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Status Report on Irradiation of MiniFuel Targets Bearing TRISO Fuel Compacts

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Nuclear Science User Facilities

STATUS REPORT ON IRRADIATION OF MINIFUEL TARGETS BEARING TRISO FUEL COMPACTS

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ABBREVIATIONS

CAD	computer-aided design
CDF	cumulative distribution function
FGR	fission gas release
FHR	fluoride salt–cooled high-temperature reactor
FP	fission product
HFIR	High Flux Isotope Reactor
HGR	heat generation rate
IFEL	Irradiated Fuels Examination Laboratory
KP	Kairos Power
LEUCO	low-enriched uranium oxide, uranium carbide
$LEUO_2$	low-enriched uranium dioxide
NUCO	natural uranium oxide, uranium carbide
ORNL	Oak Ridge National Laboratory
PDF	probability density function
PIE	post-irradiation examination
RAS	radial-axial subcapsule
SSE	sum of squares error
SiC	silicon carbide
TM	thermometry
TRISO	tristructural isotropic
VXF	vertical experiment facility
XCT	x-ray computed tomography

ABSTRACT

Irradiation testing of MiniFuel compacts bearing tristructural isotropic (TRISO) fuel particles was performed at Oak Ridge National Laboratory (ORNL) to support the development of Kairos Power's (KP's) fluoride salt–cooled high-temperature reactor concept. The fuel compacts were fabricated with TRISO fuel particles of different types—including low-enriched uranium oxide, uranium carbide (LEUCO), natural uranium oxide, uranium carbide (NUCO), and low-enriched uranium dioxide ($LEUO_2$)—and inserted into MiniFuel irradiation targets. Five targets were assembled and inserted in the High Flux Isotope Reactor (HFIR) for four cycles. The data collected post-irradiation will provide experimental input to validate TRISO fuel performance models for high particle power operations. This report summarizes the completion of the HFIR irradiation, the as-irradiated numerical analysis, and the post-irradiation work performed to date. This work was performed under the Nuclear Science User Facility program.

1. INTRODUCTION

Kairos Power (KP) is developing the fluoride salt–cooled high-temperature reactor (FHR) concept, leveraging tristructural isotropic (TRISO) fuel form. The properties of the low-pressure fluoride salt used as a coolant in this reactor concept result in high particle powers. Part of the development efforts for this reactor concept is the collection of experimental data on TRISO fuel under high particle powers to evaluate the fuel performance and provide inputs to validate numerical models. KP and Oak Ridge National Laboratory (ORNL) have developed an irradiation campaign to study TRISO fuel performance at temperatures relevant to the FHR core concept and under high particle powers. This campaign leverages ORNL's MiniFuel irradiation capability [1] using fuel compacts bearing low-enriched uranium oxide, uranium carbide (LEUCO), natural uranium oxide, uranium carbide (NUCO), and low-enriched uranium dioxide ($LEUO_2$) TRISO particles. Fuel compacts were fabricated at ORNL [2], and five MiniFuel targets were designed, assembled, and inserted in HFIR for irradiation [3][4]. This report provides the status of the irradiation, updated numerical analysis to reflect the as-irradiated targets, and post-irradiation examination (PIE) status.

2. STATUS OF HFIR IRRADIATION

The irradiation experiment design and assembly of the KP01 to KP05 MiniFuel targets are detailed in previous reports [3][4]. The five MiniFuel targets were inserted into HFIR in the vertical experiment facility-11 (VXF-11) position for four cycles and completed irradiation on 02/04/2022. Table 1 shows the details related to the irradiation cycles. Cycle 496 experienced two unexpected outages and was thus divided into parts A, B, and C.

Table 1. HFIR cycles details

Cycle	Start date	End date	Cycle length (days)
493	06/29/2021 07:42	07/25/2021 01:00	25.721
494	08/09/2021 12:00	09/04/2021 08:51	25.869
495	09/21/2021 08:00	10/17/2021 07:48	25.992
496A	01/04/2022 08:51	01/04/2022 10:04	0.051
496B	01/06/2022 09:54	01/16/2022 21:12	10.471
496C	01/20/2022 09:11	02/04/2022 20:00	15.451

Activity calculations were performed for each target to support shipment from HFIR to the Irradiated Fuels Examination Laboratory (IFEL) for disassembly. The targets were successfully transferred to IFEL on May 5, 2022.

3. AS-IRRADIATED NUMERICAL ANALYSIS

The numerical analysis detailed in the report on MiniFuel target assembly [4] and reported in a previous KP MiniFuel report [3] considered targets KP02/KP03 and KP04/KP05 in radial position R=2 and R=3, respectively, whereas they were loaded in HFIR in position R=3 and R=2, respectively. Radial positions 2 and 3 of the MiniFuel basket are equidistant from the core and are expected to provide similar irradiation conditions. The following numerical analysis was performed with the as-irradiated target conditions and the HFIR cycles information given in Table 1.

3.1 NEUTRONICS ANALYSIS

The heat generation rate (HGR) was calculated for every component in the experiment using a wrapper code called HFIRCON that passes information between MCNP and ORIGEN. The wrapper scheme was described in a previous KP MiniFuel report [3], and the same methodology is used for this work. The HFIRCON model was updated for this analysis to reflect the as-built experiment configuration, including exact subcapsule diameters, fuel type placement within the experiment, and more explicit modeling of certain components such as the centering thimbles. The updated model also captured the unexpected HFIR shutdowns. Figure 1 shows updated HGRs in the three fuel types considered in this analysis. To illustrate the full range of HGRs experienced by the fuel samples, the plot shows the minimum and maximum HGRs experienced by each fuel type in the experiment based on the radial-axial subcapsule (RAS) positions in which they were loaded. The highest HGRs for NUCO, LEUCO, and $LEUO_2$ occur in RAS positions 324, 323, and 124, respectively, and the minimum HGRs respectively occur in RAS positions 226, 336, and 126. There is little range in the NUCO HGR since the ^{235}U content is low in this fuel type. The difference between the $LEUO_2$ minimum and maximum HGRs is small because only three $LEUO_2$-containing compacts were included in the experiment, and all three were placed in the same target located near the core midplane. Figure 2 shows the range of HGRs predicted for the Mo tube, which is one of the primary heat-generating components in each subcapsule. The data points indicate the average HGR across all RAS positions, and the error bars indicate the minimum-to-maximum range. The magnitude and range of the tube HGR is very small relative to the fuel HGRs, but the Mo components produce most of the heat in the experiment because they have much higher mass than the fuel.

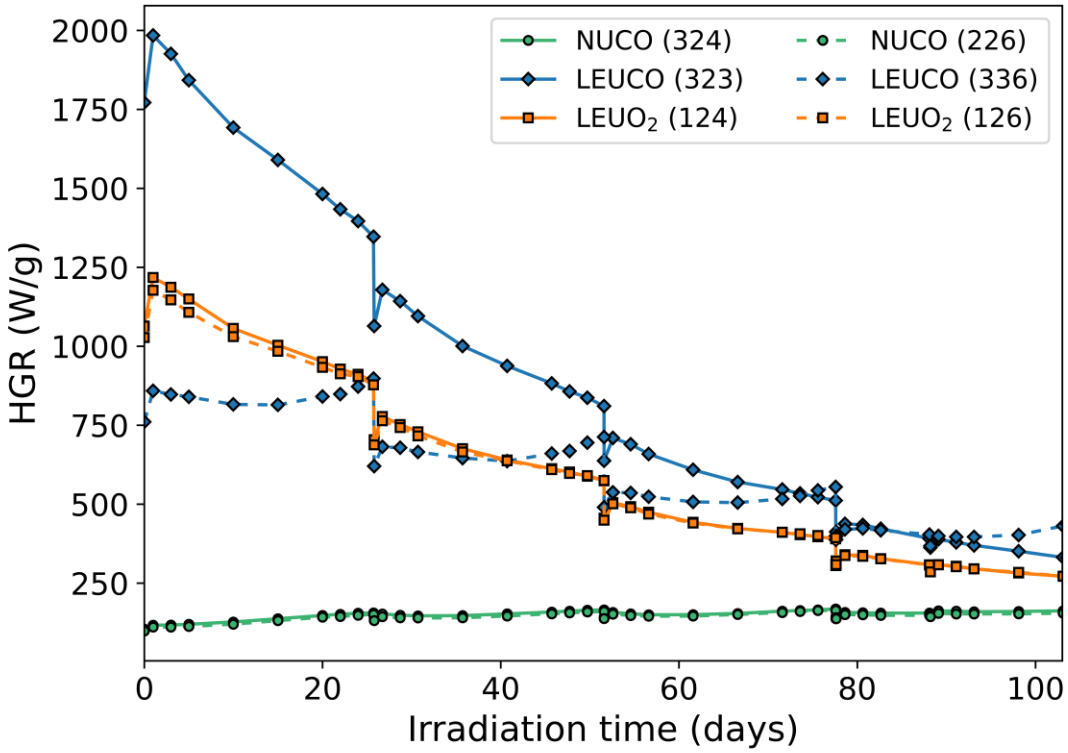

Figure 1. Minimum and maximum HGRs experienced by each fuel type.

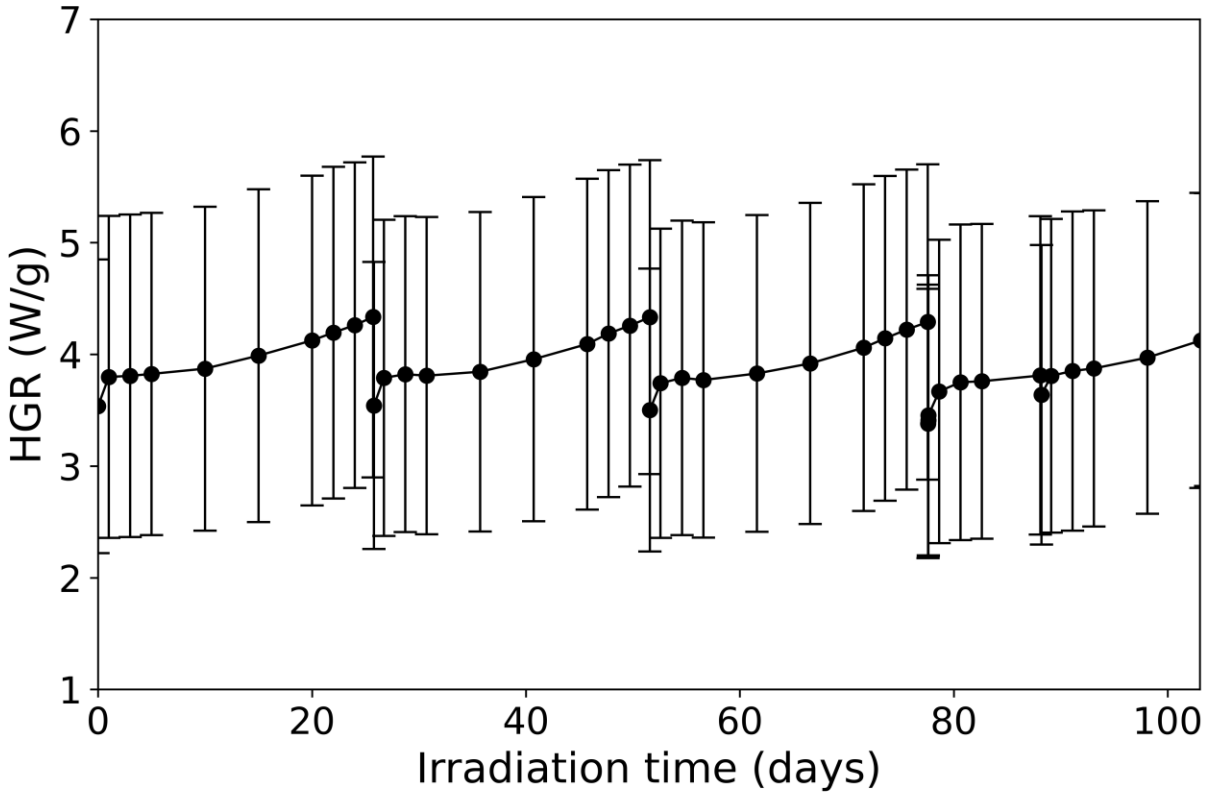

Figure 2. Mo tube HGR throughout the irradiation experiment.

3.2 SENSITIVITY ANALYSIS

Pre-irradiation x-ray computed tomography (XCT) analysis was performed on 18 of the 30 irradiated fuel compacts, as detailed in a previous report [2]. The XCT analysis showed that the position and kernel volume of each TRISO particle varied between compacts, so a sensitivity study was performed to determine the effect of these parameters on the temperature distribution within the compact. The motivation for this analysis is the potential of understanding the relationship between particle compact geometry to lead to more accurate temperature predictions in both the particles and the passive thermometry used to verify the temperatures reached in the subcapsule. More accurate temperature predictions may also help shape expectations during post-irradiation examination (PIE), such as the amount of fission product (FP) release.

3.2.1 Thermal Model Description

A single MiniFuel subcapsule model was developed in the ANSYS finite element software for this analysis. The use of a single subcapsule isolates the independent variables for this study (particle location and volume) by removing the independence of subcapsule position and the associated HGRs within the full irradiation target. A convective boundary condition was applied to the outer surface of the target housing using a heat transfer coefficient (h_∞) of 44.8 kW/m^2·K and a sink temperature (T_∞) of 58°C [1]. Because the layout of subcapsule components is not axisymmetric, a periodic boundary condition was applied at the top and bottom boundaries of the model so that heat leaving the top of the subcapsule would re-enter at the bottom and vice-versa. Figure 3 shows a cross-sectional view of a computer-aided design (CAD) rendering of the model and the applied boundary conditions.

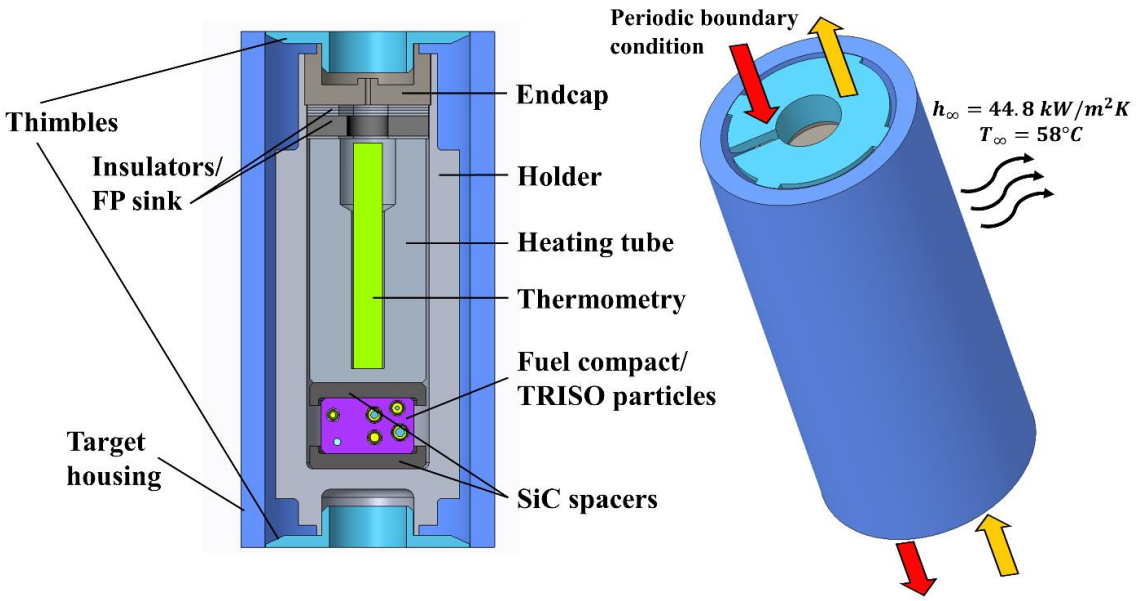

Figure 3. Single subcapsule model and applied boundary conditions.

The HGRs assigned to each component for the sensitivity analysis were time-averaged from preliminary design calculations of the maximum values for each fuel type. These values are representative of HGRs for a subcapsule located at the core midplane in radial position 2 or 3, which are equidistant from the core, and occur roughly halfway through the total irradiation time. Figure 4 plots the maximum HGRs in the three fuel types from the finalized as-built/as-irradiated HFIRCON model as a function of irradiation time in this position as well as the time-averaged value used for this study. The time-averaged HGRs calculated from the preliminary design model and used in the sensitivity analysis are 147.0 W/g, 896.2 W/g, and 636.9 W/g for NUCO, LEUCO, and $LEUO_2$, respectively. The time-average HGRs were later recalculated using the final as-built/as-irradiated neutronics results and were found to be 150.2 W/g, 899.2 W/g, and 609.7 W/g for NUCO, LEUCO, and $LEUO_2$, respectively, thus verifying that the values used in the sensitivity analysis are relevant intraexperiment heating rates. HGRs used for the nonfuel components range from roughly 3.8 to 5.8 W/g depending on the material and relative location within the subcapsule. This range of nonfuel HGRs was predicted in both the preliminary and final HFIRCON models. Gallagher et al. [3] reported the design of all five MiniFuel targets irradiated in HFIR: the design temperatures were 500–900°C, had holder outer diameters of 8.44–9.60 mm, and the fill gas compositions were either Ne, Ar, or a mixture consisting of 22% He and 78% Ar. The design temperature was defined as the time and volume–averaged temperature of the SiC layer of the TRISO particles. A holder diameter of 9.00 mm and Ne fill gas were used for this analysis. Depending on the fuel type, this approach resulted in peak SiC layer temperatures ranging from roughly 730 to 840°C, which is representative of the higher end of the design temperature range without exceeding the maximum design temperature. The effect of using time-averaged fuel HGRs from preliminary neutronics calculations is expected to have a minimal effect on this range and is negligible for the purposes of the sensitivity study because the analysis is primarily concerned with relative differences in temperatures due to varying particle configurations.

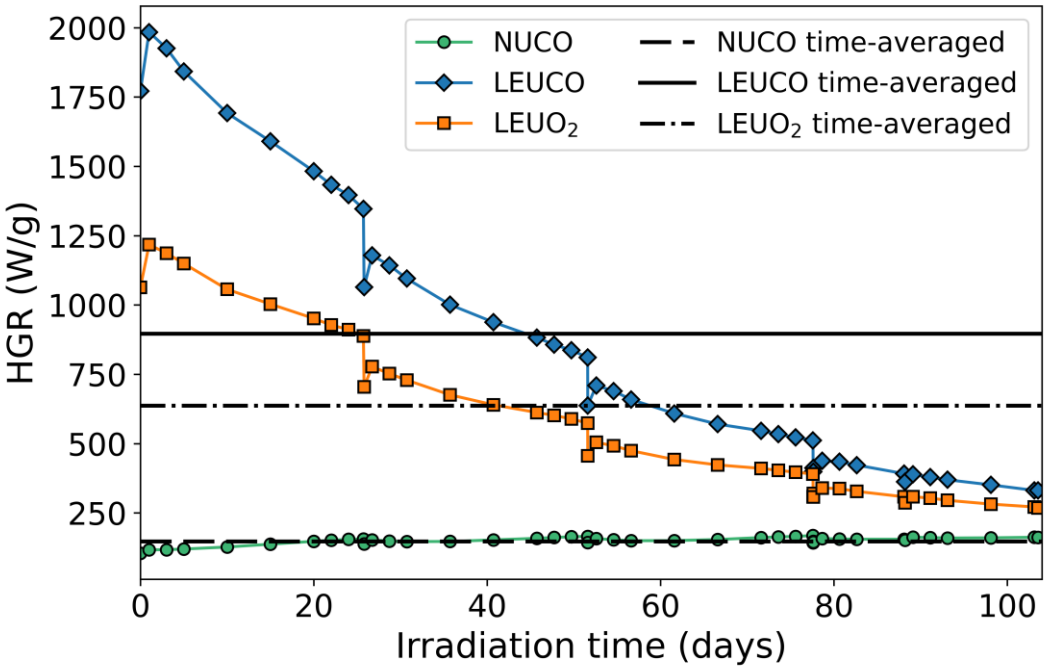

Figure 4. Maximum HGRs predicted for each fuel type and the time-averaged values used for the sensitivity analysis.

3.2.2 Sensitivity Analysis Methodology

A Python script was developed to generate a list of compact configurations based on the pre-irradiation XCT data [2]. The XCT data included the centroidal coordinates and kernel volumes of the 20 TRISO particles in each fuel compact analyzed. These data were compiled by the Python script and used to determine the probability density function (PDF) for each variable, which could then be randomly sampled to generate representative compact designs. Figure 5 shows histograms of the particle centroid distributions in cylindrical coordinates (r-z-ϕ) and the distribution of kernel volumes. The origin of the cylindrical coordinate system is located at the axial and radial center of the compact. The typical compact consists of three axial layers with 6–8 particles in each layer. Most layers have a ring of outer particles with a centrally located particle, although the XCT analysis showed that some particles had no particles near the center of the compact. Of the 18 compacts analyzed, 15 had NUCO or LEUCO fuel kernels, and the remaining three compacts had $LEUO_2$ kernels. The smaller cluster of data centered around 0.073 mm^3 in Figure 5(D) represents the $LEUO_2$ kernel volume data, which were ~70% larger than the average NUCO and LEUCO kernel volume of 0.043 mm^3.

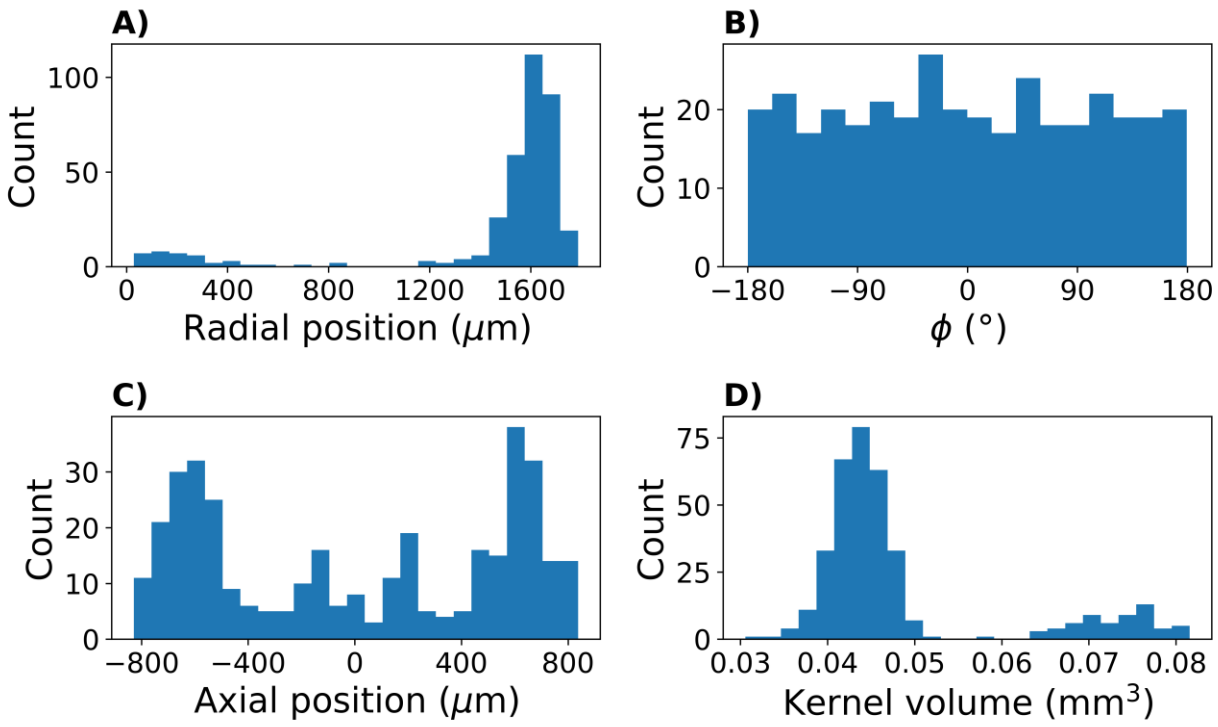

Figure 5. Histograms summarizing particle position and kernel volumes determined using XCT analysis.

