2
29-Dec-11	3:09:15	0.2	1.2
29-Dec-11	2:59:15	0.1	0.6
29-Dec-11	2:49:15	0.2	1.2
29-Dec-11	2:39:15	0.2	1.2
29-Dec-11	2:29:15	0.1	0.6
29-Dec-11	2:19:15	0.2	1.2
29-Dec-11	2:09:15	0.2	1.2
29-Dec-11	1:59:15	0.2	1.2
29-Dec-11	1:49:15	0.2	1.2
29-Dec-11	1:39:15	0.2	1.2
29-Dec-11	1:29:15	0.2	1.2
29-Dec-11	1:19:15	0.2	1.2
29-Dec-11	1:09:15	0.2	1.2
29-Dec-11	0:59:15	0.1	0.6
29-Dec-11	0:49:15	0.2	1.2
29-Dec-11	0:39:15	0.2	1.2
29-Dec-11	0:29:15	0.2	1.2

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
29-Dec-11	0:19:15	0.2	1.2
29-Dec-11	0:09:15	0.3	1.8
28-Dec-11	23:59:15	0.2	1.2
28-Dec-11	23:49:15	0.2	1.2
28-Dec-11	23:39:15	0.3	1.8
28-Dec-11	23:29:15	0.2	1.2
28-Dec-11	23:19:15	0.2	1.2
28-Dec-11	23:09:15	0.3	1.8
28-Dec-11	22:59:15	0.2	1.2
28-Dec-11	22:49:15	0.3	1.8
28-Dec-11	22:39:15	0.2	1.2
28-Dec-11	22:29:15	0.3	1.8
28-Dec-11	22:19:15	0.2	1.2
28-Dec-11	22:09:15	0.3	1.8
28-Dec-11	21:59:15	0.3	1.8
28-Dec-11	21:49:15	0.2	1.2
28-Dec-11	21:39:15	0.3	1.8
28-Dec-11	21:29:15	0.3	1.8
28-Dec-11	21:19:15	0.3	1.8
28-Dec-11	21:09:15	0.2	1.2
28-Dec-11	20:59:15	0.3	1.8
28-Dec-11	20:49:15	0.3	1.8
28-Dec-11	20:39:15	0.3	1.8
28-Dec-11	20:29:15	0.3	1.8
28-Dec-11	20:19:15	0.4	2.4
28-Dec-11	20:09:15	0.4	2.4
28-Dec-11	19:59:15	0.3	1.8

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	19:49:15	0.3	1.8
28-Dec-11	19:39:15	0.4	2.4
28-Dec-11	19:29:15	0.3	1.8
28-Dec-11	19:19:15	0.4	2.4
28-Dec-11	19:09:15	0.4	2.4
28-Dec-11	18:59:15	0.4	2.4
28-Dec-11	18:49:15	0.4	2.4
28-Dec-11	18:39:15	0.4	2.4
28-Dec-11	18:29:15	0.4	2.4
28-Dec-11	18:19:15	0.4	2.4
28-Dec-11	18:09:15	0.5	3
28-Dec-11	17:59:15	0.4	2.4
28-Dec-11	17:49:15	0.5	3
28-Dec-11	17:39:15	0.5	3
28-Dec-11	17:29:15	0.5	3
28-Dec-11	17:19:15	0.6	3.6
28-Dec-11	17:09:15	0.5	3
28-Dec-11	16:59:15	0.7	4.2
28-Dec-11	16:49:15	0.6	3.6
28-Dec-11	16:39:15	0.6	3.6
28-Dec-11	16:29:15	0.7	4.2
28-Dec-11	16:19:15	0.7	4.2
28-Dec-11	16:09:15	0.7	4.2
28-Dec-11	15:59:15	0.8	4.8
28-Dec-11	15:49:15	0.8	4.8
28-Dec-11	15:39:15	0.9	5.4
28-Dec-11	15:29:15	0.9	5.4