To randomly generate representative fuel compact designs, the full XCT dataset had to be divided into different groupings that could be fitted to a known probability distribution. For instance, the distribution of radial positions was split into a central particle distribution and an outer particle distribution, with the split occurring at 1000 μm. Since the distribution of axial positions is roughly symmetric across the origin, the absolute value was taken to obtain two clusters of data rather than four. These two clusters were then split at 400 μm into groups of upper/lower particles and central particles. The distribution of kernel volumes was split between the NUCO/LEUCO kernels and $LEUO_2$ kernels. An algorithm was developed that attempted to fit several common probability distributions to each group of data and identify the best-fitting distribution. The best-fitting distribution was defined as that with the minimal sum of squares error (SSE) between the cumulative distribution function (CDF) of the fitted distribution and the empirical CDF. The probability distributions tested were the normal, uniform, Weibull, beta, lognormal, exponential, gamma, chi-squared, inverse Gaussian, and generalized logistic distributions. Table 2 lists the best-fitting distributions for each variable and their associated SSE between modeled and empirical CDFs. To illustrate the differences between the best-fitting continuous CDFs and the empirical CDFs, Figure 6 compares these functions for the NUCO/LEUCO kernel volume and the axial position of the central particles, which had the lowest and highest SSE, respectively. Figure 7 shows the best-fitting PDFs overlaying normalized histograms of the XCT data and shows that the continuous PDFs are representative of the measured data.

Table 2. Best-fitting probability distributions for XCT parameters

Variable	Best fitting distribution	SSE
Radial position (central particles)	Inverse Gaussian	0.023
Radial position (outer particles)	Generalized logistic	0.019
Azimuthal angle	Uniform	0.021
Axial position (upper/lower particles)	Normal	0.040
Axial position (central particles)	Generalized logistic	0.042
NUCO/LEUCO kernel volume	Beta	0.017
$LEUO_2$ kernel volume	Beta	0.041

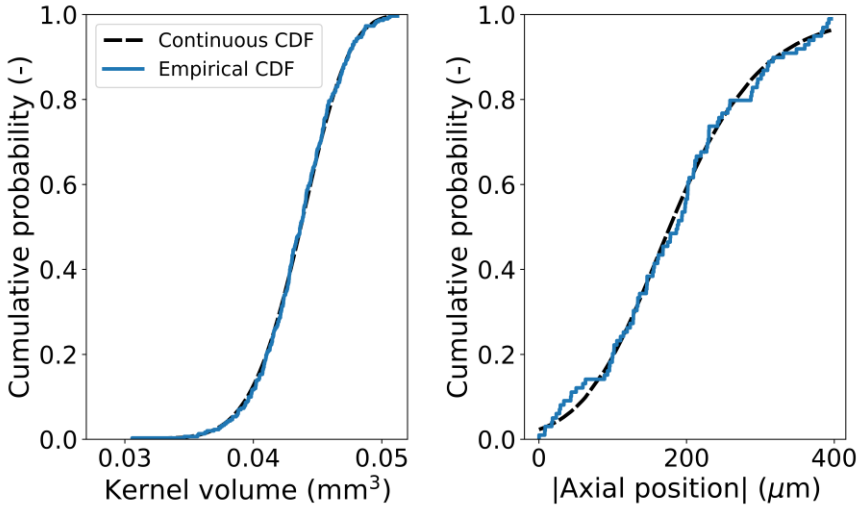

Figure 6. Comparison of continuous and empirical CDFs for the variables with the lowest and highest SSE.

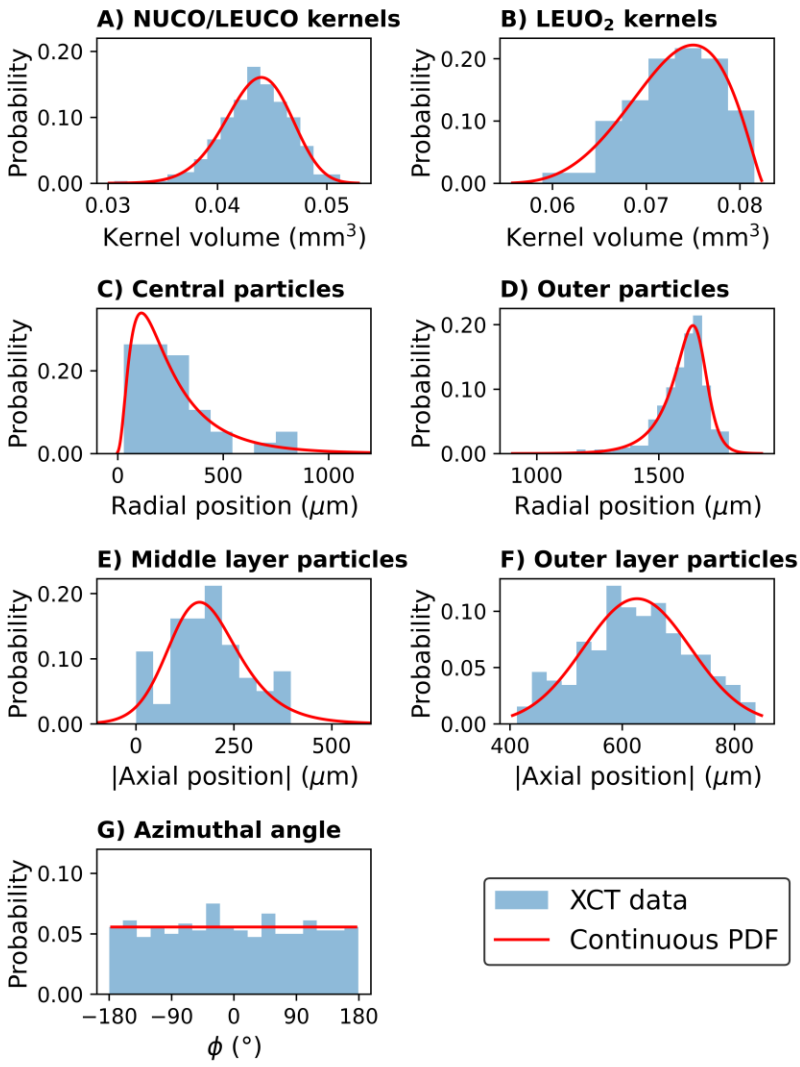

Figure 7. Best-fitting PDFs compared to XCT data.

An algorithm was developed to randomly sample volume and position data from the PDFs shown in Figure 7. The algorithm used simple probability tests to determine which distribution to sample from for kernel volume, radial position, and axial position. The fraction of TRISO particles located in the central region of the compact measured during the XCT analysis was used for the probability test to determine which radial position distribution to sample from, and an identical approach was used for determining which axial position distribution to sample from. Once the axial position was sampled, there was a 50% chance that the sampled value would be multiplied by −1. In the sample of XCT data acquired, roughly 90% of particles were located in the outer ring compared to 10% in the central region of the compact. About 73% of particles were in the upper or lower axial layers, and 27% were in the middle layer. This sampling approach allowed for the possibility of a compact having no central particles, which was observed in the XCT analysis.

The sampling algorithm developed fuel compacts containing 20 TRISO particles each for 600 compacts, 200 of each fuel type. Checks were implemented in the algorithm to ensure the particles could neither overlap each other nor protrude from the compact. Figure 8 compares the resulting position and volume data of the sample particles with the XCT data. The figure demonstrates that the sampling algorithm successfully designed fuel compacts that were representative of the compacts used in the HFIR irradiation

experiment. The most significant difference between the measured and sampled data occurs at the extremes of the axial position data, which shows that the sampled compacts had no particles located above 750 µm or below -750 µm and had higher peaks in the range from magnitude 650–700 µm. Aside from the fuel kernel, the other TRISO layers were assumed to have constant thickness, and the particles were modeled as perfect spheres. This approach caused the sampling algorithm to reject particles located outside the axial range of -750–750 µm. However, the XCT analysis showed that there is some variation in layer thickness and that particles were often deformed, which allowed particles to be located closer to the top and bottom of the compact.

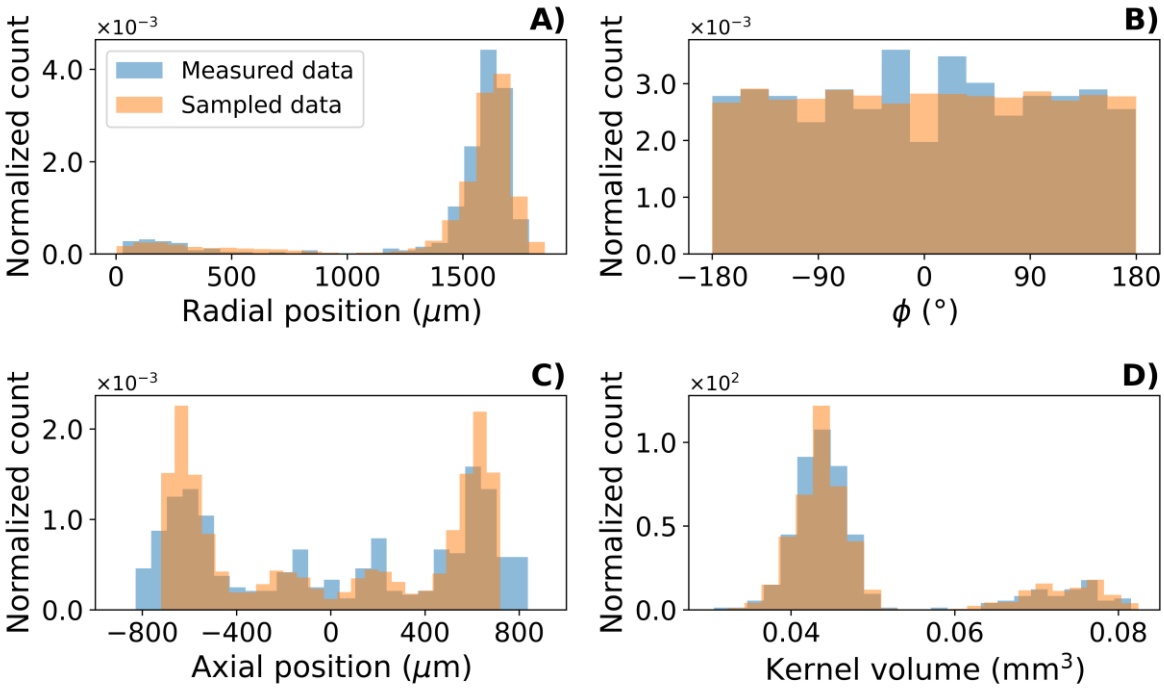

Figure 8. Comparison of sampled particle data to measured data.

A Python wrapper script was developed to update the particle locations and volumes in the CAD model, import the geometry into ANSYS, specify the fuel type, and execute the ANSYS thermal model. The model outputs were parsed for the maximum kernel and SiC layer temperatures in all 20 particles and the peak and average temperature of the SiC thermometry predicted for each compact configuration. These parameters were used as the figures of merit for this study because they will show the variation in TRISO particle temperature as a function of position and volume and elucidate the effect of particle temperature variation on thermometry temperature. The potential variation of the thermometry temperature is an important output because thermometry is used as a passive measurement device to validate the temperature predictions made by computer models.

3.2.3 Sensitivity Analysis Results

A total of 600 subcapsule models were executed, each with a different fuel compact configuration. Figure 9–Figure 11 show histograms of the maximum kernel temperatures from all particles for NUCO, LEUCO, and $LEUO_2$, respectively.

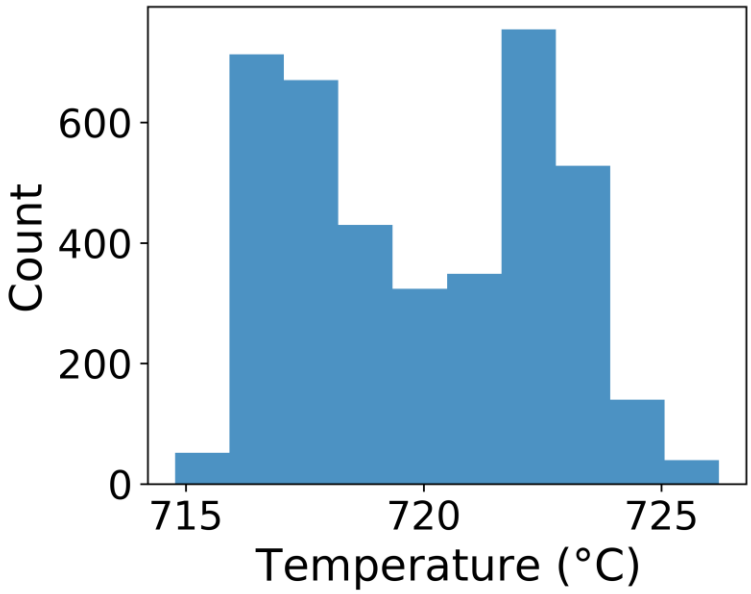

Figure 9. Histogram of maximum NUCO kernel temperatures from all particles.

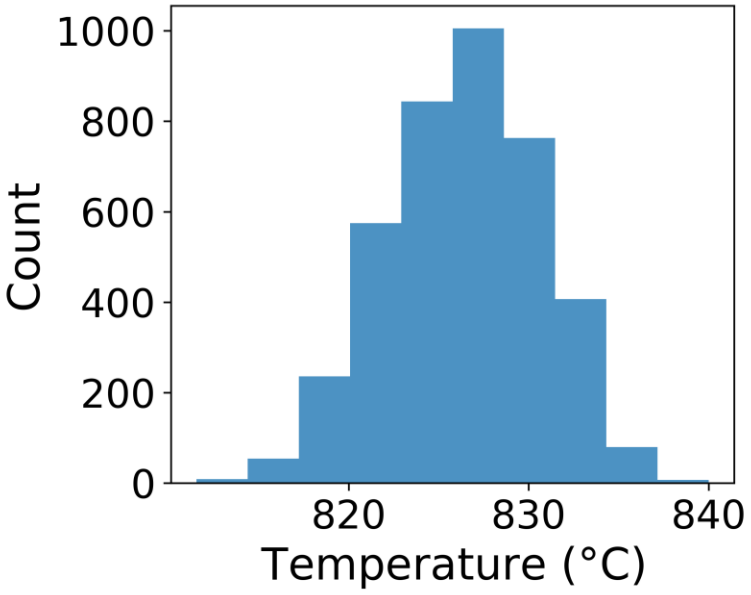

Figure 10. Histogram of maximum LEUCO kernel temperatures from all particles.

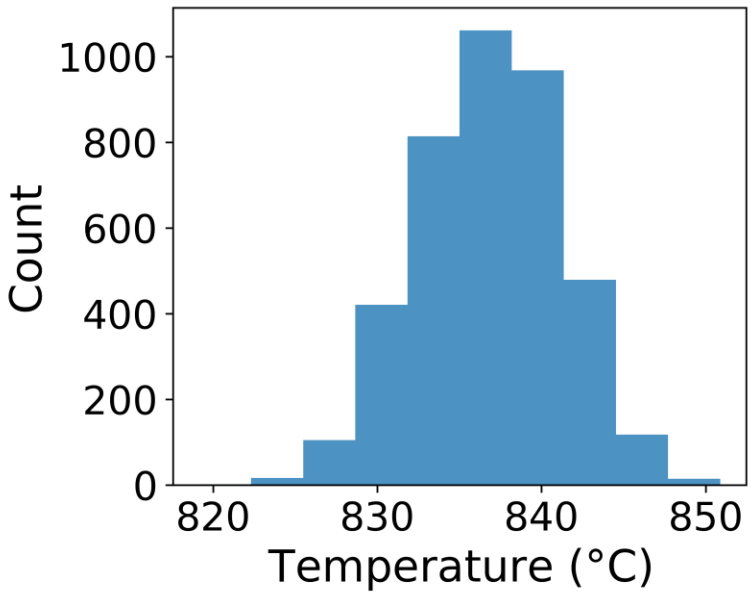

Figure 11. Histogram of maximum $LEUO_2$ kernel temperatures from all particles.

Figure 9–Figure 11 show that peak NUCO kernel temperatures ranged from roughly 715 to 726°C, the peak LEUCO kernel temperatures ranged from 811 to 840°C, and the peak $LEUO_2$ temperatures ranged from 819 to 851°C. The distribution of NUCO kernel temperatures shows two peaks, whereas the LEUCO and $LEUO_2$ kernel temperature distributions look more normal in shape but are slightly skewed toward the higher end of their respective temperature ranges. These observations can be explained using Figure 12, which shows the NUCO, LEUCO, and $LEUO_2$ kernel temperatures as a function of axial position, azimuthal angle, radial position, and kernel volume.

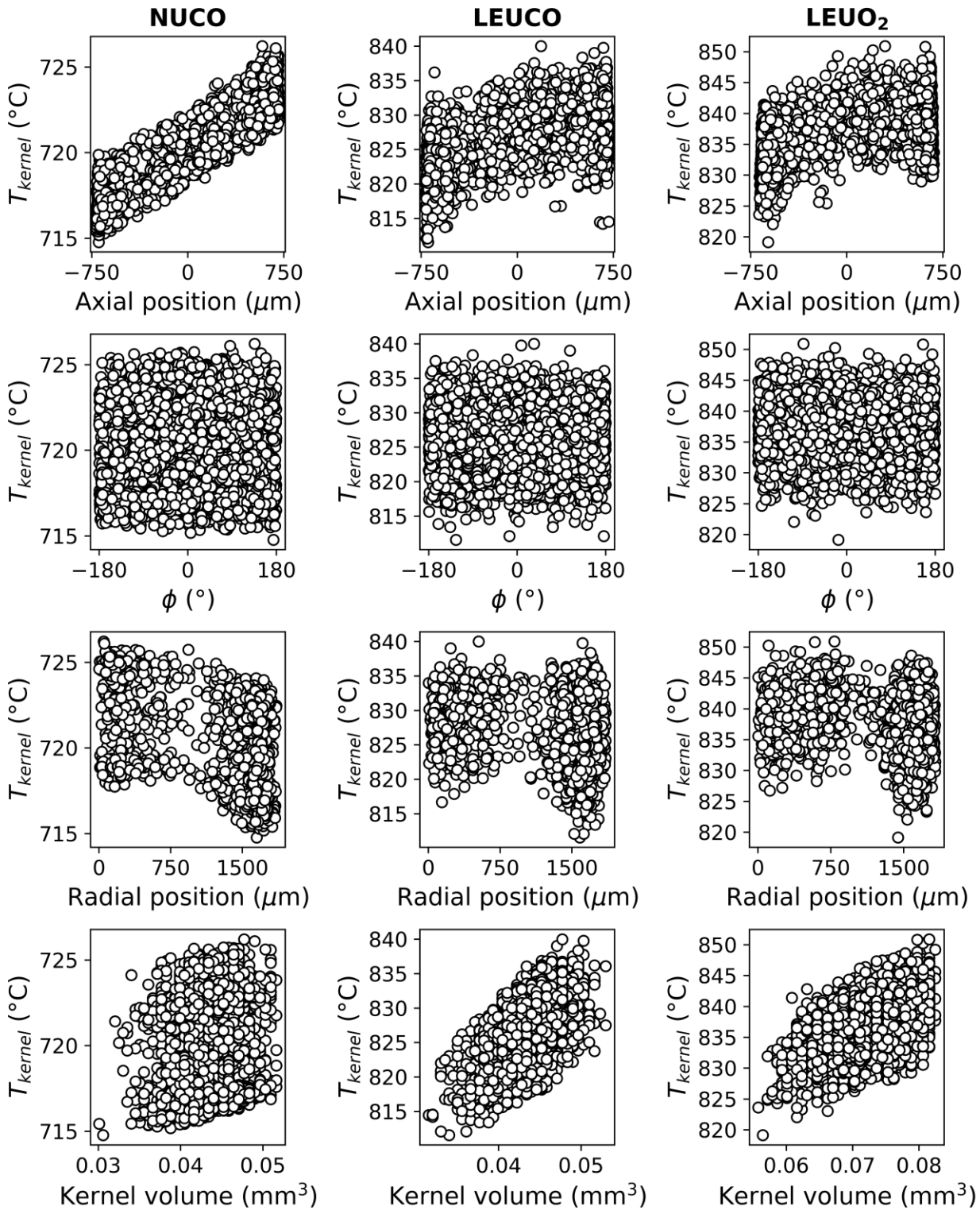

Figure 12. Maximum kernel temperature (T_{kernel}) as a function of each position and volume variable for all fuel types.

Figure 12 shows that the NUCO fuel temperature has a distinct linear dependence on the kernel axial position, and the temperature increases as the kernels approach the top of the fuel compact. This temperature increase occurs because the NUCO HGR is relatively low compared to the other fuels, and the Mo heater tube seated above the fuel compact reached higher temperatures than the kernels. There also appears to be some dependence of NUCO kernel temperature on the radial position of the particle, which occurs because particles closer to the center of the compact are farther from the heat sink. A temperature dependence on axial position for LEUCO and $LEUO_2$ fuel is also shown, but the effect is not nearly as pronounced. These fuels had HGRs roughly 4–6 times greater than those of NUCO, causing these kernels to become hotter than the Mo tube and less dependent on the axial position. This is clearly shown in Figure 13, which compares the temperature distribution in the subcapsule model between a NUCO and LEUCO case. The subplots in Figure 12 show that there is little correlation between the NUCO kernel volumes and temperatures, but a moderate dependency on kernel volume can be seen for LEUCO and $LEUO_2$. None of the kernel temperatures for any fuel type were dependent on the radial position or azimuthal angle of the particles.

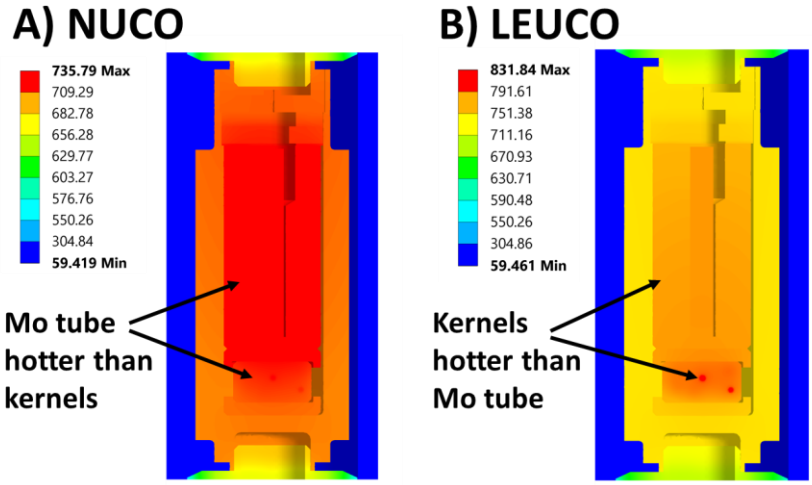

Figure 13. Comparison of subcapsule temperature distribution between NUCO and LEUCO cases.

All plots shown in this section have thus far included the maximum kernel temperature in all 20 particles in each compact design. Figure 14 shows the temperature distribution of the single hottest kernel temperature in each compact design (i.e., one data point per compact rather than 20 data points per compact). The range of temperatures shown in Figure 14 for only the hottest kernels is comparatively small relative to the temperature ranges shown in Figure 9–Figure 11 for all kernels. Table 3 further illustrates this point by comparing the mean and standard deviation of temperatures from the dataset containing all kernels to the dataset containing only the hottest kernels. The standard deviation of kernel temperatures for the datasets containing all kernels is 2.9–4.4°C depending on the fuel type, whereas the standard deviation of the dataset containing only the hottest kernels is just 0.8°C for the NUCO cases and 2.1–2.5°C for the LEUCO and $LEUO_2$ cases.

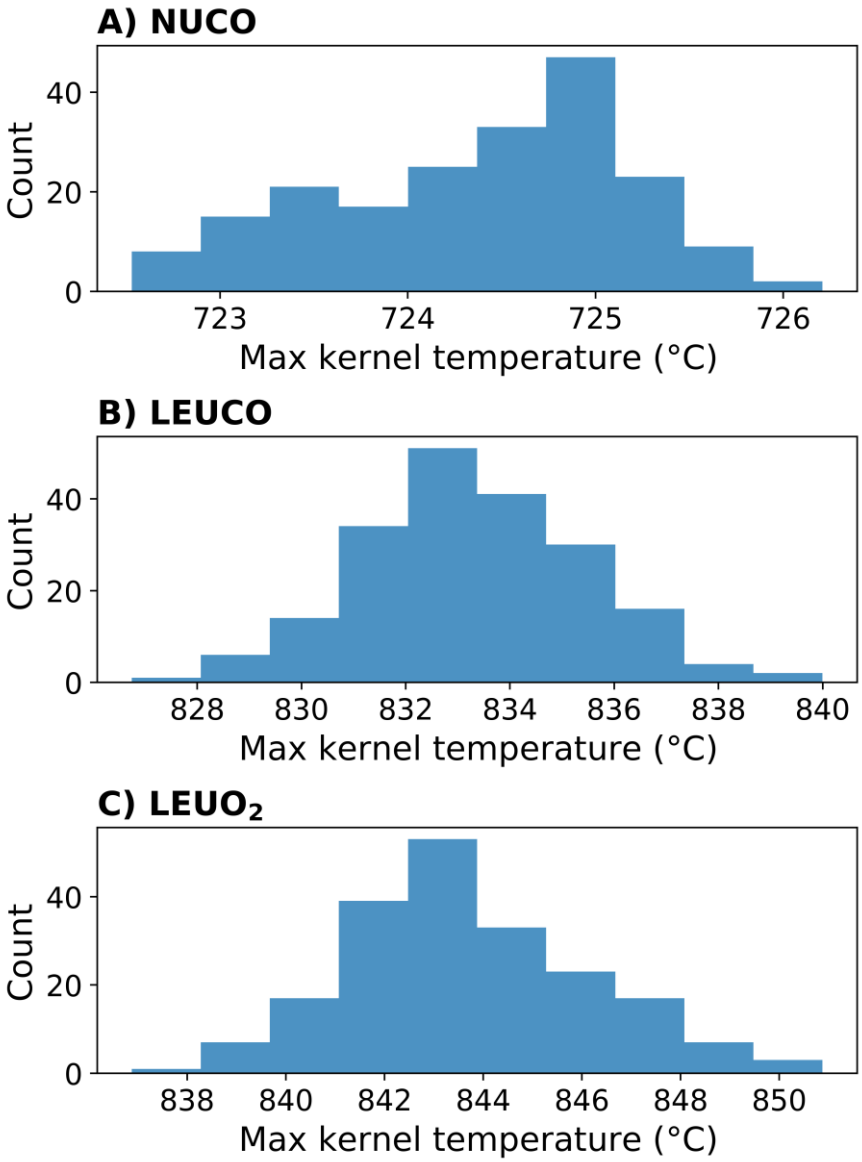

Figure 14. Distributions of the maximum kernel temperature from each compact design for NUCO (A), LEUCO (B), and $LEUO_2$ (C).

Table 3. Mean and standard deviation of maximum kernel temperatures

Fuel	Dataset	Mean (°C)	Standard deviation (°C)
NUCO	All kernels	719.9	2.9
	Hottest kernels	724.4	0.8
LEUCO	All kernels	826.4	4.3
	Hottest kernels	833.3	2.1
$LEUO_2$	All kernels	836.8	4.4
	Hottest kernels	843.7	2.5

Figure 15 shows the distribution of average thermometry temperatures from each case. This figure shows that the range of thermometry temperatures is roughly 1.0°C for the NUCO cases and about 5°C for the LEUCO and $LEUO_2$ cases, which indicates that the thermometry temperature is mostly independent of the fuel kernel arrangement. This is a notable observation since the thermometry temperature is the primary means of empirically validating the temperatures reached during the experiment. Based on the results presented in this section, it can be concluded that the variations in TRISO particle volume and location will impact the resulting fuel temperature distribution, especially for fuels with higher HGRs. However, the temperature of the hottest kernel and of the SiC thermometry does not vary strongly with particle position and volume.

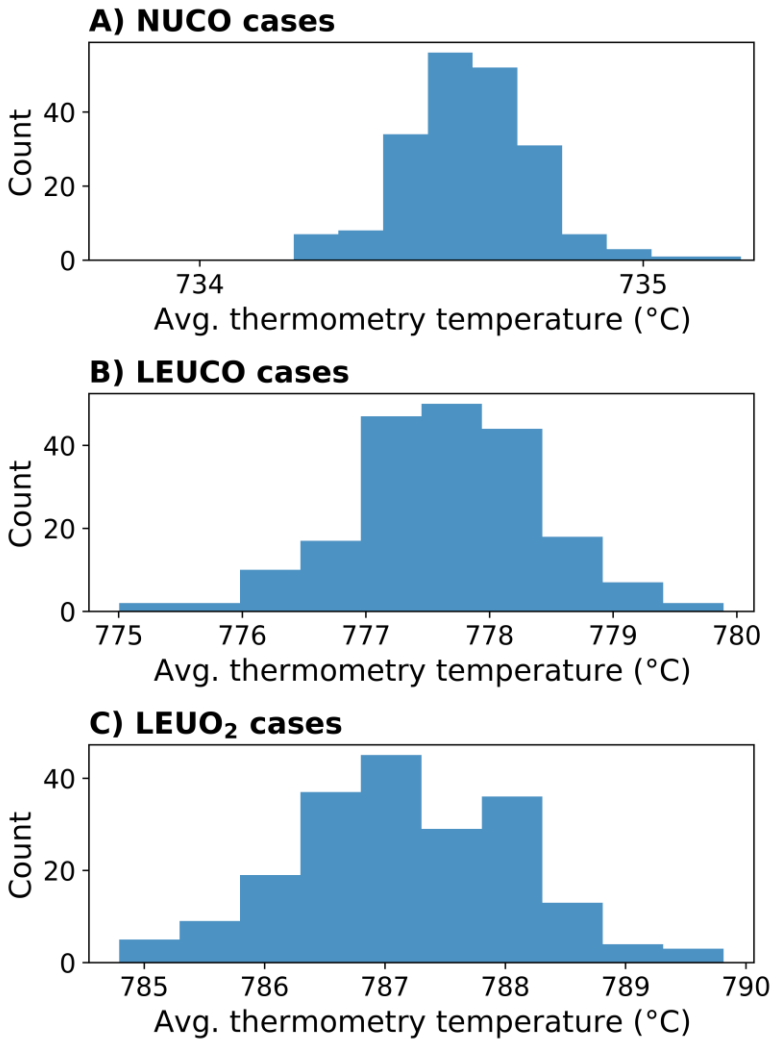

Figure 15. Distribution of average thermometry temperatures.

3.3 Comparison of Modeling Approaches

Previous design studies of the TRISO MiniFuel experiment used a full target capsule model containing six subcapsules with the particles arranged in an ordered pattern [3]. This section compares model predictions between the full target model and the single subcapsule model as well as those between the ordered particle arrangement, a measured particle arrangement from the XCT analysis, and a sampled particle arrangement

from the sensitivity study. The ordered particle arrangement and an example of a measured or sampled particle arrangement are shown in Figure 16.

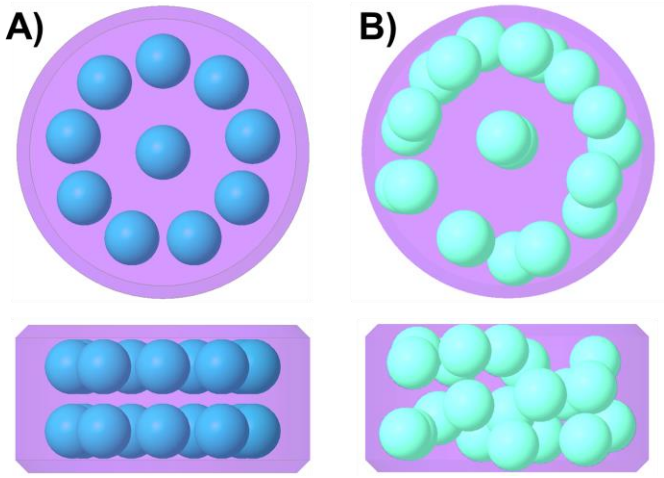

Figure 16. Ordered particle arrangement (A); sampled/XCT particle arrangement (B).

Figure 17 shows a comparison of SiC layer and thermometry results from the full target model to the single subcapsule model for the same subcapsule position using an ordered particle arrangement with LEUCO fuel kernels. The figure shows that the SiC layers have a similar temperature distribution in the two models, but the temperatures predicted by the single subcapsule model are shifted ~30°C lower than the full target model values. The average thermometry temperature was 20.2°C higher in the full target model. The temperature shift occurs because of the periodic boundary condition on the single subcapsule model which imitates a scenario where all subcapsules have the same heat load, thus causing very little net heat flux in the axial direction at the model boundary. In the full target model, however, there is a more profound axial heat transfer effect into the midplane subcapsule fuel since the heater tube in subcapsule below it is closer to the core midplane than its own heater tube due to the asymmetric subcapsule configuration. The comparison demonstrates that the single subcapsule model can be used for sensitivity analysis in which only relative differences between particle arrangements are important, but the full target model should be used for more accurate temperature predictions.

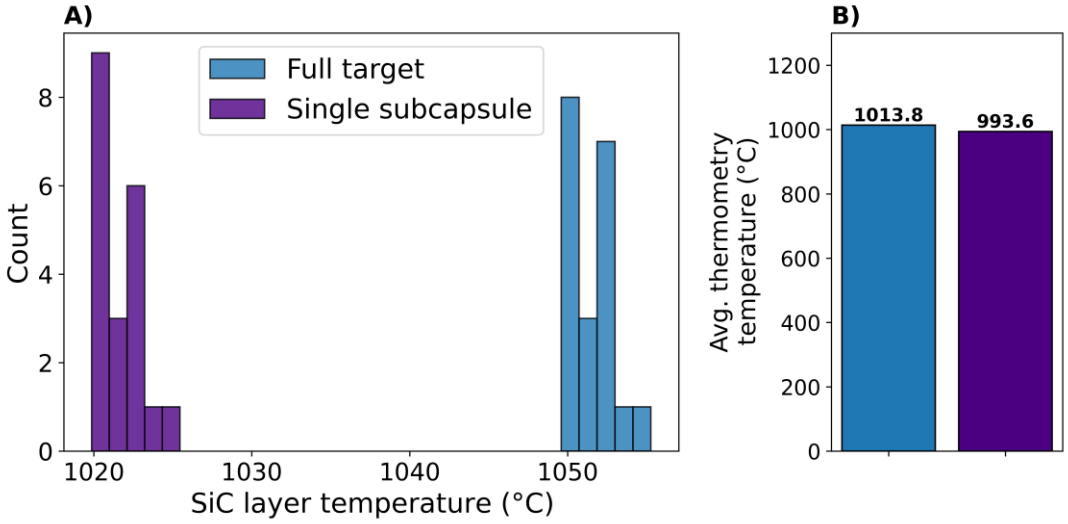

Figure 17. Comparison of midplane subcapsule results from the full target model and the single subcapsule model.

LEUCO kernels using the midplane maximum HGRs were also used to compare the ordered, XCT, and sampled particle arrangements in the single subcapsule model. Figure 18 shows comparisons between the three particle arrangements for several parameters: the TRISO SiC layer temperature in all 20 particles, the absolute maximum kernel temperature, and the average thermometry temperature. The SiC layer temperature is compared because previous analyses used this value to define the design temperature since the SiC layer temperature may be considered an approximate average of the entire TRISO particle temperature. Comparison of the thermometry temperature is relevant because these results inform PIE.

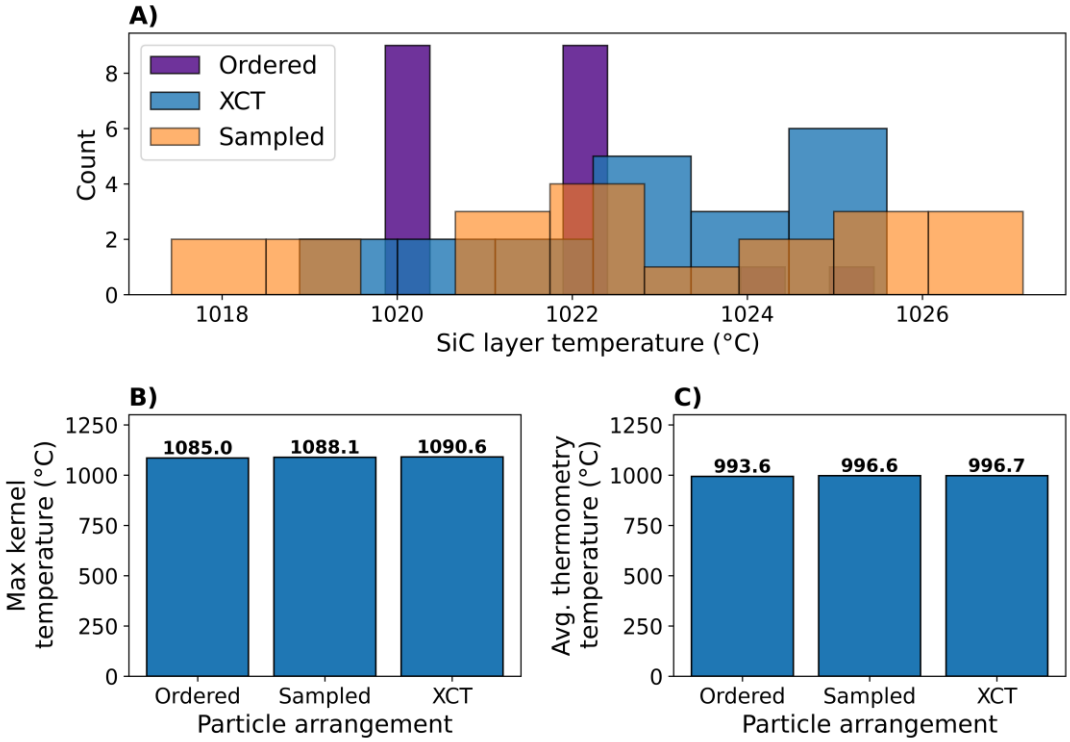

Figure 18. Comparisons of SiC layer temperature distribution (A), maximum kernel temperatures (B), and average thermometry temperatures between the three particle arrangements (C).

Figure 18(A) shows that the SiC layer temperatures in the ordered particle arrangement take on a nearly bimodal distribution with a standard deviation of 1.5°C. The temperature distributions from the XCT and sampled particle arrangements have standard deviations of 1.9°C and 2.9°C, respectively. Figure 18(B) shows that the maximum kernel temperature agrees within 6°C for each of all three particle arrangements. The comparison of average thermometry temperatures shows that the ordered arrangement result is 3.1°C lower than the XCT result, whereas the sampled result is just 0.1°C lower. The results shown in this figure indicate that the predictions made using any arrangement may predict key outcomes with reasonable accuracy. However, the sampled particle arrangement is more accurate and better able to capture the full range of temperature distributions than the ordered arrangement.

3.4 AS-BUILT THERMAL ANALYSIS

This section presents the final temperature predictions for the MiniFuel experiment using as-built target configurations and updated HGR inputs based on the actual HFIR outage history- and geometry updates to the HFIRCON model. The only difference between the thermal model used for this analysis and the actual experiment is the particle arrangement. The sampled particle configuration used in the single subcapsule comparisons in Section 3.3 was used for all compacts in all targets for these calculations. This approach

was taken because XCT analysis was performed only on 18 of the 30 compacts used in the experiment, and it was shown in Figure 18 that the sampled arrangement produces results that capture the full range of potential temperature deviation.

Figure 19 shows the average SiC layer temperature of all 20 particles within each compact as a function of irradiation time. The design temperatures are also marked on the figure, and it is shown that most of the SiC layer temperatures were predicted to be above their respective design temperatures due to updates to both the neutronics and thermal models.

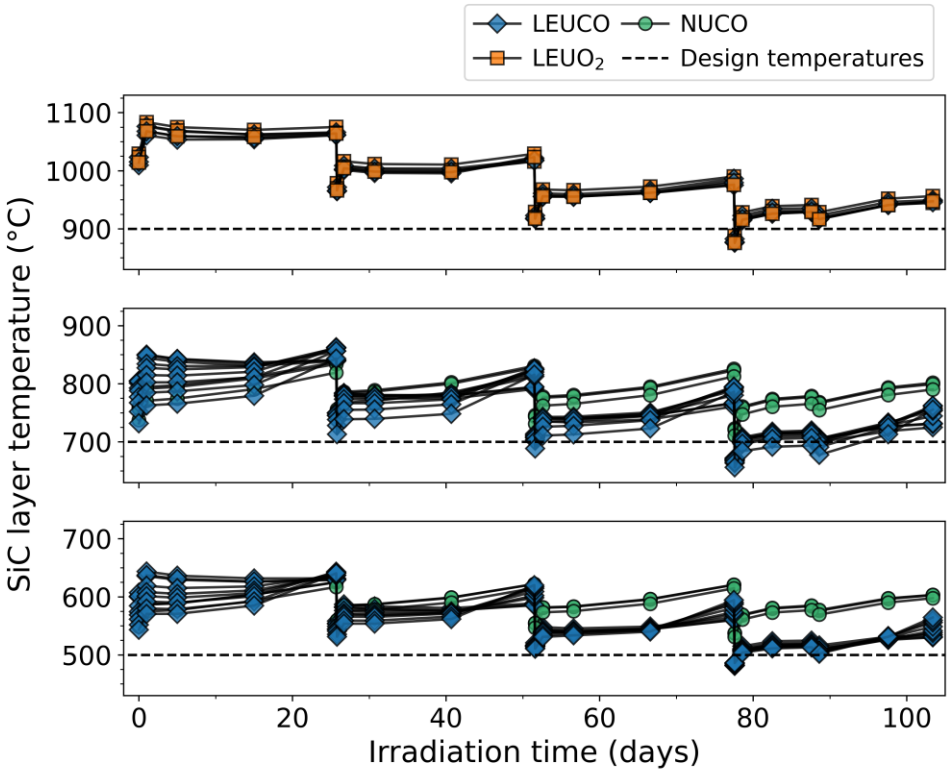

Figure 19. SiC layer temperatures as a function of irradiation time.

Figure 20 shows the evolution of the average thermometry temperature throughout the irradiation experiment. The thermometry temperatures are marginally lower than the SiC layer temperatures for LEUCO and $LEUO_2$ fuels at the beginning of the experiment since these fuels have higher HGRs and are hotter than the Mo tube. Thermometry temperatures were predicted to be always higher than the NUCO SiC layer since the Mo tube is hotter than the fuel kernels, as was shown in Figure 13. This is also true for LEUCO and $LEUO_2$ fuels later in the experiment as the HGR decreases to values similar to NUCO (see Figure 1). These trends are clearly shown in Figure 21, which compares the average SiC layer to the average thermometry temperature.

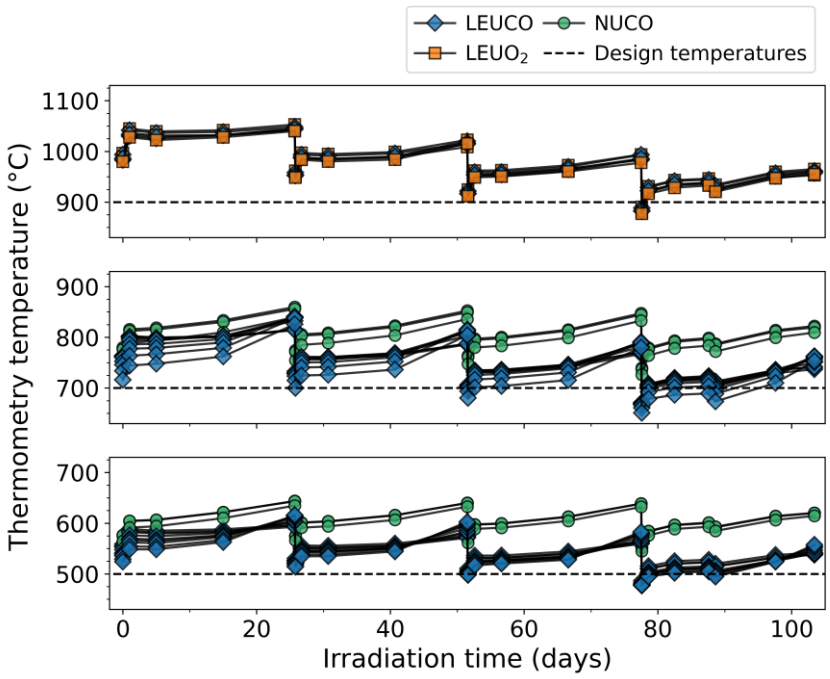

Figure 20. Thermometry temperatures as a function of irradiation time.

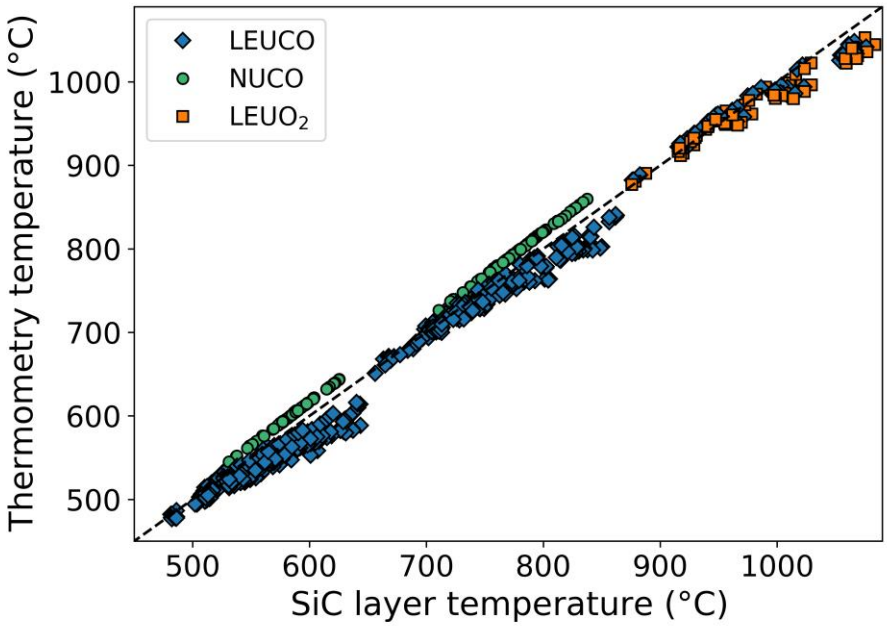

Figure 21. Comparison of SiC layer and thermometry average temperatures.

Table 4 provides a summary of the fuel kernel, SiC layer, and thermometry (abbreviated as TM in the table) temperatures predicted for the as-built irradiation experiment. The table includes the minimum and maximum temperatures (T_{min} and T_{max}, respectively) for the identified components throughout the entire experiment, and the time and volume–averaged temperatures (T_{avg}). Appendix A, B, and C summarize the

fission rate density, SiC layer temperatures, and fast fluence, respectively, with respect to time and for the as-built targets.