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	15:19:15	1	6
28-Dec-11	15:09:15	0.9	5.4
28-Dec-11	14:59:15	1.1	6.6
28-Dec-11	14:49:15	1.2	7.2
28-Dec-11	14:39:15	1.2	7.2
28-Dec-11	14:29:15	1.2	7.2
28-Dec-11	14:19:15	1.4	8.4
28-Dec-11	14:09:15	1.5	9
28-Dec-11	13:59:15	1.6	9.6
28-Dec-11	13:49:15	1.8	10.8
28-Dec-11	13:39:15	1.9	11.4
28-Dec-11	13:29:15	2	12
28-Dec-11	13:19:15	2.3	13.8
28-Dec-11	13:09:15	2.4	14.4
28-Dec-11	12:59:15	2.6	15.6
28-Dec-11	12:49:15	2.9	17.4
28-Dec-11	12:39:15	1.7	10.2
28-Dec-11	12:22:47	0.2	12
28-Dec-11	12:21:47	0.5	30
28-Dec-11	12:20:47	0.4	24
28-Dec-11	12:19:47	0.4	24
28-Dec-11	12:18:47	0.6	36
28-Dec-11	12:17:47	0.6	36
28-Dec-11	12:16:47	0.4	24
28-Dec-11	12:15:47	0.5	30
28-Dec-11	12:14:47	0.6	36
28-Dec-11	12:13:47	0.5	30

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	12:12:47	0.5	30
28-Dec-11	12:11:47	0.7	42
28-Dec-11	12:10:47	0.5	30
28-Dec-11	12:09:47	0.5	30
28-Dec-11	12:08:47	0.6	36
28-Dec-11	12:07:47	0.5	30
28-Dec-11	12:06:47	0.6	36
28-Dec-11	12:05:47	0.6	36
28-Dec-11	12:04:47	0.5	30
28-Dec-11	12:03:47	0.7	42
28-Dec-11	12:02:47	0.5	30
28-Dec-11	12:01:47	0.7	42
28-Dec-11	12:00:47	0.6	36
28-Dec-11	11:59:47	0.6	36
28-Dec-11	11:58:47	0.6	36
28-Dec-11	11:57:47	0.7	42
28-Dec-11	11:56:47	0.7	42
28-Dec-11	11:55:47	0.7	42
28-Dec-11	11:54:47	0.7	42
28-Dec-11	11:53:47	0.8	48
28-Dec-11	11:52:47	0.7	42
28-Dec-11	11:51:47	0.8	48
28-Dec-11	11:50:47	0.7	42
28-Dec-11	11:49:47	0.9	54
28-Dec-11	11:48:47	0.7	42
28-Dec-11	11:47:47	0.9	54
28-Dec-11	11:46:47	0.8	48

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:45:47	0.9	54
28-Dec-11	11:44:47	0.8	48
28-Dec-11	11:43:47	1	60
28-Dec-11	11:42:47	0.9	54
28-Dec-11	11:41:47	0.9	54
28-Dec-11	11:40:47	1	60
28-Dec-11	11:39:47	0.9	54
28-Dec-11	11:38:47	1	60
28-Dec-11	11:37:47	1	60
28-Dec-11	11:36:47	1.1	66
28-Dec-11	11:35:47	1.1	66
28-Dec-11	11:34:47	1.2	72
28-Dec-11	11:33:47	1.2	72
28-Dec-11	11:32:47	1.2	72
28-Dec-11	11:31:47	1.2	72
28-Dec-11	11:30:47	1.2	72
28-Dec-11	11:29:47	1.3	78
28-Dec-11	11:28:47	1.4	84
28-Dec-11	11:27:47	1.3	78
28-Dec-11	11:26:47	1.4	84
28-Dec-11	11:25:47	1.5	90
28-Dec-11	11:24:47	1.5	90
28-Dec-11	11:23:47	1.5	90
28-Dec-11	11:22:47	1.6	96
28-Dec-11	11:21:47	1.6	96
28-Dec-11	11:20:47	1.8	108
28-Dec-11	11:19:47	1.8	108

Date	Time	Dose (mrem)	Calculated Dose Rate (mrem/h)
28-Dec-11	11:18:47	1.9	114
28-Dec-11	11:17:47	2	120
28-Dec-11	11:16:47	2.1	126
28-Dec-11	11:15:47	2	120
28-Dec-11	11:14:47	2.3	138
28-Dec-11	11:13:47	2.3	138
28-Dec-11	11:12:47	2.5	150
28-Dec-11	11:11:47	2.4	144
28-Dec-11	11:10:47	2.6	156
28-Dec-11	11:09:47	2.6	156
28-Dec-11	11:08:47	2.9	174
28-Dec-11	11:07:47	3.2	192
28-Dec-11	11:06:47	3.5	210
28-Dec-11	11:05:47	3.6	216
28-Dec-11	11:04:47	3.9	234
28-Dec-11	11:03:47	4.3	258
28-Dec-11	11:02:47	4.6	276
28-Dec-11	11:01:47	5.2	312
28-Dec-11	11:00:47	5.8	348
28-Dec-11	10:59:47	6.8	408
28-Dec-11	10:58:47	8.2	492
28-Dec-11	10:57:47	10.7	642
28-Dec-11	10:56:47	15.5	930