Table 4. Summary of modeling predictions for the as-built irradiation experiment

ID	RA	S	Fuel type	Kernel T_{min}	Kernel T_{max}	Kernel T_{avg}	SiC Layer T_{min}	SiC Layer T_{max}	SiC Layer T_{avg}	TM T_{min}	TM T_{max}	TM T_{avg}
KP 01	12	6	$LEUO_2$	882.6	1089.7	1000.8	875.6	1067.9	988.2	877	1040.2	977.3
		5	LEUCO	883.1	1087.5	999.3	877.1	1067.7	988	882.6	1043.6	982.2
		4	$LEUO_2$	885.7	1099.3	1003.3	878.7	1076.9	990.7	880.9	1041.7	980.4
		3	LEUCO	888.8	1096.8	1005	882.7	1076.1	993.4	888.5	1048.4	987.8
		2	$LEUO_2$	894.7	1105.7	1012.8	887.7	1083.6	1000.3	890.5	1053	990.9
		1	LEUCO	882.1	1079.8	997.7	876	1061.1	986.5	882.4	1045	982.3
KP 02	22*	6	NUCO	532.8	618.7	588.6	531.0	616.9	586.8	545.0	634.7	603.3
		5	LEUCO	489.1	659.2	581.2	482.4	637.2	568.6	482.3	593.0	550.8
		4	NUCO	539.7	626.8	597.3	537.8	625.0	595.4	552.1	643.4	612.4
		3	LEUCO	492.9	666.1	585.6	486.1	643.5	572.7	486.5	596.9	555.5
		2	NUCO	539.0	627.2	596.6	537.2	625.4	594.9	551.6	643.8	612.0
		1	LEUCO	487.9	656.5	580.1	481.2	635.6	567.7	482.1	596.0	551.6
KP 03	23*	6	LEUCO	492.1	651.6	565.5	486.2	640.3	557.3	477.7	616.1	542.1
		5	LEUCO	491.7	653.6	568.8	485.6	641.1	560.0	477.7	614.6	543.9
		4	LEUCO	492.8	657.3	573.7	486.3	643.2	563.9	479.2	613.9	547.0
		3	LEUCO	491.3	656.8	575.3	484.6	641.4	564.7	478.5	609.8	547.2
		2	LEUCO	489.0	653.3	575.2	482.1	637.0	564.0	476.9	604.1	546.1
		1	LEUCO	488.4	654.1	577.8	481.8	637.2	566.3	478.3	603.3	548.5
KP 04	32*	6	NUCO	712.4	820.9	782.0	710.7	819.2	780.3	726.4	839.5	799.0
		5	LEUCO	673.9	870.5	783.1	667.6	848.7	771.0	670.6	814.2	759.5
		4	NUCO	722.2	835.7	796.3	720.5	833.9	794.5	737.2	856.0	814.7
		3	LEUCO	674.0	872.5	783.9	667.7	850.1	771.5	671.1	814.8	760.4
		2	NUCO	724.5	839.2	798.6	722.8	837.5	796.9	739.7	859.9	817.4
		1	LEUCO	669.4	864.7	777.7	663.1	843.9	765.8	668.0	815.5	757.1
KP 05	33*	6	LEUCO	661.7	854.3	752.2	656.1	843.3	744.3	651.0	825.9	733.9
		5	LEUCO	670.5	868.6	767.4	664.8	856.4	758.9	660.9	837.7	748.6
		4	LEUCO	675.5	875.3	776.5	669.4	861.7	767.2	666.4	841.0	756.4
		3	LEUCO	677.4	877.6	781.7	671.1	862.7	771.6	668.9	840.0	760.2
		2	LEUCO	678.5	877.3	785.4	672.1	861.6	774.7	671.0	837.9	763.3
		1	LEUCO	675.0	872.7	783.5	668.7	856.4	772.5	669.2	832.5	761.7

* The RA positions specified correspond to the planned irradiation location, and thus the RAS in this table corresponds to the subcapsule ID. The actual irradiation location for targets KP02, KP03, KP04, and KP05 is RA = 32, RA = 33, RA = 22, and RA = 23, respectively.

4. PIE WORK

4.1 TARGETS DISSASSEMBLY

All five KP targets were received at IFEL and disassembled. Figure 22(a) shows the as-received targets, and Figure 22(b) shows a target being cut open. Each target was placed on a low-speed saw to cut its bottom end cap. The subcapsules were then slid out of the target tube. Every subcapsule was successfully recovered. Water was used at the cutting fluid with the low-speed saw for targets KP01, KP02, and KP04, whereas no cutting fluid was used for opening KP03 and KP05. A blue substance was observed on the subcapsules

from the three targets cut open with water. Figure 23 shows examples of two set of recovered subcapsules: one set from target KP01 cut open with water and one set from target KP03 cut open dry. This blue substance has been attributed to the water from the cutting process and the oxidation on the subcapsules from the welding process forming aqueous blue MoO_3.

(a) (b)

Figure 22. In-cell pictures of the five KP targets as received from HFIR (a), and one target being cut open on a low-speed saw (b).

Figure 23. Subcapsules recovered from KP targets.

4.2 UPDATED PUNTURE DEVICE FOR FISSION GAS RELEASE MEASUREMENTS

All subcapsules are intended to be punctured with an in-cell puncturing device for fission gas release (FGR) measurements. Based on previous MiniFuel target work, minor updates were performed on the puncture unit designed for FGR measurements: addition of a threaded relief to the cup and increase of the O-ring size to make it easier to assemble and increase of the inside diameter of the subcapsule port to prevent the subcapsule from becoming lodged in the device. Figure 24 shows a representation of the puncture device, with these modifications circled in red.

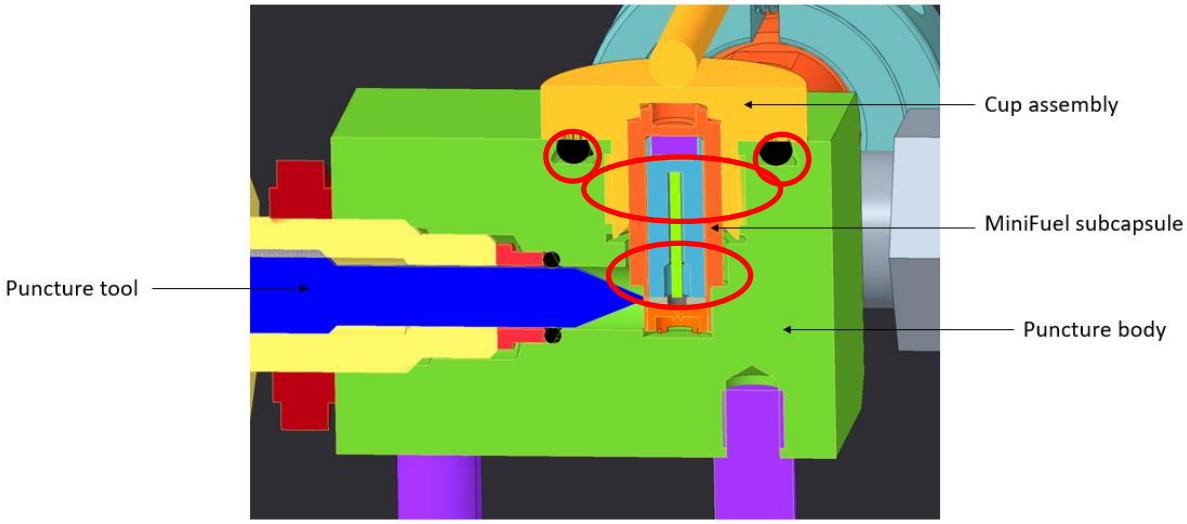

Figure 24. Puncture device for FGR measurements on MiniFuel subcapsules.
Circled in red are the recent modifications added to the device.

Previous MiniFuel subcapsules were made of titanium alloy, whereas the KP targets' subcapsules are made of Mo. Dummy Mo subcapsules were assembled to imitate the KP targets' subcapsules to practice puncturing this material and are intended to be punctured before the KP subcapsules.

5. CONCLUSIONS

The five KP targets bearing MiniFuel compacts with LEUCO, NUCO, or $LEUO_2$ TRISO particles completed irradiation after 4 HFIR cycles. Neutronics and thermal analysis were performed considering the as-irradiated target conditions and thus obtained temperature predictions for the experiment. In addition, a sensitivity study was performed to determine the effect of the position and kernel volume of each TRISO particle on the temperature distribution within the compact. It was shown that the sampled particle configuration in the single compact produces results that capture the full range of potential temperature deviation. PIE work has begun with the disassembly of the five targets. All 30 subcapsules were recovered and will be punctured for FGR measurements. The puncturing device was improved based on previous work.

6. REFERENCES

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[3] R. C. Gallagher, Z. Wallen, C. M. Petrie, T. Gerczak, A. G. Le Coq, K. Smith, J. Harp, K. D. Linton, *Analysis and Design of High-Power TRISO Fuel Compact Irradiation in HFIR*, ORNL/TM-2020/1658, Oak Ridge National Laboratory, Oak Ridge, TN, June 2021.
[4] A. G. Le Coq, R. C. Gallagher, K. D. Linton, R. Latta, B. Collin, *Assembly of MiniFuel Targets for Irradiation of TRISO Fuel Compacts in the High Flux Isotope Reactor*, ORNL/TM-2021/2057, Oak Ridge National Laboratory, Oak Ridge, TN, July 2021.

APPENDIX A. FISSION RATE DENSITY

APPENDIX A. FISSION RATE DENSITY

This section reports the time-dependent fuel specimen fission rate density in the as-built/as-irradiated HFIRCON model of the experiment in fissions/cm^3/s.

	Target:	**KP01**					
	Subcapsule ID:	KP121	KP122	KP123	KP124	KP125	KP126
	RAS Irradiation location:	121	122	123	124	125	126
	Fuel:	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	5.9309E+14	4.1605E+14	6.2304E+14	4.2668E+14	6.1622E+14	4.1229E+14
	1	6.5215E+14	4.6279E+14	6.9286E+14	4.7224E+14	6.8210E+14	4.5688E+14
	3	6.3332E+14	4.4852E+14	6.6810E+14	4.5796E+14	6.6031E+14	4.4267E+14
	5	6.1274E+14	4.3285E+14	6.4481E+14	4.4332E+14	6.3743E+14	4.2702E+14
	10	5.7056E+14	4.0089E+14	5.9441E+14	4.0651E+14	5.8952E+14	3.9698E+14
	15	5.4607E+14	3.7944E+14	5.6353E+14	3.8604E+14	5.5872E+14	3.7874E+14
	20	5.1695E+14	3.6243E+14	5.2902E+14	3.6569E+14	5.2992E+14	3.5860E+14
	22	5.0428E+14	3.5355E+14	5.1701E+14	3.5590E+14	5.1566E+14	3.5052E+14
	24	4.9784E+14	3.4560E+14	5.0440E+14	3.4936E+14	5.0402E+14	3.4675E+14
	25.72	4.8434E+14	3.3767E+14	4.9178E+14	3.3993E+14	4.9176E+14	3.3625E+14
494	**25.72**	3.8953E+14	2.7182E+14	4.0000E+14	2.7627E+14	3.9563E+14	2.6931E+14
	26.72	4.1897E+14	2.9600E+14	4.3346E+14	2.9897E+14	4.2886E+14	2.9359E+14
	28.72	4.0711E+14	2.8558E+14	4.1457E+14	2.8800E+14	4.1368E+14	2.8402E+14
	30.72	3.9111E+14	2.7684E+14	4.0066E+14	2.7880E+14	3.9978E+14	2.7369E+14
	35.72	3.6362E+14	2.5558E+14	3.7073E+14	2.5777E+14	3.6964E+14	2.5372E+14
	40.72	3.4391E+14	2.4352E+14	3.4892E+14	2.4394E+14	3.5100E+14	2.4293E+14
	45.72	3.2788E+14	2.3247E+14	3.3180E+14	2.3306E+14	3.3108E+14	2.3173E+14
	47.72	3.2225E+14	2.2734E+14	3.2337E+14	2.2874E+14	3.2395E+14	2.2674E+14
	49.72	3.1725E+14	2.2154E+14	3.1486E+14	2.2349E+14	3.1631E+14	2.2413E+14
	51.59	3.0884E+14	2.1795E+14	3.0690E+14	2.1753E+14	3.0879E+14	2.1791E+14
495	**51.59**	2.4489E+14	1.7328E+14	2.4619E+14	1.7500E+14	2.4729E+14	1.7325E+14
	52.59	2.6916E+14	1.9068E+14	2.6902E+14	1.9188E+14	2.6882E+14	1.9093E+14
	54.59	2.5858E+14	1.8610E+14	2.5921E+14	1.8632E+14	2.5993E+14	1.8532E+14
	56.59	2.5115E+14	1.7834E+14	2.5124E+14	1.7930E+14	2.5213E+14	1.7739E+14
	61.59	2.3203E+14	1.6705E+14	2.3403E+14	1.6701E+14	2.3324E+14	1.6618E+14
	66.59	2.2089E+14	1.5931E+14	2.2049E+14	1.5926E+14	2.2167E+14	1.5915E+14
	71.59	2.1377E+14	1.5458E+14	2.1127E+14	1.5427E+14	2.1159E+14	1.5483E+14
	73.59	2.0953E+14	1.5169E+14	2.0598E+14	1.5117E+14	2.0782E+14	1.5261E+14
	75.59	2.0640E+14	1.4959E+14	2.0234E+14	1.4875E+14	2.0325E+14	1.5042E+14
	77.58	2.0199E+14	1.4599E+14	1.9807E+14	1.4606E+14	1.9879E+14	1.4773E+14
496A	**77.58**	1.5776E+14	1.1533E+14	1.5598E+14	1.1560E+14	1.5653E+14	1.1517E+14
	77.63	1.6294E+14	1.2006E+14	1.6117E+14	1.2056E+14	1.6105E+14	1.2067E+14
496B	**77.63**	1.6116E+14	1.1844E+14	1.6009E+14	1.1926E+14	1.6055E+14	1.1984E+14
	78.63	1.7138E+14	1.2686E+14	1.7050E+14	1.2755E+14	1.7000E+14	1.2698E+14
	80.63	1.7070E+14	1.2606E+14	1.6888E+14	1.2633E+14	1.6873E+14	1.2548E+14
	82.63	1.6457E+14	1.2174E+14	1.6365E+14	1.2234E+14	1.6346E+14	1.2212E+14
	88.10	1.5355E+14	1.1461E+14	1.5157E+14	1.1457E+14	1.5179E+14	1.1434E+14
496C	**88.10**	1.4515E+14	1.0827E+14	1.4335E+14	1.0808E+14	1.4327E+14	1.0795E+14
	89.10	1.5373E+14	1.1517E+14	1.5106E+14	1.1499E+14	1.5096E+14	1.1509E+14
	91.10	1.4919E+14	1.1269E+14	1.4799E+14	1.1284E+14	1.4841E+14	1.1241E+14
	93.10	1.4599E+14	1.0948E+14	1.4348E+14	1.0971E+14	1.4497E+14	1.0964E+14
	98.10	1.3919E+14	1.0502E+14	1.3599E+14	1.0431E+14	1.3678E+14	1.0528E+14
	103.10	1.3235E+14	1.0040E+14	1.2797E+14	1.0017E+14	1.2924E+14	1.0061E+14
	103.55	1.3163E+14	1.0010E+14	1.2759E+14	9.8901E+13	1.2757E+14	1.0040E+14

Target:		KP02					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	6.7651E+14	3.7208E+13	7.1271E+14	3.8034E+13	7.0284E+14	3.6502E+13
	1	7.3141E+14	4.0615E+13	7.7087E+14	4.1291E+13	7.6114E+14	3.9857E+13
	3	7.0337E+14	4.0395E+13	7.4496E+14	4.1294E+13	7.3429E+14	3.9659E+13
	5	6.7937E+14	4.0797E+13	7.1208E+14	4.1801E+13	7.0684E+14	3.9814E+13
	10	6.2542E+14	4.3762E+13	6.5330E+14	4.4483E+13	6.4878E+14	4.2919E+13
	15	5.9306E+14	4.7954E+13	6.1374E+14	4.8230E+13	6.0904E+14	4.6865E+13
	20	5.5705E+14	5.1094E+13	5.7133E+14	5.2030E+13	5.6668E+14	5.0659E+13
	22	5.4108E+14	5.2448E+13	5.5176E+14	5.2968E+13	5.5170E+14	5.1813E+13
	24	5.2727E+14	5.4036E+13	5.3708E+14	5.4382E+13	5.3692E+14	5.3119E+13
	25.72	5.1550E+14	5.4722E+13	5.1763E+14	5.4769E+13	5.2180E+14	5.3892E+13
494	**25.72**	4.1019E+14	4.4146E+13	4.1990E+14	4.4493E+13	4.1817E+14	4.3078E+13
	26.72	4.4331E+14	5.2818E+13	4.5468E+14	5.3875E+13	4.5389E+14	5.1615E+13
	28.72	4.2790E+14	5.1277E+13	4.3922E+14	5.2131E+13	4.3664E+14	5.0336E+13
	30.72	4.1105E+14	5.0031E+13	4.2016E+14	5.1389E+13	4.2003E+14	4.9283E+13
	35.72	3.7920E+14	5.0453E+13	3.8340E+14	5.1451E+13	3.8327E+14	4.9454E+13
	40.72	3.5483E+14	5.2336E+13	3.5892E+14	5.3562E+13	3.5901E+14	5.1606E+13
	45.72	3.3618E+14	5.4806E+13	3.3703E+14	5.5525E+13	3.3895E+14	5.3874E+13
	47.72	3.2748E+14	5.5684E+13	3.2693E+14	5.6481E+13	3.2923E+14	5.4623E+13
	49.72	3.2147E+14	5.6497E+13	3.1893E+14	5.7323E+13	3.2097E+14	5.5424E+13
	51.59	3.1337E+14	5.7064E+13	3.0863E+14	5.7988E+13	3.1039E+14	5.5705E+13
495	**51.59**	2.4529E+14	4.5426E+13	2.4681E+14	4.6336E+13	2.4696E+14	4.4026E+13
	52.59	2.6925E+14	5.4814E+13	2.7088E+14	5.5671E+13	2.7081E+14	5.3007E+13
	54.59	2.6268E+14	5.3144E+13	2.6202E+14	5.3888E+13	2.6109E+14	5.1312E+13
	56.59	2.4922E+14	5.1902E+13	2.5003E+14	5.2633E+13	2.5094E+14	5.0337E+13
	61.59	2.3168E+14	5.1908E+13	2.3054E+14	5.2505E+13	2.3061E+14	5.0356E+13
	66.59	2.1972E+14	5.3254E+13	2.1551E+14	5.3994E+13	2.1741E+14	5.2096E+13
	71.59	2.1047E+14	5.5466E+13	2.0612E+14	5.6496E+13	2.0818E+14	5.4879E+13
	73.59	2.0578E+14	5.6268E+13	2.0079E+14	5.7117E+13	2.0194E+14	5.5286E+13
	75.59	2.0165E+14	5.7107E+13	1.9620E+14	5.8016E+13	1.9864E+14	5.6363E+13
	77.58	1.9713E+14	5.7338E+13	1.9209E+14	5.8652E+13	1.9283E+14	5.7158E+13
496A	**77.58**	1.5278E+14	4.5532E+13	1.5083E+14	4.6147E+13	1.5129E+14	4.4397E+13
	77.63	1.5835E+14	5.0969E+13	1.5598E+14	5.2490E+13	1.5673E+14	5.0022E+13
496B	**77.63**	1.5723E+14	5.0789E+13	1.5518E+14	5.2359E+13	1.5473E+14	4.9947E+13
	78.63	1.6776E+14	5.3803E+13	1.6494E+14	5.5186E+13	1.6565E+14	5.2649E+13
	80.63	1.6649E+14	5.3321E+13	1.6312E+14	5.4608E+13	1.6383E+14	5.2486E+13
	82.63	1.6094E+14	5.2472E+13	1.5819E+14	5.4086E+13	1.5825E+14	5.1623E+13
	88.10	1.4910E+14	5.2397E+13	1.4604E+14	5.3916E+13	1.4678E+14	5.1450E+13
496C	**88.10**	1.3997E+14	4.9249E+13	1.3705E+14	5.0641E+13	1.3860E+14	4.8496E+13
	89.10	1.4913E+14	5.4469E+13	1.4536E+14	5.6515E+13	1.4726E+14	5.4229E+13
	91.10	1.4527E+14	5.3843E+13	1.4095E+14	5.5837E+13	1.4326E+14	5.3363E+13
	93.10	1.4204E+14	5.3250E+13	1.3733E+14	5.5155E+13	1.3882E+14	5.2936E+13
	98.10	1.3428E+14	5.4039E+13	1.2996E+14	5.5482E+13	1.3079E+14	5.3500E+13
	103.10	1.2739E+14	5.4447E+13	1.2213E+14	5.6083E+13	1.2370E+14	5.4010E+13
	103.55	1.2628E+14	5.4543E+13	1.2206E+14	5.5969E+13	1.2260E+14	5.4314E+13

Target:		KP03					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	5.5622E+14	5.0255E+14	4.5341E+14	4.0375E+14	3.5461E+14	3.0543E+14
	1	6.0484E+14	5.4983E+14	4.9606E+14	4.3937E+14	3.8399E+14	3.3316E+14
	3	5.8369E+14	5.3859E+14	4.8446E+14	4.2944E+14	3.7823E+14	3.2746E+14
	5	5.7148E+14	5.2130E+14	4.7100E+14	4.1969E+14	3.6871E+14	3.2448E+14
	10	5.3383E+14	4.9261E+14	4.4865E+14	4.0429E+14	3.5768E+14	3.1503E+14
	15	5.1713E+14	4.8122E+14	4.3906E+14	3.9971E+14	3.5705E+14	3.1460E+14
	20	5.0168E+14	4.7133E+14	4.3833E+14	4.0366E+14	3.6211E+14	3.2510E+14
	22	4.9461E+14	4.6928E+14	4.4019E+14	4.0142E+14	3.6773E+14	3.2742E+14
	24	4.9124E+14	4.7005E+14	4.4295E+14	4.1098E+14	3.7468E+14	3.3687E+14
	25.72	4.8639E+14	4.6662E+14	4.4637E+14	4.1766E+14	3.8212E+14	3.4666E+14
494	**25.72**	3.7012E+14	3.4742E+14	3.2733E+14	3.0122E+14	2.7517E+14	2.4735E+14
	26.72	3.9990E+14	3.7565E+14	3.5150E+14	3.2366E+14	2.9382E+14	2.6350E+14
	28.72	3.8737E+14	3.6566E+14	3.4646E+14	3.1694E+14	2.9023E+14	2.6159E+14
	30.72	3.7616E+14	3.5712E+14	3.3329E+14	3.1150E+14	2.8416E+14	2.5609E+14
	35.72	3.5060E+14	3.3420E+14	3.1771E+14	2.9687E+14	2.7226E+14	2.4878E+14
	40.72	3.3695E+14	3.2329E+14	3.0946E+14	2.9229E+14	2.7026E+14	2.4514E+14
	45.72	3.2765E+14	3.1992E+14	3.0872E+14	2.9325E+14	2.7612E+14	2.5432E+14
	47.72	3.2733E+14	3.2021E+14	3.0998E+14	2.9633E+14	2.8013E+14	2.5714E+14
	49.72	3.2307E+14	3.2019E+14	3.1398E+14	3.0213E+14	2.8447E+14	2.6754E+14
	51.59	3.2136E+14	3.2129E+14	3.1576E+14	3.0552E+14	2.9266E+14	2.7424E+14
495	**51.59**	2.4011E+14	2.3792E+14	2.2870E+14	2.1938E+14	2.0773E+14	1.9467E+14
	52.59	2.6197E+14	2.5589E+14	2.4795E+14	2.3732E+14	2.2270E+14	2.0731E+14
	54.59	2.5584E+14	2.4978E+14	2.4436E+14	2.3476E+14	2.2093E+14	2.0589E+14
	56.59	2.4700E+14	2.4279E+14	2.3801E+14	2.2799E+14	2.1775E+14	2.0091E+14
	61.59	2.3183E+14	2.2993E+14	2.2392E+14	2.1737E+14	2.0910E+14	1.9478E+14
	66.59	2.2371E+14	2.2267E+14	2.1873E+14	2.1316E+14	2.0558E+14	1.9384E+14
	71.59	2.1895E+14	2.2069E+14	2.2007E+14	2.1532E+14	2.0900E+14	1.9851E+14
	73.59	2.1658E+14	2.1983E+14	2.2137E+14	2.1774E+14	2.1242E+14	2.0174E+14
	75.59	2.1770E+14	2.2195E+14	2.2305E+14	2.2213E+14	2.1806E+14	2.0859E+14
	77.58	2.1366E+14	2.1950E+14	2.2181E+14	2.2413E+14	2.2020E+14	2.1266E+14
496A	**77.58**	1.5948E+14	1.6273E+14	1.6215E+14	1.6169E+14	1.5850E+14	1.5318E+14
	77.63	1.6429E+14	1.6579E+14	1.6521E+14	1.6489E+14	1.5975E+14	1.5383E+14
496B	**77.63**	1.6275E+14	1.6472E+14	1.6477E+14	1.6372E+14	1.5911E+14	1.5410E+14
	78.63	1.7277E+14	1.7427E+14	1.7422E+14	1.7222E+14	1.6879E+14	1.6119E+14
	80.63	1.7231E+14	1.7401E+14	1.7278E+14	1.7243E+14	1.6722E+14	1.6202E+14
	82.63	1.6747E+14	1.7020E+14	1.6980E+14	1.7048E+14	1.6559E+14	1.5969E+14
	88.10	1.5770E+14	1.5977E+14	1.6136E+14	1.6224E+14	1.5912E+14	1.5445E+14
496C	**88.10**	1.4914E+14	1.5006E+14	1.5318E+14	1.5297E+14	1.4989E+14	1.4534E+14
	89.10	1.5666E+14	1.5913E+14	1.6086E+14	1.6087E+14	1.5849E+14	1.5309E+14
	91.10	1.5355E+14	1.5585E+14	1.5891E+14	1.5961E+14	1.5772E+14	1.5156E+14
	93.10	1.5112E+14	1.5427E+14	1.5659E+14	1.5834E+14	1.5554E+14	1.5141E+14
	98.10	1.4633E+14	1.5020E+14	1.5522E+14	1.5808E+14	1.5771E+14	1.5386E+14
	103.10	1.4423E+14	1.5083E+14	1.5623E+14	1.6317E+14	1.6484E+14	1.6508E+14
	103.55	1.4316E+14	1.5062E+14	1.5598E+14	1.6362E+14	1.6606E+14	1.6698E+14

Target:		KP04					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	6.7231E+14	3.6602E+13	7.0157E+14	3.7533E+13	6.9877E+14	3.6093E+13
	1	7.2391E+14	4.0057E+13	7.6368E+14	4.1288E+13	7.5953E+14	3.9366E+13
	3	7.0081E+14	3.9942E+13	7.3914E+14	4.0757E+13	7.3546E+14	3.9382E+13
	5	6.7756E+14	4.0373E+13	7.0645E+14	4.1232E+13	7.0642E+14	3.9612E+13
	10	6.2201E+14	4.3234E+13	6.5055E+14	4.4150E+13	6.4438E+14	4.2529E+13
	15	5.8675E+14	4.7146E+13	6.1155E+14	4.8451E+13	6.0566E+14	4.6470E+13
	20	5.5669E+14	5.0920E+13	5.6871E+14	5.2375E+13	5.6730E+14	5.0312E+13
	22	5.3804E+14	5.2162E+13	5.5201E+14	5.3353E+13	5.5290E+14	5.1132E+13
	24	5.2995E+14	5.3264E+13	5.3721E+14	5.4781E+13	5.3717E+14	5.2618E+13
	25.72	5.1427E+14	5.3965E+13	5.2337E+14	5.5231E+13	5.1761E+14	5.3415E+13
494	**25.72**	4.0878E+14	4.3605E+13	4.1850E+14	4.4898E+13	4.1797E+14	4.2792E+13
	26.72	4.4314E+14	5.2100E+13	4.5474E+14	5.3886E+13	4.5368E+14	5.1146E+13
	28.72	4.2470E+14	5.0777E+13	4.3823E+14	5.2289E+13	4.3467E+14	4.9805E+13
	30.72	4.0963E+14	5.0211E+13	4.1913E+14	5.1383E+13	4.1841E+14	4.9271E+13
	35.72	3.7600E+14	5.0155E+13	3.8518E+14	5.1259E+13	3.8333E+14	4.9262E+13
	40.72	3.5441E+14	5.2219E+13	3.5850E+14	5.3323E+13	3.5681E+14	5.1277E+13
	45.72	3.3681E+14	5.4447E+13	3.3699E+14	5.5430E+13	3.3828E+14	5.3964E+13
	47.72	3.2894E+14	5.5207E+13	3.2774E+14	5.6375E+13	3.2955E+14	5.4891E+13
	49.72	3.2155E+14	5.6285E+13	3.1797E+14	5.7127E+13	3.2167E+14	5.5795E+13
	51.59	3.1353E+14	5.7056E+13	3.0942E+14	5.7822E+13	3.1103E+14	5.6380E+13
495	**51.59**	2.4753E+14	4.5350E+13	2.4600E+14	4.6276E+13	2.4578E+14	4.4677E+13
	52.59	2.6889E+14	5.4369E+13	2.7160E+14	5.5455E+13	2.7012E+14	5.3467E+13
	54.59	2.6249E+14	5.2834E+13	2.6253E+14	5.3975E+13	2.6195E+14	5.1644E+13
	56.59	2.5117E+14	5.1634E+13	2.5033E+14	5.2550E+13	2.5025E+14	5.0712E+13
	61.59	2.3179E+14	5.1158E+13	2.3087E+14	5.2297E+13	2.3034E+14	5.0864E+13
	66.59	2.1997E+14	5.2425E+13	2.1772E+14	5.3725E+13	2.1777E+14	5.2546E+13
	71.59	2.1091E+14	5.4845E+13	2.0741E+14	5.5700E+13	2.0747E+14	5.4841E+13
	73.59	2.0748E+14	5.5655E+13	2.0217E+14	5.6581E+13	2.0364E+14	5.5869E+13
	75.59	2.0189E+14	5.6207E+13	1.9812E+14	5.7126E+13	1.9791E+14	5.6895E+13
	77.58	1.9705E+14	5.6720E+13	1.9199E+14	5.7614E+13	1.9295E+14	5.7233E+13
496A	**77.58**	1.5358E+14	4.5023E+13	1.5120E+14	4.5653E+13	1.5172E+14	4.4728E+13
	77.63	1.5870E+14	5.0846E+13	1.5712E+14	5.1534E+13	1.5633E+14	5.0130E+13
496B	**77.63**	1.5802E+14	5.0347E+13	1.5535E+14	5.1025E+13	1.5633E+14	5.0071E+13
	78.63	1.6769E+14	5.3387E+13	1.6563E+14	5.4197E+13	1.6574E+14	5.3086E+13
	80.63	1.6726E+14	5.2936E+13	1.6398E+14	5.3844E+13	1.6432E+14	5.2665E+13
	82.63	1.6187E+14	5.1990E+13	1.5822E+14	5.2835E+13	1.5953E+14	5.1851E+13
	88.10	1.4960E+14	5.1923E+13	1.4677E+14	5.3201E+13	1.4687E+14	5.1897E+13
496C	**88.10**	1.4073E+14	4.8950E+13	1.3864E+14	4.9795E+13	1.3822E+14	4.8765E+13
	89.10	1.4948E+14	5.4638E+13	1.4664E+14	5.5682E+13	1.4689E+14	5.4354E+13
	91.10	1.4550E+14	5.3812E+13	1.4294E+14	5.5009E+13	1.4310E+14	5.3652E+13
	93.10	1.4155E+14	5.3548E+13	1.3918E+14	5.4478E+13	1.3923E+14	5.3498E+13
	98.10	1.3411E+14	5.3863E+13	1.3059E+14	5.4859E+13	1.3154E+14	5.3575E+13
	103.10	1.2737E+14	5.4357E+13	1.2310E+14	5.5475E+13	1.2419E+14	5.4308E+13
	103.55	1.2748E+14	5.4183E+13	1.2165E+14	5.5642E+13	1.2323E+14	5.4610E+13

Target:		KP05					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS Irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	5.5469E+14	5.0831E+14	4.5431E+14	4.1038E+14	3.5710E+14	3.0844E+14
	1	6.0656E+14	5.5307E+14	4.9736E+14	4.4494E+14	3.8663E+14	3.3494E+14
	3	5.8764E+14	5.3570E+14	4.8668E+14	4.3366E+14	3.7953E+14	3.3221E+14
	5	5.7079E+14	5.2220E+14	4.7323E+14	4.2475E+14	3.7450E+14	3.2498E+14
	10	5.3581E+14	4.9273E+14	4.4982E+14	4.0455E+14	3.5959E+14	3.1618E+14
	15	5.1440E+14	4.8204E+14	4.4451E+14	4.0188E+14	3.5947E+14	3.1901E+14
	20	5.0434E+14	4.7208E+14	4.3861E+14	4.0789E+14	3.6659E+14	3.2521E+14
	22	4.9584E+14	4.7039E+14	4.4068E+14	4.0336E+14	3.6764E+14	3.2886E+14
	24	4.9435E+14	4.7176E+14	4.4173E+14	4.1471E+14	3.7817E+14	3.3799E+14
	25.72	4.8685E+14	4.6781E+14	4.4772E+14	4.1826E+14	3.8489E+14	3.4728E+14
494	**25.72**	3.7142E+14	3.5017E+14	3.2980E+14	3.0268E+14	2.7577E+14	2.5062E+14
	26.72	3.9952E+14	3.7715E+14	3.5170E+14	3.2528E+14	2.9481E+14	2.6673E+14
	28.72	3.8829E+14	3.6746E+14	3.4384E+14	3.1965E+14	2.9130E+14	2.6194E+14
	30.72	3.7628E+14	3.5524E+14	3.3558E+14	3.1104E+14	2.8468E+14	2.5816E+14
	35.72	3.5057E+14	3.3545E+14	3.1762E+14	2.9747E+14	2.7364E+14	2.4727E+14
	40.72	3.3523E+14	3.2439E+14	3.0992E+14	2.8981E+14	2.7220E+14	2.4560E+14
	45.72	3.2997E+14	3.2098E+14	3.0926E+14	2.9314E+14	2.7463E+14	2.5421E+14
	47.72	3.2715E+14	3.2139E+14	3.1098E+14	3.0050E+14	2.8085E+14	2.6064E+14
	49.72	3.2512E+14	3.2202E+14	3.1624E+14	3.0387E+14	2.8611E+14	2.6851E+14
	51.59	3.2249E+14	3.1866E+14	3.1543E+14	3.0719E+14	2.9358E+14	2.7560E+14
495	**51.59**	2.4112E+14	2.3615E+14	2.2927E+14	2.2007E+14	2.0945E+14	1.9488E+14
	52.59	2.6256E+14	2.5518E+14	2.4800E+14	2.3784E+14	2.2392E+14	2.0729E+14
	54.59	2.5518E+14	2.5105E+14	2.4324E+14	2.3487E+14	2.2116E+14	2.0573E+14
	56.59	2.4890E+14	2.4341E+14	2.3883E+14	2.2898E+14	2.1751E+14	2.0237E+14
	61.59	2.3208E+14	2.2931E+14	2.2464E+14	2.1838E+14	2.1004E+14	1.9601E+14
	66.59	2.2217E+14	2.2210E+14	2.1979E+14	2.1311E+14	2.0557E+14	1.9321E+14
	71.59	2.1911E+14	2.1882E+14	2.2039E+14	2.1602E+14	2.0972E+14	1.9968E+14
	73.59	2.1786E+14	2.1977E+14	2.2104E+14	2.1801E+14	2.1245E+14	2.0247E+14
	75.59	2.1810E+14	2.2098E+14	2.2341E+14	2.2231E+14	2.1747E+14	2.0971E+14
	77.58	2.1408E+14	2.1899E+14	2.2190E+14	2.2217E+14	2.2020E+14	2.1295E+14
496A	**77.58**	1.6004E+14	1.6140E+14	1.6229E+14	1.6095E+14	1.5830E+14	1.5359E+14
	77.63	1.6450E+14	1.6473E+14	1.6601E+14	1.6312E+14	1.6132E+14	1.5390E+14
496B	**77.63**	1.6381E+14	1.6332E+14	1.6500E+14	1.6369E+14	1.5952E+14	1.5447E+14
	78.63	1.7269E+14	1.7417E+14	1.7416E+14	1.7207E+14	1.6865E+14	1.6164E+14
	80.63	1.7152E+14	1.7280E+14	1.7364E+14	1.7195E+14	1.6807E+14	1.6237E+14
	82.63	1.6759E+14	1.6939E+14	1.7040E+14	1.6898E+14	1.6723E+14	1.5966E+14
	88.10	1.5740E+14	1.5961E+14	1.6152E+14	1.6123E+14	1.5916E+14	1.5453E+14
496C	**88.10**	1.4800E+14	1.5048E+14	1.5252E+14	1.5257E+14	1.5033E+14	1.4564E+14
	89.10	1.5713E+14	1.5895E+14	1.6139E+14	1.6037E+14	1.5845E+14	1.5366E+14
	91.10	1.5379E+14	1.5611E+14	1.5887E+14	1.5871E+14	1.5706E+14	1.5324E+14
	93.10	1.5018E+14	1.5337E+14	1.5585E+14	1.5719E+14	1.5672E+14	1.5241E+14
	98.10	1.4681E+14	1.5147E+14	1.5404E+14	1.5585E+14	1.5647E+14	1.5327E+14
	103.10	1.4455E+14	1.5118E+14	1.5747E+14	1.6158E+14	1.6497E+14	1.6498E+14
	103.55	1.4303E+14	1.5122E+14	1.5757E+14	1.6233E+14	1.6551E+14	1.6503E+14

APPENDIX B. SIC LAYER TEMPERATURE

APPENDIX B. SIC LAYER TEMPERATURES

This section reports volume-averaged SiC layer temperatures from each fuel compact from the as-built/as-irradiated ANSYS model in °C as a function of irradiation time. A simplified timestep scheme was used in the ANSYS model relative to the HFIRCON neutronics analysis.

Target:		**KP01**					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS irradiation location		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	1009.4	1029.3	1023.0	1023.4	1015.2	1014.1
	1	1060.8	1083.6	1076.1	1076.9	1067.7	1067.9
	5	1053.6	1075.0	1067.6	1068.9	1059.7	1059.2
	15	1054.2	1070.3	1062.5	1061.9	1056.4	1058.1
	25.7	1061.1	1075.3	1066.1	1065.1	1061.5	1064.0
494	**25.8**	964.7	978.4	971.6	969.4	965.6	966.3
	26.7	1001.1	1016.2	1008.7	1006.6	1002.8	1004.1
	30.7	996.1	1011.5	1003.9	1002.0	998.3	998.4
	40.7	995.4	1010.4	1003.6	1000.7	998.1	997.4
	51.5	1021.6	1029.1	1018.8	1015.8	1017.1	1023.3
495	**51.6**	917.0	928.9	922.9	919.7	918.1	917.4
	52.6	955.3	967.5	961.0	957.9	955.7	955.9
	56.6	955.3	966.3	959.5	956.0	955.1	955.3
	66.6	961.5	972.5	966.0	962.0	961.6	961.9
	77.5	975.0	990.0	986.3	982.4	979.4	975.8
496A	**77.6**	876.0	887.7	882.7	878.7	877.1	875.6
496B	**78.6**	915.1	928.1	922.9	918.9	916.7	915.3
	82.5	925.9	938.9	934.3	929.9	928.0	925.9
	87.6	929.0	940.8	935.4	930.9	929.9	928.8
496C	**88.6**	916.7	928.5	923.1	918.6	917.4	916.4
	97.6	940.9	951.8	946.0	941.3	941.1	940.7
	103.4	947.5	956.3	949.4	944.6	945.5	947.4

Target:		KP02					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS irradiation location		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	599.7	559.5	606.9	559.8	600.9	548.7
	1	635.6	586.6	643.5	587.0	637.2	574.8
	5	629.1	588.6	636.3	589.1	631.0	577.2
	15	625.8	603.6	631.6	603.9	626.4	592.9
	25.7	630.0	625.4	631.7	625.0	628.8	616.9
494	**25.8**	553.5	559.4	558.3	559.8	554.1	551.1
	26.7	581.6	584.6	586.9	585.1	582.6	575.6
	30.7	578.2	586.6	583.4	587.2	579.2	577.9
	40.7	575.8	598.2	580.5	598.8	576.4	590.0
	51.5	586.6	622.0	588.7	621.8	585.4	615.1
495	**51.6**	515.8	554.4	520.8	554.9	516.9	546.7
	52.6	542.5	581.0	547.8	581.7	543.6	573.2
	56.6	540.4	582.7	545.5	583.2	541.6	575.2
	66.6	544.1	595.4	548.6	596.0	544.9	588.1
	77.5	560.2	620.6	563.7	620.8	560.2	614.6
496A	**77.6**	481.2	537.2	486.1	537.8	482.4	531.0
496B	**78.6**	509.5	568.3	514.9	569.3	510.8	560.9
	82.5	517.8	579.7	523.5	580.8	519.3	572.8
	87.6	518.8	583.8	524.6	584.9	520.5	577.0
496C	**88.6**	510.3	575.9	516.2	577.2	512.4	569.3
	97.6	525.9	596.3	531.3	597.3	527.4	590.1
	103.4	530.1	602.8	534.3	603.2	530.9	597.6

Target:		KP03					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	584.5	574.4	568.7	561.5	551.7	543.3
	1	618.8	608.1	601.1	591.8	579.9	570.5
	5	615.0	605.0	598.3	589.9	578.7	570.7
	15	617.9	610.9	606.3	601.0	592.1	584.9
	25.7	637.2	637.0	641.4	643.2	641.1	640.3
494	**25.8**	549.2	544.6	544.0	540.9	535.5	531.3
	26.7	576.4	571.4	569.7	565.9	559.1	553.7
	30.7	574.0	569.9	568.1	565.4	558.9	553.8
	40.7	574.7	571.9	572.4	571.1	566.0	561.7
	51.5	598.4	602.1	609.1	614.5	617.2	620.1
495	**51.6**	515.2	514.4	515.1	514.8	512.0	510.5
	52.6	540.6	538.6	539.2	538.1	533.7	530.9
	56.6	539.8	538.5	540.2	539.5	536.5	533.5
	66.6	543.9	543.0	544.6	544.7	542.0	540.0
	77.5	569.8	573.7	580.8	587.4	590.4	594.2
496A	**77.6**	481.8	482.1	484.6	486.3	485.6	486.2
496B	**78.6**	507.6	506.5	508.0	507.9	505.4	503.8
	82.5	515.5	514.4	515.6	515.8	512.6	511.0
	87.6	516.7	515.4	517.1	517.3	514.4	513.0
496C	**88.6**	507.4	505.8	507.3	507.0	503.7	502.0
	97.6	526.5	526.6	530.1	532.2	531.2	531.2
	103.4	537.9	541.6	548.7	555.8	559.5	564.5

Target:		KP04					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	801.1	760.3	805.3	757.2	804.2	737.6
	1	843.9	794.6	850.1	791.7	848.7	770.7
	5	837.9	797.4	842.7	794.4	842.2	774.4
	15	831.0	812.0	836.7	809.1	835.1	790.6
	25.7	838.7	837.5	840.9	833.9	840.2	819.2
494	**25.8**	746.0	755.9	749.8	753.5	749.2	738.2
	26.7	778.5	786.1	784.0	783.9	783.3	767.3
	30.7	775.0	788.8	780.6	786.5	780.0	770.6
	40.7	774.4	802.3	780.1	799.9	779.3	785.1
	51.5	790.9	830.8	794.0	827.7	794.8	815.8
495	**51.6**	703.9	745.9	707.5	743.5	707.1	731.2
	52.6	735.0	777.9	740.8	775.8	740.0	762.3
	56.6	733.3	780.6	739.7	778.6	739.2	765.3
	66.6	738.7	794.7	745.5	792.9	745.2	780.3
	77.5	760.9	825.7	766.4	822.9	767.0	812.7
496A	**77.6**	663.1	722.8	667.7	720.5	667.6	710.7
496B	**78.6**	698.4	760.8	704.1	758.8	703.6	747.2
	82.5	708.7	773.9	714.8	772.0	714.5	760.3
	87.6	710.4	778.9	717.1	777.2	716.6	765.5
496C	**88.6**	699.3	768.4	706.1	766.6	705.4	754.6
	97.6	718.4	793.6	726.4	791.8	726.4	780.7
	103.4	724.8	801.6	730.9	799.2	731.7	790.1

Target:		KP05					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS Irradiation location		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	792.7	788.2	777.0	767.4	752.0	731.8
	1	834.1	827.3	814.9	802.4	784.6	762.7
	5	830.3	824.6	813.9	802.5	786.8	765.6
	15	830.4	828.6	820.7	811.1	797.9	779.3
	25.7	856.4	861.6	862.7	861.7	856.4	843.3
494	**25.8**	749.8	749.8	745.2	738.4	728.1	713.0
	26.7	780.5	779.8	773.5	766.6	755.0	738.8
	30.7	778.6	778.1	773.0	766.4	755.6	739.5
	40.7	780.7	782.6	778.7	773.2	764.6	748.3
	51.5	812.5	820.1	823.8	826.6	824.7	815.6
495	**51.6**	710.4	713.6	711.5	708.3	701.7	688.6
	52.6	740.9	742.7	739.5	734.8	725.9	710.8
	56.6	740.9	743.2	740.5	735.9	727.5	712.7
	66.6	747.0	750.7	748.6	744.7	737.2	723.0
	77.5	780.3	788.6	792.2	795.0	794.3	786.0
496A	**77.6**	668.7	672.1	671.1	669.4	664.8	656.1
496B	**78.6**	704.1	707.8	705.9	703.0	696.5	684.0
	82.5	714.0	717.4	715.1	711.7	704.8	691.4
	87.6	715.9	719.4	717.1	713.8	706.6	693.6
496C	**88.6**	702.7	705.5	702.7	698.7	690.9	677.5
	97.6	728.3	733.3	732.2	730.5	725.1	713.2
	103.4	744.4	753.6	757.9	761.8	762.3	755.5

APPENDIX C. FAST FLUX IN HOLDERS AND TUBES

APPENDIX C. FAST FLUX IN HOLDERS AND TUBES

This section reports fast neutron flux values (E > 0.1 MeV, E> 0.15 MeV, and E > 0.2 MeV) tallied in the holder and tube of each subcapsule from the as-built/as-irradiated HFIRCON model in neutrons/cm^2/s.

Target:		**KP01 – Holder (E > 0.1 MeV)**					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.7296E+13	3.8583E+13	3.9435E+13	3.9453E+13	3.9093E+13	3.7927E+13
	1	3.9143E+13	4.0530E+13	4.1366E+13	4.1425E+13	4.0948E+13	3.9567E+13
	3	3.9124E+13	4.0388E+13	4.1307E+13	4.1369E+13	4.0812E+13	3.9474E+13
	5	3.8970E+13	4.0264E+13	4.1081E+13	4.1176E+13	4.0682E+13	3.9260E+13
	10	3.8869E+13	4.0153E+13	4.0968E+13	4.0878E+13	4.0433E+13	3.9225E+13
	15	3.9275E+13	4.0385E+13	4.1098E+13	4.1117E+13	4.0561E+13	3.9292E+13
	20	3.9560E+13	4.0625E+13	4.1289E+13	4.1134E+13	4.0822E+13	4.0101E+13
	22	3.9645E+13	4.0679E+13	4.1294E+13	4.1181E+13	4.0682E+13	3.9601E+13
	24	3.9821E+13	4.0668E+13	4.1196E+13	4.1096E+13	4.0716E+13	3.9557E+13
	25.72	3.9587E+13	4.0383E+13	4.0873E+13	4.0772E+13	4.0310E+13	3.9357E+13
494	**25.72**	3.7202E+13	3.8560E+13	3.9305E+13	3.9406E+13	3.8963E+13	3.7797E+13
	26.72	3.8989E+13	4.0315E+13	4.1132E+13	4.1173E+13	4.0600E+13	3.9487E+13
	28.72	3.9648E+13	4.0280E+13	4.1031E+13	4.1006E+13	4.0514E+13	3.9314E+13
	30.72	3.8899E+13	4.0200E+13	4.1030E+13	4.1015E+13	4.0485E+13	3.9205E+13
	35.72	3.8834E+13	4.0098E+13	4.0848E+13	4.0927E+13	4.0298E+13	3.9146E+13
	40.72	3.9097E+13	4.0308E+13	4.1048E+13	4.1002E+13	4.0352E+13	3.9189E+13
	45.72	3.9460E+13	4.0531E+13	4.1113E+13	4.1102E+13	4.0615E+13	3.9484E+13
	47.72	3.9488E+13	4.0535E+13	4.1069E+13	4.1000E+13	4.0534E+13	3.9421E+13
	49.72	3.9537E+13	4.0497E+13	4.0952E+13	4.0902E+13	4.0487E+13	3.9481E+13
	51.59	3.9553E+13	4.0321E+13	4.0812E+13	4.0749E+13	4.0394E+13	3.9337E+13
495	**51.59**	3.6998E+13	3.8235E+13	3.8997E+13	3.9123E+13	3.8697E+13	3.7640E+13
	52.59	3.8762E+13	4.0080E+13	4.0916E+13	4.0981E+13	4.0407E+13	3.9241E+13
	54.59	3.8863E+13	4.0169E+13	4.0912E+13	4.0966E+13	4.0422E+13	3.9181E+13
	56.59	3.8664E+13	4.0100E+13	4.1474E+13	4.0975E+13	4.1009E+13	3.9141E+13
	61.59	3.8564E+13	3.9879E+13	4.0621E+13	4.0675E+13	4.0171E+13	3.9087E+13
	66.59	3.8880E+13	4.0204E+13	4.0844E+13	4.0885E+13	4.0339E+13	3.9226E+13
	71.59	3.9463E+13	4.0617E+13	4.1189E+13	4.1225E+13	4.0685E+13	3.9610E+13
	73.59	3.9546E+13	4.0559E+13	4.1052E+13	4.1102E+13	4.0565E+13	3.9449E+13
	75.59	3.9522E+13	4.0548E+13	4.1001E+13	4.0966E+13	4.0441E+13	3.9444E+13
	77.58	3.9636E+13	4.0594E+13	4.0997E+13	4.0950E+13	4.0483E+13	3.9580E+13
496A	**77.58**	3.6681E+13	3.7955E+13	3.8749E+13	3.8875E+13	3.8444E+13	3.7437E+13
	77.63	3.6937E+13	3.8270E+13	3.9021E+13	3.9165E+13	3.8732E+13	3.7701E+13
496B	**77.63**	3.6777E+13	3.7954E+13	3.8713E+13	3.8916E+13	3.8530E+13	3.7493E+13
	78.63	3.8511E+13	3.9880E+13	4.0617E+13	4.0660E+13	4.0225E+13	3.9060E+13
	80.63	3.8734E+13	4.0036E+13	4.0870E+13	4.0908E+13	4.0350E+13	3.9115E+13
	82.63	3.8749E+13	4.0046E+13	4.0748E+13	4.0762E+13	4.0217E+13	3.9096E+13
	88.10	3.8576E+13	3.9865E+13	4.0482E+13	4.0579E+13	4.0080E+13	3.8950E+13
496C	**88.10**	3.7372E+13	3.8786E+13	3.9458E+13	3.9449E+13	3.9104E+13	3.7878E+13
	89.10	3.8738E+13	4.0210E+13	4.0874E+13	4.0934E+13	4.0440E+13	3.9224E+13
	91.10	3.8835E+13	4.0149E+13	4.0867E+13	4.0950E+13	4.0348E+13	3.9185E+13
	93.10	3.8687E+13	4.0016E+13	4.0619E+13	4.0728E+13	4.0107E+13	3.8916E+13
	98.10	3.8418E+13	3.9481E+13	4.0107E+13	4.0145E+13	3.9594E+13	3.8563E+13
	103.10	3.7855E+13	3.8647E+13	3.9099E+13	3.9086E+13	3.8690E+13	3.7712E+13
	103.55	3.7696E+13	3.8587E+13	3.8974E+13	3.8945E+13	3.8533E+13	3.7610E+13

Target:		KP01 – Holder (E > 0.15 MeV)					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.4905E+13	3.6092E+13	3.6903E+13	3.6905E+13	3.6581E+13	3.5476E+13
	1	3.6645E+13	3.7922E+13	3.8697E+13	3.8755E+13	3.8308E+13	3.7007E+13
	3	3.6614E+13	3.7806E+13	3.8663E+13	3.8702E+13	3.8196E+13	3.6947E+13
	5	3.6458E+13	3.7655E+13	3.8440E+13	3.8536E+13	3.8061E+13	3.6726E+13
	10	3.6367E+13	3.7569E+13	3.8332E+13	3.8237E+13	3.7834E+13	3.6696E+13
	15	3.6757E+13	3.7770E+13	3.8437E+13	3.8450E+13	3.7952E+13	3.6776E+13
	20	3.7011E+13	3.8002E+13	3.8609E+13	3.8492E+13	3.8187E+13	3.7560E+13
	22	3.7119E+13	3.8059E+13	3.8634E+13	3.8521E+13	3.8043E+13	3.7048E+13
	24	3.7253E+13	3.8030E+13	3.8534E+13	3.8466E+13	3.8106E+13	3.6986E+13
	25.72	3.7040E+13	3.7770E+13	3.8237E+13	3.8131E+13	3.7734E+13	3.6802E+13
494	**25.72**	3.4813E+13	3.6084E+13	3.6795E+13	3.6865E+13	3.6442E+13	3.5360E+13
	26.72	3.6491E+13	3.7704E+13	3.8486E+13	3.8513E+13	3.7964E+13	3.6937E+13
	28.72	3.7090E+13	3.7683E+13	3.8377E+13	3.8366E+13	3.7891E+13	3.6782E+13
	30.72	3.6407E+13	3.7587E+13	3.8372E+13	3.8358E+13	3.7903E+13	3.6681E+13
	35.72	3.6333E+13	3.7512E+13	3.8217E+13	3.8286E+13	3.7684E+13	3.6617E+13
	40.72	3.6552E+13	3.7692E+13	3.8399E+13	3.8351E+13	3.7744E+13	3.6658E+13
	45.72	3.6902E+13	3.7915E+13	3.8443E+13	3.8423E+13	3.8004E+13	3.6924E+13
	47.72	3.6953E+13	3.7902E+13	3.8413E+13	3.8360E+13	3.7920E+13	3.6865E+13
	49.72	3.6979E+13	3.7884E+13	3.8304E+13	3.8271E+13	3.7855E+13	3.6936E+13
	51.59	3.6993E+13	3.7711E+13	3.8155E+13	3.8110E+13	3.7768E+13	3.6784E+13
495	**51.59**	3.4608E+13	3.5780E+13	3.6465E+13	3.6592E+13	3.6194E+13	3.5203E+13
	52.59	3.6248E+13	3.7470E+13	3.8260E+13	3.8337E+13	3.7804E+13	3.6701E+13
	54.59	3.6352E+13	3.7563E+13	3.8262E+13	3.8311E+13	3.7816E+13	3.6660E+13
	56.59	3.6163E+13	3.7506E+13	3.8814E+13	3.8330E+13	3.8406E+13	3.6608E+13
	61.59	3.6083E+13	3.7313E+13	3.7991E+13	3.8037E+13	3.7590E+13	3.6540E+13
	66.59	3.6353E+13	3.7609E+13	3.8197E+13	3.8261E+13	3.7719E+13	3.6680E+13
	71.59	3.6896E+13	3.7957E+13	3.8510E+13	3.8541E+13	3.8050E+13	3.7059E+13
	73.59	3.6998E+13	3.7941E+13	3.8392E+13	3.8440E+13	3.7932E+13	3.6875E+13
	75.59	3.6962E+13	3.7920E+13	3.8355E+13	3.8325E+13	3.7826E+13	3.6887E+13
	77.58	3.7072E+13	3.7965E+13	3.8352E+13	3.8291E+13	3.7839E+13	3.7001E+13
496A	**77.58**	3.4306E+13	3.5509E+13	3.6229E+13	3.6349E+13	3.5944E+13	3.5025E+13
	77.63	3.4540E+13	3.5775E+13	3.6478E+13	3.6610E+13	3.6214E+13	3.5253E+13
496B	**77.63**	3.4401E+13	3.5509E+13	3.6215E+13	3.6386E+13	3.6043E+13	3.5065E+13
	78.63	3.6015E+13	3.7295E+13	3.7987E+13	3.8029E+13	3.7603E+13	3.6512E+13
	80.63	3.6225E+13	3.7432E+13	3.8224E+13	3.8248E+13	3.7748E+13	3.6589E+13
	82.63	3.6227E+13	3.7461E+13	3.8125E+13	3.8120E+13	3.7609E+13	3.6545E+13
	88.10	3.6093E+13	3.7283E+13	3.7876E+13	3.7937E+13	3.7475E+13	3.6428E+13
496C	**88.10**	3.4942E+13	3.6275E+13	3.6909E+13	3.6897E+13	3.6559E+13	3.5432E+13
	89.10	3.6227E+13	3.7595E+13	3.8238E+13	3.8289E+13	3.7805E+13	3.6682E+13
	91.10	3.6319E+13	3.7545E+13	3.8221E+13	3.8307E+13	3.7735E+13	3.6655E+13
	93.10	3.6152E+13	3.7422E+13	3.7999E+13	3.8093E+13	3.7509E+13	3.6393E+13
	98.10	3.5920E+13	3.6914E+13	3.7505E+13	3.7546E+13	3.7027E+13	3.6057E+13
	103.10	3.5408E+13	3.6143E+13	3.6556E+13	3.6542E+13	3.6181E+13	3.5255E+13
	103.55	3.5254E+13	3.6085E+13	3.6456E+13	3.6425E+13	3.6034E+13	3.5184E+13

Target:		KP01 – Holder (E > 0.2 MeV)					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.3293E+13	3.4423E+13	3.5208E+13	3.5195E+13	3.4897E+13	3.3839E+13
	1	3.4953E+13	3.6176E+13	3.6916E+13	3.6969E+13	3.6544E+13	3.5289E+13
	3	3.4915E+13	3.6053E+13	3.6874E+13	3.6919E+13	3.6434E+13	3.5230E+13
	5	3.4761E+13	3.5907E+13	3.6672E+13	3.6750E+13	3.6299E+13	3.5005E+13
	10	3.4704E+13	3.5836E+13	3.6567E+13	3.6457E+13	3.6082E+13	3.5001E+13
	15	3.5061E+13	3.6037E+13	3.6674E+13	3.6672E+13	3.6197E+13	3.5060E+13
	20	3.5314E+13	3.6240E+13	3.6804E+13	3.6710E+13	3.6421E+13	3.5828E+13
	22	3.5405E+13	3.6291E+13	3.6856E+13	3.6720E+13	3.6280E+13	3.5342E+13
	24	3.5535E+13	3.6257E+13	3.6736E+13	3.6676E+13	3.6336E+13	3.5266E+13
	25.72	3.5316E+13	3.6012E+13	3.6482E+13	3.6369E+13	3.5970E+13	3.5103E+13
494	**25.72**	3.3204E+13	3.4400E+13	3.5093E+13	3.5157E+13	3.4754E+13	3.3716E+13
	26.72	3.4791E+13	3.5966E+13	3.6701E+13	3.6726E+13	3.6188E+13	3.5226E+13
	28.72	3.5399E+13	3.5944E+13	3.6600E+13	3.6582E+13	3.6144E+13	3.5069E+13
	30.72	3.4716E+13	3.5858E+13	3.6596E+13	3.6580E+13	3.6146E+13	3.4954E+13
	35.72	3.4653E+13	3.5775E+13	3.6434E+13	3.6493E+13	3.5938E+13	3.4903E+13
	40.72	3.4845E+13	3.5940E+13	3.6619E+13	3.6571E+13	3.5986E+13	3.4952E+13
	45.72	3.5199E+13	3.6134E+13	3.6676E+13	3.6637E+13	3.6243E+13	3.5192E+13
	47.72	3.5227E+13	3.6143E+13	3.6634E+13	3.6575E+13	3.6156E+13	3.5156E+13
	49.72	3.5254E+13	3.6125E+13	3.6515E+13	3.6469E+13	3.6092E+13	3.5226E+13
	51.59	3.5279E+13	3.5962E+13	3.6382E+13	3.6346E+13	3.6013E+13	3.5067E+13
495	**51.59**	3.2995E+13	3.4105E+13	3.4770E+13	3.4893E+13	3.4506E+13	3.3556E+13
	52.59	3.4558E+13	3.5728E+13	3.6497E+13	3.6547E+13	3.6048E+13	3.4991E+13
	54.59	3.4648E+13	3.5801E+13	3.6493E+13	3.6534E+13	3.6068E+13	3.4960E+13
	56.59	3.4473E+13	3.5767E+13	3.7003E+13	3.6545E+13	3.6658E+13	3.4902E+13
	61.59	3.4419E+13	3.5580E+13	3.6230E+13	3.6262E+13	3.5835E+13	3.4821E+13
	66.59	3.4668E+13	3.5861E+13	3.6412E+13	3.6484E+13	3.5942E+13	3.4967E+13
	71.59	3.5173E+13	3.6195E+13	3.6721E+13	3.6754E+13	3.6266E+13	3.5354E+13
	73.59	3.5254E+13	3.6160E+13	3.6607E+13	3.6664E+13	3.6159E+13	3.5155E+13
	75.59	3.5245E+13	3.6158E+13	3.6572E+13	3.6533E+13	3.6070E+13	3.5172E+13
	77.58	3.5347E+13	3.6187E+13	3.6569E+13	3.6513E+13	3.6070E+13	3.5258E+13
496A	**77.58**	3.2698E+13	3.3854E+13	3.4534E+13	3.4653E+13	3.4271E+13	3.3383E+13
	77.63	3.2946E+13	3.4133E+13	3.4781E+13	3.4905E+13	3.4532E+13	3.3596E+13
496B	**77.63**	3.2810E+13	3.3860E+13	3.4534E+13	3.4685E+13	3.4360E+13	3.3422E+13
	78.63	3.4338E+13	3.5565E+13	3.6212E+13	3.6259E+13	3.5844E+13	3.4818E+13
	80.63	3.4533E+13	3.5675E+13	3.6447E+13	3.6460E+13	3.6005E+13	3.4877E+13
	82.63	3.4549E+13	3.5703E+13	3.6343E+13	3.6341E+13	3.5872E+13	3.4848E+13
	88.10	3.4413E+13	3.5540E+13	3.6110E+13	3.6175E+13	3.5742E+13	3.4731E+13
496C	**88.10**	3.3324E+13	3.4598E+13	3.5173E+13	3.5170E+13	3.4859E+13	3.3782E+13
	89.10	3.4532E+13	3.5847E+13	3.6448E+13	3.6508E+13	3.6051E+13	3.4975E+13
	91.10	3.4621E+13	3.5788E+13	3.6453E+13	3.6538E+13	3.5981E+13	3.4951E+13
	93.10	3.4457E+13	3.5672E+13	3.6227E+13	3.6306E+13	3.5774E+13	3.4687E+13
	98.10	3.4243E+13	3.5201E+13	3.5761E+13	3.5799E+13	3.5314E+13	3.4373E+13
	103.10	3.3748E+13	3.4456E+13	3.4862E+13	3.4836E+13	3.4498E+13	3.3608E+13
	103.55	3.3626E+13	3.4404E+13	3.4740E+13	3.4730E+13	3.4355E+13	3.3543E+13

Target:		KP01 – Tube (E > 0.1 MeV)					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.7556E+13	3.8815E+13	3.9548E+13	3.9535E+13	3.9122E+13	3.7829E+13
	1	3.9437E+13	4.0765E+13	4.1510E+13	4.1384E+13	4.0806E+13	3.9365E+13
	3	3.9452E+13	4.0522E+13	4.1443E+13	4.1367E+13	4.0772E+13	3.9459E+13
	5	3.9257E+13	4.0524E+13	4.1142E+13	4.1268E+13	4.0674E+13	3.9180E+13
	10	3.9128E+13	4.0379E+13	4.1129E+13	4.0915E+13	4.0380E+13	3.9131E+13
	15	3.9528E+13	4.0597E+13	4.1211E+13	4.1251E+13	4.0617E+13	3.9205E+13
	20	3.9794E+13	4.0824E+13	4.1452E+13	4.1333E+13	4.0798E+13	4.0101E+13
	22	3.9932E+13	4.0808E+13	4.1514E+13	4.1260E+13	4.0635E+13	3.9609E+13
	24	3.9995E+13	4.0936E+13	4.1297E+13	4.1223E+13	4.0766E+13	3.9481E+13
	25.72	3.9902E+13	4.0541E+13	4.0958E+13	4.0787E+13	4.0297E+13	3.9286E+13
494	**25.72**	3.7466E+13	3.8792E+13	3.9414E+13	3.9486E+13	3.8944E+13	3.7693E+13
	26.72	3.9292E+13	4.0587E+13	4.1267E+13	4.1169E+13	4.0636E+13	3.9306E+13
	28.72	4.0008E+13	4.0506E+13	4.1108E+13	4.1062E+13	4.0475E+13	3.9177E+13
	30.72	3.9123E+13	4.0470E+13	4.1158E+13	4.1092E+13	4.0374E+13	3.9060E+13
	35.72	3.9040E+13	4.0419E+13	4.0978E+13	4.1016E+13	4.0240E+13	3.8970E+13
	40.72	3.9323E+13	4.0538E+13	4.1065E+13	4.1010E+13	4.0354E+13	3.9129E+13
	45.72	3.9750E+13	4.0774E+13	4.1255E+13	4.1086E+13	4.0587E+13	3.9353E+13
	47.72	3.9770E+13	4.0738E+13	4.1144E+13	4.1056E+13	4.0617E+13	3.9276E+13
	49.72	3.9726E+13	4.0615E+13	4.1082E+13	4.0957E+13	4.0477E+13	3.9427E+13
	51.59	3.9759E+13	4.0530E+13	4.0947E+13	4.0900E+13	4.0451E+13	3.9281E+13
495	**51.59**	3.7348E+13	3.8407E+13	3.9164E+13	3.9191E+13	3.8656E+13	3.7622E+13
	52.59	3.9063E+13	4.0341E+13	4.1074E+13	4.1015E+13	4.0371E+13	3.9112E+13
	54.59	3.9131E+13	4.0474E+13	4.1135E+13	4.1076E+13	4.0403E+13	3.9085E+13
	56.59	3.8976E+13	4.0394E+13	4.1383E+13	4.1079E+13	4.0884E+13	3.9060E+13
	61.59	3.8790E+13	4.0146E+13	4.0658E+13	4.0666E+13	4.0151E+13	3.8946E+13
	66.59	3.9098E+13	4.0450E+13	4.0848E+13	4.1031E+13	4.0270E+13	3.9037E+13
	71.59	3.9791E+13	4.0815E+13	4.1398E+13	4.1290E+13	4.0643E+13	3.9437E+13
	73.59	3.9751E+13	4.0709E+13	4.1123E+13	4.1164E+13	4.0518E+13	3.9378E+13
	75.59	3.9750E+13	4.0813E+13	4.1023E+13	4.1022E+13	4.0431E+13	3.9378E+13
	77.58	3.9864E+13	4.0792E+13	4.1164E+13	4.1092E+13	4.0473E+13	3.9568E+13
496A	**77.58**	3.6822E+13	3.8165E+13	3.8860E+13	3.9027E+13	3.8361E+13	3.7331E+13
	77.63	3.7240E+13	3.8376E+13	3.9218E+13	3.9336E+13	3.8749E+13	3.7635E+13
496B	**77.63**	3.7047E+13	3.8202E+13	3.8847E+13	3.9008E+13	3.8594E+13	3.7358E+13
	78.63	3.8846E+13	4.0128E+13	4.0712E+13	4.0796E+13	4.0242E+13	3.9006E+13
	80.63	3.9021E+13	4.0251E+13	4.0987E+13	4.1015E+13	4.0369E+13	3.9094E+13
	82.63	3.9074E+13	4.0272E+13	4.0811E+13	4.0870E+13	4.0219E+13	3.8892E+13
	88.10	3.8807E+13	4.0197E+13	4.0648E+13	4.0597E+13	4.0076E+13	3.8890E+13
496C	**88.10**	3.7688E+13	3.9087E+13	3.9680E+13	3.9650E+13	3.9095E+13	3.7746E+13
	89.10	3.9071E+13	4.0403E+13	4.0976E+13	4.0953E+13	4.0444E+13	3.9250E+13
	91.10	3.9172E+13	4.0395E+13	4.0934E+13	4.0931E+13	4.0350E+13	3.9067E+13
	93.10	3.9059E+13	4.0322E+13	4.0745E+13	4.0815E+13	4.0143E+13	3.8786E+13
	98.10	3.8732E+13	3.9772E+13	4.0371E+13	4.0236E+13	3.9614E+13	3.8454E+13
	103.10	3.7988E+13	3.8867E+13	3.9156E+13	3.9231E+13	3.8649E+13	3.7589E+13
	103.55	3.7920E+13	3.8779E+13	3.9091E+13	3.9029E+13	3.8493E+13	3.7584E+13

Target:		KP01 – Tube (E > 0.15 MeV)					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.5138E+13	3.6272E+13	3.6995E+13	3.6974E+13	3.6630E+13	3.5380E+13
	1	3.6867E+13	3.8145E+13	3.8793E+13	3.8688E+13	3.8172E+13	3.6805E+13
	3	3.6920E+13	3.7924E+13	3.8791E+13	3.8685E+13	3.8153E+13	3.6969E+13
	5	3.6704E+13	3.7889E+13	3.8492E+13	3.8604E+13	3.8031E+13	3.6653E+13
	10	3.6593E+13	3.7747E+13	3.8459E+13	3.8264E+13	3.7761E+13	3.6608E+13
	15	3.6988E+13	3.7963E+13	3.8505E+13	3.8576E+13	3.7971E+13	3.6673E+13
	20	3.7199E+13	3.8200E+13	3.8719E+13	3.8671E+13	3.8135E+13	3.7563E+13
	22	3.7408E+13	3.8182E+13	3.8831E+13	3.8604E+13	3.7974E+13	3.7039E+13
	24	3.7403E+13	3.8278E+13	3.8599E+13	3.8580E+13	3.8152E+13	3.6901E+13
	25.72	3.7338E+13	3.7891E+13	3.8312E+13	3.8144E+13	3.7693E+13	3.6721E+13
494	**25.72**	3.5038E+13	3.6275E+13	3.6877E+13	3.6927E+13	3.6415E+13	3.5258E+13
	26.72	3.6777E+13	3.7924E+13	3.8592E+13	3.8503E+13	3.8000E+13	3.6776E+13
	28.72	3.7449E+13	3.7859E+13	3.8421E+13	3.8398E+13	3.7825E+13	3.6655E+13
	30.72	3.6625E+13	3.7831E+13	3.8477E+13	3.8416E+13	3.7770E+13	3.6527E+13
	35.72	3.6538E+13	3.7808E+13	3.8343E+13	3.8355E+13	3.7635E+13	3.6444E+13
	40.72	3.6766E+13	3.7920E+13	3.8423E+13	3.8336E+13	3.7750E+13	3.6578E+13
	45.72	3.7167E+13	3.8142E+13	3.8579E+13	3.8428E+13	3.7965E+13	3.6811E+13
	47.72	3.7196E+13	3.8069E+13	3.8492E+13	3.8415E+13	3.7975E+13	3.6719E+13
	49.72	3.7139E+13	3.7987E+13	3.8420E+13	3.8307E+13	3.7846E+13	3.6894E+13
	51.59	3.7184E+13	3.7906E+13	3.8294E+13	3.8256E+13	3.7808E+13	3.6728E+13
495	**51.59**	3.4927E+13	3.5920E+13	3.6606E+13	3.6654E+13	3.6117E+13	3.5183E+13
	52.59	3.6521E+13	3.7694E+13	3.8423E+13	3.8363E+13	3.7773E+13	3.6591E+13
	54.59	3.6589E+13	3.7826E+13	3.8467E+13	3.8395E+13	3.7784E+13	3.6561E+13
	56.59	3.6469E+13	3.7781E+13	3.8692E+13	3.8432E+13	3.8271E+13	3.6511E+13
	61.59	3.6299E+13	3.7542E+13	3.8019E+13	3.8017E+13	3.7544E+13	3.6413E+13
	66.59	3.6563E+13	3.7821E+13	3.8217E+13	3.8371E+13	3.7649E+13	3.6507E+13
	71.59	3.7181E+13	3.8127E+13	3.8692E+13	3.8581E+13	3.7999E+13	3.6878E+13
	73.59	3.7171E+13	3.8091E+13	3.8439E+13	3.8485E+13	3.7876E+13	3.6804E+13
	75.59	3.7165E+13	3.8166E+13	3.8378E+13	3.8392E+13	3.7832E+13	3.6794E+13
	77.58	3.7250E+13	3.8145E+13	3.8505E+13	3.8383E+13	3.7817E+13	3.6992E+13
496A	**77.58**	3.4404E+13	3.5696E+13	3.6339E+13	3.6466E+13	3.5872E+13	3.4922E+13
	77.63	3.4810E+13	3.5876E+13	3.6631E+13	3.6761E+13	3.6240E+13	3.5208E+13
496B	**77.63**	3.4635E+13	3.5728E+13	3.6335E+13	3.6481E+13	3.6076E+13	3.4921E+13
	78.63	3.6327E+13	3.7542E+13	3.8071E+13	3.8144E+13	3.7621E+13	3.6457E+13
	80.63	3.6501E+13	3.7613E+13	3.8336E+13	3.8357E+13	3.7753E+13	3.6554E+13
	82.63	3.6532E+13	3.7666E+13	3.8176E+13	3.8196E+13	3.7581E+13	3.6358E+13
	88.10	3.6289E+13	3.7563E+13	3.7998E+13	3.7960E+13	3.7475E+13	3.6372E+13
496C	**88.10**	3.5235E+13	3.6555E+13	3.7081E+13	3.7075E+13	3.6523E+13	3.5289E+13
	89.10	3.6540E+13	3.7774E+13	3.8331E+13	3.8295E+13	3.7797E+13	3.6704E+13
	91.10	3.6629E+13	3.7775E+13	3.8288E+13	3.8277E+13	3.7715E+13	3.6540E+13
	93.10	3.6512E+13	3.7709E+13	3.8094E+13	3.8171E+13	3.7522E+13	3.6253E+13
	98.10	3.6203E+13	3.7197E+13	3.7747E+13	3.7614E+13	3.7031E+13	3.5936E+13
	103.10	3.5542E+13	3.6340E+13	3.6602E+13	3.6651E+13	3.6144E+13	3.5143E+13
	103.55	3.5442E+13	3.6256E+13	3.6557E+13	3.6500E+13	3.5974E+13	3.5166E+13

Target:		KP01 – Tube (E > 0.2 MeV)					
Subcapsule ID:		KP121	KP122	KP123	KP124	KP125	KP126
RAS Irradiation location:		121	122	123	124	125	126
Fuel:		LEUCO	$LEUO_2$	LEUCO	$LEUO_2$	LEUCO	$LEUO_2$
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.3513E+13	3.4608E+13	3.5292E+13	3.5250E+13	3.4936E+13	3.3734E+13
	1	3.5179E+13	3.6386E+13	3.6992E+13	3.6907E+13	3.6405E+13	3.5105E+13
	3	3.5220E+13	3.6171E+13	3.6999E+13	3.6911E+13	3.6383E+13	3.5266E+13
	5	3.4991E+13	3.6134E+13	3.6713E+13	3.6817E+13	3.6264E+13	3.4930E+13
	10	3.4920E+13	3.6002E+13	3.6710E+13	3.6484E+13	3.6017E+13	3.4907E+13
	15	3.5297E+13	3.6218E+13	3.6721E+13	3.6786E+13	3.6222E+13	3.4960E+13
	20	3.5494E+13	3.6425E+13	3.6899E+13	3.6886E+13	3.6367E+13	3.5831E+13
	22	3.5698E+13	3.6426E+13	3.7019E+13	3.6785E+13	3.6213E+13	3.5334E+13
	24	3.5691E+13	3.6484E+13	3.6827E+13	3.6803E+13	3.6401E+13	3.5214E+13
	25.72	3.5612E+13	3.6137E+13	3.6564E+13	3.6408E+13	3.5927E+13	3.5028E+13
494	**25.72**	3.3419E+13	3.4585E+13	3.5214E+13	3.5221E+13	3.4734E+13	3.3620E+13
	26.72	3.5074E+13	3.6173E+13	3.6817E+13	3.6714E+13	3.6222E+13	3.5067E+13
	28.72	3.5773E+13	3.6090E+13	3.6661E+13	3.6628E+13	3.6093E+13	3.4931E+13
	30.72	3.4941E+13	3.6115E+13	3.6694E+13	3.6624E+13	3.6013E+13	3.4812E+13
	35.72	3.4864E+13	3.6053E+13	3.6556E+13	3.6570E+13	3.5893E+13	3.4756E+13
	40.72	3.5025E+13	3.6173E+13	3.6629E+13	3.6537E+13	3.5994E+13	3.4875E+13
	45.72	3.5452E+13	3.6377E+13	3.6810E+13	3.6636E+13	3.6211E+13	3.5079E+13
	47.72	3.5449E+13	3.6298E+13	3.6724E+13	3.6622E+13	3.6209E+13	3.5034E+13
	49.72	3.5417E+13	3.6223E+13	3.6643E+13	3.6508E+13	3.6097E+13	3.5177E+13
	51.59	3.5473E+13	3.6151E+13	3.6527E+13	3.6487E+13	3.6051E+13	3.5013E+13
495	**51.59**	3.3304E+13	3.4256E+13	3.4916E+13	3.4965E+13	3.4460E+13	3.3532E+13
	52.59	3.4823E+13	3.5949E+13	3.6658E+13	3.6576E+13	3.6029E+13	3.4879E+13
	54.59	3.4890E+13	3.6044E+13	3.6670E+13	3.6589E+13	3.6044E+13	3.4854E+13
	56.59	3.4754E+13	3.6033E+13	3.6900E+13	3.6642E+13	3.6533E+13	3.4832E+13
	61.59	3.4622E+13	3.5792E+13	3.6260E+13	3.6239E+13	3.5798E+13	3.4727E+13
	66.59	3.4865E+13	3.6063E+13	3.6434E+13	3.6592E+13	3.5860E+13	3.4804E+13
	71.59	3.5475E+13	3.6358E+13	3.6880E+13	3.6810E+13	3.6214E+13	3.5159E+13
	73.59	3.5415E+13	3.6286E+13	3.6640E+13	3.6721E+13	3.6119E+13	3.5111E+13
	75.59	3.5439E+13	3.6404E+13	3.6592E+13	3.6591E+13	3.6082E+13	3.5083E+13
	77.58	3.5536E+13	3.6351E+13	3.6727E+13	3.6612E+13	3.6038E+13	3.5261E+13
496A	**77.58**	3.2771E+13	3.4047E+13	3.4644E+13	3.4752E+13	3.4200E+13	3.3284E+13
	77.63	3.3206E+13	3.4214E+13	3.4923E+13	3.5049E+13	3.4574E+13	3.3563E+13
496B	**77.63**	3.3029E+13	3.4063E+13	3.4666E+13	3.4766E+13	3.4414E+13	3.3284E+13
	78.63	3.4629E+13	3.5810E+13	3.6301E+13	3.6384E+13	3.5886E+13	3.4788E+13
	80.63	3.4797E+13	3.5878E+13	3.6556E+13	3.6555E+13	3.6001E+13	3.4840E+13
	82.63	3.4830E+13	3.5912E+13	3.6393E+13	3.6422E+13	3.5858E+13	3.4685E+13
	88.10	3.4616E+13	3.5794E+13	3.6229E+13	3.6221E+13	3.5741E+13	3.4685E+13
496C	**88.10**	3.3626E+13	3.4876E+13	3.5342E+13	3.5325E+13	3.4811E+13	3.3651E+13
	89.10	3.4821E+13	3.6042E+13	3.6531E+13	3.6537E+13	3.6047E+13	3.4990E+13
	91.10	3.4931E+13	3.6037E+13	3.6519E+13	3.6529E+13	3.5942E+13	3.4852E+13
	93.10	3.4806E+13	3.5961E+13	3.6341E+13	3.6408E+13	3.5773E+13	3.4549E+13
	98.10	3.4522E+13	3.5477E+13	3.5976E+13	3.5871E+13	3.5313E+13	3.4271E+13
	103.10	3.3900E+13	3.4666E+13	3.4903E+13	3.4961E+13	3.4471E+13	3.3501E+13
	103.55	3.3820E+13	3.4583E+13	3.4832E+13	3.4815E+13	3.4301E+13	3.3530E+13

Target:		KP02 – Holder (E > 0.1 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.5930E+13	4.7257E+13	4.8560E+13	4.8514E+13	4.8097E+13	4.6409E+13
	1	4.7985E+13	4.9727E+13	5.1038E+13	5.0838E+13	5.0439E+13	4.8421E+13
	3	4.8073E+13	4.9734E+13	5.1675E+13	5.0725E+13	5.0268E+13	4.8276E+13
	5	4.7864E+13	4.9504E+13	5.0798E+13	5.0615E+13	5.0069E+13	4.8124E+13
	10	4.7797E+13	4.9352E+13	5.0529E+13	5.0346E+13	4.9885E+13	4.8048E+13
	15	4.8207E+13	4.9543E+13	5.0716E+13	5.0497E+13	5.0050E+13	4.8155E+13
	20	4.8575E+13	4.9761E+13	5.0854E+13	5.0613E+13	5.0171E+13	4.8392E+13
	22	4.8804E+13	4.9939E+13	5.1422E+13	5.0697E+13	5.0118E+13	4.8437E+13
	24	4.8859E+13	4.9858E+13	5.0753E+13	5.0389E+13	4.9978E+13	4.8458E+13
	25.72	4.8686E+13	4.9614E+13	5.0296E+13	5.0028E+13	4.9728E+13	4.8106E+13
494	**25.72**	4.5765E+13	4.7334E+13	4.8515E+13	4.8599E+13	4.8029E+13	4.6403E+13
	26.72	4.7997E+13	4.9706E+13	5.0834E+13	5.0859E+13	5.0091E+13	4.8343E+13
	28.72	4.8013E+13	4.9585E+13	5.0653E+13	5.0637E+13	5.0026E+13	4.8205E+13
	30.72	4.7860E+13	4.9487E+13	5.0591E+13	5.0477E+13	4.9970E+13	4.8123E+13
	35.72	4.7704E+13	4.9251E+13	5.0373E+13	5.0399E+13	4.9704E+13	4.7985E+13
	40.72	4.8077E+13	4.9670E+13	5.0614E+13	5.0538E+13	4.9806E+13	4.8174E+13
	45.72	4.8533E+13	4.9903E+13	5.0689E+13	5.0711E+13	4.9932E+13	4.8366E+13
	47.72	4.8595E+13	4.9885E+13	5.0684E+13	5.0551E+13	4.9958E+13	4.8447E+13
	49.72	4.8605E+13	4.9699E+13	5.0477E+13	5.0391E+13	4.9785E+13	4.8353E+13
	51.59	4.8499E+13	4.9634E+13	5.0249E+13	5.0111E+13	4.9724E+13	4.8353E+13
495	**51.59**	4.5445E+13	4.7096E+13	4.8162E+13	4.8308E+13	4.7722E+13	4.6277E+13
	52.59	4.7770E+13	4.9414E+13	5.0462E+13	5.0554E+13	4.9950E+13	4.8237E+13
	54.59	4.7844E+13	4.9541E+13	5.0552E+13	5.0644E+13	4.9912E+13	4.8192E+13
	56.59	4.7612E+13	4.9346E+13	5.0450E+13	5.0476E+13	4.9788E+13	4.8173E+13
	61.59	4.7520E+13	4.9124E+13	5.0132E+13	5.0148E+13	4.9522E+13	4.7903E+13
	66.59	4.7790E+13	4.9428E+13	5.0421E+13	5.0384E+13	4.9760E+13	4.8138E+13
	71.59	4.8560E+13	5.0073E+13	5.0761E+13	5.0750E+13	5.0089E+13	4.8649E+13
	73.59	4.8588E+13	4.9924E+13	5.0662E+13	5.0669E+13	4.9963E+13	4.8516E+13
	75.59	4.8696E+13	5.0020E+13	5.0521E+13	5.0438E+13	4.9893E+13	4.8487E+13
	77.58	4.8717E+13	4.9870E+13	5.0491E+13	5.0415E+13	4.9811E+13	4.8495E+13
496A	**77.58**	4.5189E+13	4.6802E+13	4.7768E+13	4.7936E+13	4.7372E+13	4.6096E+13
	77.63	4.5478E+13	4.7220E+13	4.8254E+13	4.8372E+13	4.7677E+13	4.6340E+13
496B	**77.63**	4.5184E+13	4.6833E+13	4.7881E+13	4.8134E+13	4.7511E+13	4.6096E+13
	78.63	4.7432E+13	4.9246E+13	5.0137E+13	5.0411E+13	4.9656E+13	4.7986E+13
	80.63	4.7685E+13	4.9476E+13	5.0447E+13	5.0596E+13	4.9775E+13	4.8131E+13
	82.63	4.7662E+13	4.9392E+13	5.0291E+13	5.0323E+13	4.9752E+13	4.8106E+13
	88.10	4.7480E+13	4.9097E+13	5.0013E+13	5.0182E+13	4.9366E+13	4.7763E+13
496C	**88.10**	4.6036E+13	4.7822E+13	4.8796E+13	4.8976E+13	4.8256E+13	4.6695E+13
	89.10	4.7815E+13	4.9537E+13	5.0501E+13	5.0540E+13	4.9893E+13	4.8295E+13
	91.10	4.7889E+13	4.9564E+13	5.0478E+13	5.0571E+13	4.9913E+13	4.8254E+13
	93.10	4.7724E+13	4.9362E+13	5.0201E+13	5.0205E+13	4.9497E+13	4.7896E+13
	98.10	4.7293E+13	4.8757E+13	4.9486E+13	4.9576E+13	4.8885E+13	4.7428E+13
	103.10	4.6552E+13	4.7683E+13	4.8259E+13	4.8185E+13	4.7594E+13	4.6390E+13
	103.55	4.6355E+13	4.7471E+13	4.8040E+13	4.7946E+13	4.7399E+13	4.6219E+13

Target:		KP02 – Holder (E > 0.15 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.3019E+13	4.4232E+13	4.5472E+13	4.5415E+13	4.5029E+13	4.3438E+13
	1	4.4942E+13	4.6568E+13	4.7789E+13	4.7583E+13	4.7240E+13	4.5333E+13
	3	4.5033E+13	4.6554E+13	4.8436E+13	4.7480E+13	4.7071E+13	4.5190E+13
	5	4.4824E+13	4.6344E+13	4.7553E+13	4.7376E+13	4.6883E+13	4.5048E+13
	10	4.4772E+13	4.6209E+13	4.7325E+13	4.7144E+13	4.6714E+13	4.4979E+13
	15	4.5171E+13	4.6362E+13	4.7496E+13	4.7290E+13	4.6874E+13	4.5086E+13
	20	4.5477E+13	4.6580E+13	4.7614E+13	4.7377E+13	4.6970E+13	4.5335E+13
	22	4.5700E+13	4.6748E+13	4.8185E+13	4.7463E+13	4.6925E+13	4.5349E+13
	24	4.5750E+13	4.6674E+13	4.7533E+13	4.7173E+13	4.6788E+13	4.5351E+13
	25.72	4.5607E+13	4.6423E+13	4.7076E+13	4.6838E+13	4.6543E+13	4.5037E+13
494	**25.72**	4.2841E+13	4.4317E+13	4.5428E+13	4.5505E+13	4.4973E+13	4.3437E+13
	26.72	4.4932E+13	4.6506E+13	4.7593E+13	4.7606E+13	4.6896E+13	4.5254E+13
	28.72	4.4968E+13	4.6411E+13	4.7418E+13	4.7385E+13	4.6859E+13	4.5118E+13
	30.72	4.4827E+13	4.6326E+13	4.7376E+13	4.7258E+13	4.6796E+13	4.5047E+13
	35.72	4.4675E+13	4.6112E+13	4.7194E+13	4.7173E+13	4.6519E+13	4.4946E+13
	40.72	4.4997E+13	4.6484E+13	4.7392E+13	4.7296E+13	4.6640E+13	4.5109E+13
	45.72	4.5449E+13	4.6707E+13	4.7450E+13	4.7479E+13	4.6754E+13	4.5284E+13
	47.72	4.5499E+13	4.6701E+13	4.7464E+13	4.7328E+13	4.6783E+13	4.5354E+13
	49.72	4.5520E+13	4.6512E+13	4.7246E+13	4.7182E+13	4.6594E+13	4.5252E+13
	51.59	4.5389E+13	4.6458E+13	4.7026E+13	4.6909E+13	4.6559E+13	4.5274E+13
495	**51.59**	4.2564E+13	4.4102E+13	4.5093E+13	4.5220E+13	4.4676E+13	4.3301E+13
	52.59	4.4709E+13	4.6256E+13	4.7247E+13	4.7354E+13	4.6765E+13	4.5167E+13
	54.59	4.4781E+13	4.6366E+13	4.7331E+13	4.7392E+13	4.6742E+13	4.5097E+13
	56.59	4.4558E+13	4.6217E+13	4.7238E+13	4.7263E+13	4.6592E+13	4.5082E+13
	61.59	4.4499E+13	4.5988E+13	4.6926E+13	4.6944E+13	4.6370E+13	4.4829E+13
	66.59	4.4728E+13	4.6285E+13	4.7208E+13	4.7146E+13	4.6615E+13	4.5066E+13
	71.59	4.5461E+13	4.6867E+13	4.7511E+13	4.7501E+13	4.6876E+13	4.5535E+13
	73.59	4.5486E+13	4.6744E+13	4.7433E+13	4.7424E+13	4.6779E+13	4.5408E+13
	75.59	4.5599E+13	4.6843E+13	4.7300E+13	4.7212E+13	4.6716E+13	4.5351E+13
	77.58	4.5598E+13	4.6691E+13	4.7268E+13	4.7189E+13	4.6617E+13	4.5380E+13
496A	**77.58**	4.2311E+13	4.3810E+13	4.4725E+13	4.4871E+13	4.4329E+13	4.3163E+13
	77.63	4.2565E+13	4.4194E+13	4.5169E+13	4.5272E+13	4.4616E+13	4.3367E+13
496B	**77.63**	4.2301E+13	4.3850E+13	4.4829E+13	4.5089E+13	4.4461E+13	4.3171E+13
	78.63	4.4423E+13	4.6088E+13	4.6923E+13	4.7163E+13	4.6473E+13	4.4932E+13
	80.63	4.4645E+13	4.6297E+13	4.7200E+13	4.7369E+13	4.6590E+13	4.5051E+13
	82.63	4.4633E+13	4.6241E+13	4.7059E+13	4.7110E+13	4.6579E+13	4.5037E+13
	88.10	4.4458E+13	4.5974E+13	4.6814E+13	4.6968E+13	4.6214E+13	4.4721E+13
496C	**88.10**	4.3083E+13	4.4764E+13	4.5668E+13	4.5854E+13	4.5178E+13	4.3711E+13
	89.10	4.4758E+13	4.6386E+13	4.7289E+13	4.7306E+13	4.6721E+13	4.5214E+13
	91.10	4.4851E+13	4.6391E+13	4.7247E+13	4.7344E+13	4.6723E+13	4.5187E+13
	93.10	4.4666E+13	4.6207E+13	4.6992E+13	4.7001E+13	4.6331E+13	4.4846E+13
	98.10	4.4295E+13	4.5626E+13	4.6311E+13	4.6395E+13	4.5749E+13	4.4385E+13
	103.10	4.3573E+13	4.4641E+13	4.5159E+13	4.5090E+13	4.4559E+13	4.3422E+13
	103.55	4.3406E+13	4.4420E+13	4.4972E+13	4.4848E+13	4.4364E+13	4.3261E+13

Target:		KP02 – Holder (E > 0.2 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.1035E+13	4.2205E+13	4.3385E+13	4.3331E+13	4.2958E+13	4.1439E+13
	1	4.2893E+13	4.4429E+13	4.5597E+13	4.5403E+13	4.5084E+13	4.3247E+13
	3	4.2975E+13	4.4398E+13	4.6226E+13	4.5287E+13	4.4918E+13	4.3107E+13
	5	4.2764E+13	4.4213E+13	4.5358E+13	4.5192E+13	4.4734E+13	4.2967E+13
	10	4.2710E+13	4.4068E+13	4.5148E+13	4.4959E+13	4.4587E+13	4.2888E+13
	15	4.3099E+13	4.4210E+13	4.5324E+13	4.5094E+13	4.4706E+13	4.3007E+13
	20	4.3394E+13	4.4431E+13	4.5415E+13	4.5183E+13	4.4824E+13	4.3233E+13
	22	4.3615E+13	4.4581E+13	4.5995E+13	4.5266E+13	4.4777E+13	4.3245E+13
	24	4.3652E+13	4.4513E+13	4.5351E+13	4.4984E+13	4.4627E+13	4.3245E+13
	25.72	4.3505E+13	4.4286E+13	4.4918E+13	4.4671E+13	4.4398E+13	4.2956E+13
494	**25.72**	4.0872E+13	4.2284E+13	4.3330E+13	4.3401E+13	4.2904E+13	4.1423E+13
	26.72	4.2862E+13	4.4362E+13	4.5399E+13	4.5385E+13	4.4722E+13	4.3150E+13
	28.72	4.2879E+13	4.4269E+13	4.5242E+13	4.5197E+13	4.4689E+13	4.3029E+13
	30.72	4.2758E+13	4.4178E+13	4.5194E+13	4.5075E+13	4.4630E+13	4.2948E+13
	35.72	4.2617E+13	4.3988E+13	4.5018E+13	4.4976E+13	4.4367E+13	4.2871E+13
	40.72	4.2918E+13	4.4351E+13	4.5205E+13	4.5100E+13	4.4510E+13	4.3048E+13
	45.72	4.3344E+13	4.4553E+13	4.5272E+13	4.5278E+13	4.4605E+13	4.3193E+13
	47.72	4.3398E+13	4.4536E+13	4.5270E+13	4.5131E+13	4.4625E+13	4.3255E+13
	49.72	4.3413E+13	4.4361E+13	4.5058E+13	4.5009E+13	4.4448E+13	4.3158E+13
	51.59	4.3303E+13	4.4311E+13	4.4863E+13	4.4742E+13	4.4418E+13	4.3178E+13
495	**51.59**	4.0587E+13	4.2068E+13	4.2997E+13	4.3127E+13	4.2616E+13	4.1297E+13
	52.59	4.2636E+13	4.4117E+13	4.5085E+13	4.5194E+13	4.4601E+13	4.3092E+13
	54.59	4.2706E+13	4.4209E+13	4.5145E+13	4.5210E+13	4.4594E+13	4.3010E+13
	56.59	4.2485E+13	4.4071E+13	4.5055E+13	4.5076E+13	4.4448E+13	4.3018E+13
	61.59	4.2438E+13	4.3856E+13	4.4751E+13	4.4793E+13	4.4231E+13	4.2753E+13
	66.59	4.2679E+13	4.4147E+13	4.5015E+13	4.4962E+13	4.4467E+13	4.2999E+13
	71.59	4.3372E+13	4.4706E+13	4.5313E+13	4.5298E+13	4.4697E+13	4.3423E+13
	73.59	4.3383E+13	4.4588E+13	4.5230E+13	4.5247E+13	4.4605E+13	4.3305E+13
	75.59	4.3490E+13	4.4683E+13	4.5108E+13	4.5023E+13	4.4556E+13	4.3247E+13
	77.58	4.3490E+13	4.4522E+13	4.5093E+13	4.5023E+13	4.4459E+13	4.3282E+13
496A	**77.58**	4.0366E+13	4.1794E+13	4.2669E+13	4.2786E+13	4.2288E+13	4.1152E+13
	77.63	4.0603E+13	4.2143E+13	4.3071E+13	4.3193E+13	4.2556E+13	4.1383E+13
496B	**77.63**	4.0341E+13	4.1808E+13	4.2770E+13	4.3006E+13	4.2394E+13	4.1169E+13
	78.63	4.2366E+13	4.3961E+13	4.4764E+13	4.4979E+13	4.4339E+13	4.2864E+13
	80.63	4.2572E+13	4.4154E+13	4.5019E+13	4.5180E+13	4.4451E+13	4.2966E+13
	82.63	4.2559E+13	4.4085E+13	4.4884E+13	4.4923E+13	4.4412E+13	4.2951E+13
	88.10	4.2396E+13	4.3847E+13	4.4648E+13	4.4794E+13	4.4086E+13	4.2662E+13
496C	**88.10**	4.1092E+13	4.2697E+13	4.3565E+13	4.3733E+13	4.3084E+13	4.1683E+13
	89.10	4.2681E+13	4.4252E+13	4.5118E+13	4.5099E+13	4.4561E+13	4.3140E+13
	91.10	4.2769E+13	4.4257E+13	4.5067E+13	4.5129E+13	4.4568E+13	4.3089E+13
	93.10	4.2601E+13	4.4065E+13	4.4836E+13	4.4841E+13	4.4200E+13	4.2787E+13
	98.10	4.2243E+13	4.3525E+13	4.4159E+13	4.4254E+13	4.3623E+13	4.2318E+13
	103.10	4.1567E+13	4.2569E+13	4.3073E+13	4.2998E+13	4.2493E+13	4.1408E+13
	103.55	4.1416E+13	4.2361E+13	4.2894E+13	4.2765E+13	4.2310E+13	4.1248E+13

Target:		KP02 – Tube (E > 0.1 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.6301E+13	4.7455E+13	4.8811E+13	4.8724E+13	4.7968E+13	4.6306E+13
	1	4.8400E+13	4.9998E+13	5.1268E+13	5.0937E+13	5.0477E+13	4.8315E+13
	3	4.8407E+13	5.0073E+13	5.1876E+13	5.0899E+13	5.0202E+13	4.8155E+13
	5	4.8153E+13	4.9877E+13	5.1053E+13	5.0632E+13	5.0034E+13	4.7894E+13
	10	4.8182E+13	4.9662E+13	5.0657E+13	5.0430E+13	4.9689E+13	4.8006E+13
	15	4.8588E+13	4.9910E+13	5.0883E+13	5.0568E+13	5.0022E+13	4.8006E+13
	20	4.8792E+13	4.9975E+13	5.1000E+13	5.0648E+13	5.0147E+13	4.8229E+13
	22	4.9130E+13	5.0178E+13	5.1607E+13	5.0922E+13	4.9954E+13	4.8330E+13
	24	4.9188E+13	5.0264E+13	5.0997E+13	5.0423E+13	4.9989E+13	4.8278E+13
	25.72	4.8832E+13	4.9812E+13	5.0384E+13	5.0134E+13	4.9593E+13	4.8099E+13
494	**25.72**	4.6135E+13	4.7782E+13	4.8632E+13	4.8765E+13	4.8051E+13	4.6311E+13
	26.72	4.8421E+13	4.9970E+13	5.0952E+13	5.0932E+13	5.0069E+13	4.8142E+13
	28.72	4.8406E+13	4.9921E+13	5.0902E+13	5.0592E+13	5.0049E+13	4.8048E+13
	30.72	4.8186E+13	4.9853E+13	5.0761E+13	5.0611E+13	4.9919E+13	4.8053E+13
	35.72	4.8150E+13	4.9648E+13	5.0457E+13	5.0467E+13	4.9679E+13	4.7806E+13
	40.72	4.8457E+13	5.0033E+13	5.0721E+13	5.0534E+13	4.9708E+13	4.7994E+13
	45.72	4.8997E+13	5.0181E+13	5.0833E+13	5.0794E+13	4.9841E+13	4.8234E+13
	47.72	4.8975E+13	5.0117E+13	5.0825E+13	5.0644E+13	5.0097E+13	4.8233E+13
	49.72	4.8873E+13	5.0027E+13	5.0710E+13	5.0546E+13	4.9759E+13	4.8261E+13
	51.59	4.8831E+13	4.9906E+13	5.0399E+13	5.0297E+13	4.9658E+13	4.8218E+13
495	**51.59**	4.5846E+13	4.7450E+13	4.8286E+13	4.8259E+13	4.7778E+13	4.6049E+13
	52.59	4.8119E+13	4.9839E+13	5.0697E+13	5.0683E+13	4.9999E+13	4.8032E+13
	54.59	4.8282E+13	4.9845E+13	5.0870E+13	5.0896E+13	4.9949E+13	4.8053E+13
	56.59	4.8041E+13	4.9669E+13	5.0643E+13	5.0585E+13	4.9776E+13	4.8024E+13
	61.59	4.7823E+13	4.9479E+13	5.0323E+13	5.0185E+13	4.9512E+13	4.7739E+13
	66.59	4.8257E+13	4.9699E+13	5.0638E+13	5.0477E+13	4.9872E+13	4.7906E+13
	71.59	4.8974E+13	5.0437E+13	5.0964E+13	5.0866E+13	5.0218E+13	4.8497E+13
	73.59	4.9161E+13	5.0221E+13	5.0813E+13	5.0759E+13	4.9977E+13	4.8521E+13
	75.59	4.9021E+13	5.0190E+13	5.0737E+13	5.0546E+13	4.9720E+13	4.8431E+13
	77.58	4.9002E+13	5.0203E+13	5.0769E+13	5.0550E+13	4.9830E+13	4.8343E+13
496A	**77.58**	4.5679E+13	4.7199E+13	4.7938E+13	4.8017E+13	4.7337E+13	4.6020E+13
	77.63	4.5935E+13	4.7516E+13	4.8401E+13	4.8416E+13	4.7747E+13	4.6281E+13
496B	**77.63**	4.5537E+13	4.7207E+13	4.8057E+13	4.8244E+13	4.7582E+13	4.6063E+13
	78.63	4.7985E+13	4.9444E+13	5.0270E+13	5.0368E+13	4.9662E+13	4.7837E+13
	80.63	4.8019E+13	4.9766E+13	5.0646E+13	5.0772E+13	4.9682E+13	4.7987E+13
	82.63	4.8028E+13	4.9746E+13	5.0537E+13	5.0408E+13	4.9786E+13	4.7944E+13
	88.10	4.7963E+13	4.9418E+13	5.0207E+13	5.0180E+13	4.9464E+13	4.7769E+13
496C	**88.10**	4.6363E+13	4.8002E+13	4.9028E+13	4.9075E+13	4.8281E+13	4.6600E+13
	89.10	4.8109E+13	4.9871E+13	5.0784E+13	5.0708E+13	4.9971E+13	4.8223E+13
	91.10	4.8336E+13	4.9960E+13	5.0665E+13	5.0706E+13	4.9906E+13	4.8091E+13
	93.10	4.8189E+13	4.9570E+13	5.0421E+13	5.0360E+13	4.9533E+13	4.7707E+13
	98.10	4.7679E+13	4.8867E+13	4.9659E+13	4.9837E+13	4.8899E+13	4.7259E+13
	103.10	4.6920E+13	4.7903E+13	4.8388E+13	4.8253E+13	4.7572E+13	4.6266E+13
	103.55	4.6664E+13	4.7711E+13	4.8287E+13	4.7988E+13	4.7422E+13	4.6075E+13

Target:		KP02 – Tube (E > 0.15 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.3389E+13	4.4402E+13	4.5721E+13	4.5602E+13	4.4907E+13	4.3352E+13
	1	4.5310E+13	4.6825E+13	4.7999E+13	4.7665E+13	4.7273E+13	4.5248E+13
	3	4.5337E+13	4.6872E+13	4.8621E+13	4.7658E+13	4.6990E+13	4.5065E+13
	5	4.5081E+13	4.6699E+13	4.7752E+13	4.7392E+13	4.6849E+13	4.4851E+13
	10	4.5128E+13	4.6477E+13	4.7441E+13	4.7216E+13	4.6529E+13	4.4918E+13
	15	4.5504E+13	4.6664E+13	4.7624E+13	4.7387E+13	4.6862E+13	4.4948E+13
	20	4.5688E+13	4.6800E+13	4.7742E+13	4.7408E+13	4.6929E+13	4.5160E+13
	22	4.5974E+13	4.6980E+13	4.8337E+13	4.7660E+13	4.6760E+13	4.5273E+13
	24	4.6050E+13	4.7044E+13	4.7767E+13	4.7191E+13	4.6794E+13	4.5174E+13
	25.72	4.5743E+13	4.6613E+13	4.7136E+13	4.6937E+13	4.6429E+13	4.5006E+13
494	**25.72**	4.3174E+13	4.4744E+13	4.5523E+13	4.5638E+13	4.4948E+13	4.3378E+13
	26.72	4.5310E+13	4.6766E+13	4.7650E+13	4.7672E+13	4.6845E+13	4.5078E+13
	28.72	4.5324E+13	4.6741E+13	4.7624E+13	4.7342E+13	4.6850E+13	4.4971E+13
	30.72	4.5131E+13	4.6643E+13	4.7516E+13	4.7385E+13	4.6745E+13	4.4980E+13
	35.72	4.5066E+13	4.6452E+13	4.7265E+13	4.7243E+13	4.6489E+13	4.4753E+13
	40.72	4.5366E+13	4.6846E+13	4.7484E+13	4.7293E+13	4.6548E+13	4.4956E+13
	45.72	4.5868E+13	4.6976E+13	4.7564E+13	4.7549E+13	4.6685E+13	4.5164E+13
	47.72	4.5868E+13	4.6922E+13	4.7550E+13	4.7396E+13	4.6931E+13	4.5150E+13
	49.72	4.5775E+13	4.6807E+13	4.7448E+13	4.7324E+13	4.6572E+13	4.5166E+13
	51.59	4.5686E+13	4.6718E+13	4.7164E+13	4.7064E+13	4.6473E+13	4.5120E+13
495	**51.59**	4.2933E+13	4.4423E+13	4.5196E+13	4.5173E+13	4.4723E+13	4.3092E+13
	52.59	4.5062E+13	4.6665E+13	4.7463E+13	4.7470E+13	4.6803E+13	4.4970E+13
	54.59	4.5156E+13	4.6659E+13	4.7608E+13	4.7650E+13	4.6756E+13	4.4989E+13
	56.59	4.4956E+13	4.6488E+13	4.7419E+13	4.7363E+13	4.6570E+13	4.4952E+13
	61.59	4.4749E+13	4.6312E+13	4.7094E+13	4.6965E+13	4.6341E+13	4.4658E+13
	66.59	4.5130E+13	4.6548E+13	4.7378E+13	4.7213E+13	4.6724E+13	4.4854E+13
	71.59	4.5848E+13	4.7203E+13	4.7720E+13	4.7606E+13	4.7013E+13	4.5377E+13
	73.59	4.5998E+13	4.7035E+13	4.7540E+13	4.7498E+13	4.6801E+13	4.5441E+13
	75.59	4.5889E+13	4.6984E+13	4.7476E+13	4.7292E+13	4.6587E+13	4.5270E+13
	77.58	4.5881E+13	4.6969E+13	4.7510E+13	4.7305E+13	4.6662E+13	4.5238E+13
496A	**77.58**	4.2748E+13	4.4146E+13	4.4868E+13	4.4942E+13	4.4312E+13	4.3074E+13
	77.63	4.2972E+13	4.4476E+13	4.5292E+13	4.5327E+13	4.4691E+13	4.3304E+13
496B	**77.63**	4.2624E+13	4.4173E+13	4.5010E+13	4.5173E+13	4.4541E+13	4.3152E+13
	78.63	4.4931E+13	4.6251E+13	4.7041E+13	4.7114E+13	4.6491E+13	4.4783E+13
	80.63	4.4882E+13	4.6566E+13	4.7404E+13	4.7543E+13	4.6498E+13	4.4909E+13
	82.63	4.5005E+13	4.6587E+13	4.7285E+13	4.7164E+13	4.6589E+13	4.4835E+13
	88.10	4.4896E+13	4.6275E+13	4.7002E+13	4.6970E+13	4.6274E+13	4.4711E+13
496C	**88.10**	4.3363E+13	4.4917E+13	4.5917E+13	4.5956E+13	4.5178E+13	4.3630E+13
	89.10	4.5021E+13	4.6691E+13	4.7532E+13	4.7433E+13	4.6792E+13	4.5180E+13
	91.10	4.5262E+13	4.6757E+13	4.7439E+13	4.7435E+13	4.6710E+13	4.5041E+13
	93.10	4.5088E+13	4.6385E+13	4.7175E+13	4.7134E+13	4.6336E+13	4.4643E+13
	98.10	4.4649E+13	4.5705E+13	4.6482E+13	4.6632E+13	4.5746E+13	4.4217E+13
	103.10	4.3865E+13	4.4819E+13	4.5276E+13	4.5170E+13	4.4534E+13	4.3330E+13
	103.55	4.3684E+13	4.4647E+13	4.5179E+13	4.4852E+13	4.4365E+13	4.3127E+13

Target:		KP02 – Tube (E > 0.2 MeV)					
Subcapsule ID:		KP221	KP222	KP223	KP224	KP225	KP226
RAS Irradiation location:		321	322	323	324	325	326
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.1399E+13	4.2376E+13	4.3618E+13	4.3469E+13	4.2835E+13	4.1388E+13
	1	4.3228E+13	4.4690E+13	4.5790E+13	4.5472E+13	4.5141E+13	4.3176E+13
	3	4.3258E+13	4.4726E+13	4.6391E+13	4.5459E+13	4.4828E+13	4.2983E+13
	5	4.3030E+13	4.4587E+13	4.5542E+13	4.5180E+13	4.4719E+13	4.2770E+13
	10	4.3070E+13	4.4333E+13	4.5267E+13	4.5045E+13	4.4400E+13	4.2834E+13
	15	4.3427E+13	4.4494E+13	4.5457E+13	4.5207E+13	4.4714E+13	4.2876E+13
	20	4.3577E+13	4.4641E+13	4.5535E+13	4.5194E+13	4.4792E+13	4.3058E+13
	22	4.3866E+13	4.4817E+13	4.6148E+13	4.5473E+13	4.4638E+13	4.3199E+13
	24	4.3930E+13	4.4881E+13	4.5572E+13	4.4996E+13	4.4644E+13	4.3063E+13
	25.72	4.3659E+13	4.4498E+13	4.4979E+13	4.4769E+13	4.4288E+13	4.2930E+13
494	**25.72**	4.1181E+13	4.2699E+13	4.3410E+13	4.3520E+13	4.2875E+13	4.1342E+13
	26.72	4.3220E+13	4.4607E+13	4.5461E+13	4.5460E+13	4.4662E+13	4.2979E+13
	28.72	4.3216E+13	4.4595E+13	4.5437E+13	4.5171E+13	4.4686E+13	4.2889E+13
	30.72	4.3074E+13	4.4480E+13	4.5327E+13	4.5206E+13	4.4572E+13	4.2865E+13
	35.72	4.2976E+13	4.4334E+13	4.5092E+13	4.5036E+13	4.4343E+13	4.2693E+13
	40.72	4.3272E+13	4.4704E+13	4.5311E+13	4.5118E+13	4.4424E+13	4.2889E+13
	45.72	4.3728E+13	4.4828E+13	4.5374E+13	4.5339E+13	4.4537E+13	4.3094E+13
	47.72	4.3752E+13	4.4746E+13	4.5393E+13	4.5210E+13	4.4764E+13	4.3068E+13
	49.72	4.3680E+13	4.4641E+13	4.5257E+13	4.5139E+13	4.4419E+13	4.3079E+13
	51.59	4.3581E+13	4.4582E+13	4.5025E+13	4.4903E+13	4.4345E+13	4.3035E+13
495	**51.59**	4.0958E+13	4.2384E+13	4.3108E+13	4.3076E+13	4.2647E+13	4.1112E+13
	52.59	4.2959E+13	4.4515E+13	4.5288E+13	4.5279E+13	4.4653E+13	4.2916E+13
	54.59	4.3066E+13	4.4479E+13	4.5427E+13	4.5461E+13	4.4596E+13	4.2898E+13
	56.59	4.2882E+13	4.4326E+13	4.5219E+13	4.5177E+13	4.4433E+13	4.2902E+13
	61.59	4.2678E+13	4.4179E+13	4.4910E+13	4.4813E+13	4.4201E+13	4.2585E+13
	66.59	4.3061E+13	4.4381E+13	4.5193E+13	4.5038E+13	4.4568E+13	4.2793E+13
	71.59	4.3748E+13	4.5027E+13	4.5523E+13	4.5412E+13	4.4805E+13	4.3261E+13
	73.59	4.3881E+13	4.4874E+13	4.5338E+13	4.5333E+13	4.4661E+13	4.3337E+13
	75.59	4.3788E+13	4.4842E+13	4.5285E+13	4.5087E+13	4.4445E+13	4.3162E+13
	77.58	4.3774E+13	4.4804E+13	4.5306E+13	4.5121E+13	4.4531E+13	4.3150E+13
496A	**77.58**	4.0780E+13	4.2114E+13	4.2825E+13	4.2862E+13	4.2284E+13	4.1080E+13
	77.63	4.0987E+13	4.2425E+13	4.3191E+13	4.3244E+13	4.2642E+13	4.1305E+13
496B	**77.63**	4.0643E+13	4.2123E+13	4.2923E+13	4.3096E+13	4.2462E+13	4.1152E+13
	78.63	4.2865E+13	4.4143E+13	4.4875E+13	4.4931E+13	4.4368E+13	4.2713E+13
	80.63	4.2822E+13	4.4421E+13	4.5214E+13	4.5353E+13	4.4360E+13	4.2814E+13
	82.63	4.2918E+13	4.4431E+13	4.5124E+13	4.4996E+13	4.4464E+13	4.2773E+13
	88.10	4.2823E+13	4.4141E+13	4.4860E+13	4.4818E+13	4.4135E+13	4.2662E+13
496C	**88.10**	4.1362E+13	4.2855E+13	4.3812E+13	4.3840E+13	4.3072E+13	4.1616E+13
	89.10	4.2956E+13	4.4556E+13	4.5327E+13	4.5199E+13	4.4631E+13	4.3106E+13
	91.10	4.3182E+13	4.4607E+13	4.5260E+13	4.5213E+13	4.4561E+13	4.2968E+13
	93.10	4.2994E+13	4.4258E+13	4.5016E+13	4.4963E+13	4.4219E+13	4.2606E+13
	98.10	4.2594E+13	4.3577E+13	4.4315E+13	4.4481E+13	4.3631E+13	4.2164E+13
	103.10	4.1831E+13	4.2724E+13	4.3184E+13	4.3108E+13	4.2483E+13	4.1327E+13
	103.55	4.1654E+13	4.2586E+13	4.3100E+13	4.2774E+13	4.2283E+13	4.1109E+13

Target:		KP03 – Holder (E > 0.1 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.8350E+13	3.4719E+13	3.0655E+13	2.6498E+13	2.1966E+13	1.7430E+13
	1	3.9708E+13	3.5909E+13	3.1602E+13	2.7173E+13	2.2609E+13	1.7766E+13
	3	3.9618E+13	3.5788E+13	3.1611E+13	2.7158E+13	2.2674E+13	1.7876E+13
	5	3.9554E+13	3.5793E+13	3.1582E+13	2.7194E+13	2.2612E+13	1.7813E+13
	10	3.9584E+13	3.5784E+13	3.1574E+13	2.7242E+13	2.2640E+13	1.7848E+13
	15	3.9926E+13	3.6020E+13	3.1852E+13	2.7412E+13	2.2854E+13	1.8028E+13
	20	4.0499E+13	3.6704E+13	3.2631E+13	2.8128E+13	2.3410E+13	1.8562E+13
	22	4.0651E+13	3.6973E+13	3.2905E+13	2.8426E+13	2.3718E+13	1.8820E+13
	24	4.1089E+13	3.7430E+13	3.3434E+13	2.9022E+13	2.4297E+13	1.9263E+13
	25.72	4.1222E+13	3.7885E+13	3.3921E+13	2.9626E+13	2.4757E+13	1.9793E+13
494	**25.72**	3.8363E+13	3.4634E+13	3.0683E+13	2.6464E+13	2.2040E+13	1.7445E+13
	26.72	3.9588E+13	3.5755E+13	3.1525E+13	2.7258E+13	2.3218E+13	1.7829E+13
	28.72	3.9409E+13	3.5655E+13	3.1498E+13	2.7129E+13	2.2516E+13	1.7766E+13
	30.72	3.9349E+13	3.5566E+13	3.1402E+13	2.7044E+13	2.2490E+13	1.7764E+13
	35.72	3.9364E+13	3.5597E+13	3.1451E+13	2.7041E+13	2.2536E+13	1.7852E+13
	40.72	3.9613E+13	3.5836E+13	3.1608E+13	2.7303E+13	2.2734E+13	1.7920E+13
	45.72	4.0304E+13	3.6571E+13	3.2399E+13	2.7914E+13	2.3342E+13	1.8396E+13
	47.72	4.0536E+13	3.6905E+13	3.2781E+13	2.8344E+13	2.3741E+13	1.8687E+13
	49.72	4.1018E+13	3.7415E+13	3.3388E+13	2.8922E+13	2.4275E+13	1.9206E+13
	51.59	4.1147E+13	3.7846E+13	3.3814E+13	2.9456E+13	2.4778E+13	1.9734E+13
495	**51.59**	3.8245E+13	3.4468E+13	3.0540E+13	2.6373E+13	2.2003E+13	1.7378E+13
	52.59	3.9434E+13	3.5594E+13	3.1480E+13	2.6980E+13	2.2508E+13	1.7760E+13
	54.59	3.9494E+13	3.5657E+13	3.1440E+13	2.7000E+13	2.2492E+13	1.7741E+13
	56.59	3.9330E+13	3.5457E+13	3.1364E+13	2.6963E+13	2.2495E+13	1.7794E+13
	61.59	3.9418E+13	3.5539E+13	3.1467E+13	2.7055E+13	2.2497E+13	1.7770E+13
	66.59	3.9584E+13	3.5734E+13	3.1633E+13	2.7292E+13	2.2679E+13	1.7910E+13
	71.59	4.0196E+13	3.6589E+13	3.2354E+13	2.7870E+13	2.3275E+13	1.8381E+13
	73.59	4.0491E+13	3.6878E+13	3.2732E+13	2.8329E+13	2.3579E+13	1.8711E+13
	75.59	4.0892E+13	3.7379E+13	3.3237E+13	2.8851E+13	2.4080E+13	1.9160E+13
	77.58	4.1222E+13	3.7648E+13	3.3647E+13	2.9307E+13	2.4578E+13	1.9484E+13
496A	**77.58**	3.8015E+13	3.4485E+13	3.0562E+13	2.6419E+13	2.2076E+13	1.7496E+13
	77.63	3.8276E+13	3.4739E+13	3.0772E+13	2.6615E+13	2.2164E+13	1.7572E+13
496B	**77.63**	3.8052E+13	3.4545E+13	3.0622E+13	2.6482E+13	2.2090E+13	1.7517E+13
	78.63	3.9400E+13	3.5630E+13	3.1503E+13	2.7119E+13	2.2631E+13	1.7818E+13
	80.63	3.9226E+13	3.5477E+13	3.1227E+13	2.6891E+13	2.2345E+13	1.7678E+13
	82.63	3.9323E+13	3.5423E+13	3.1290E+13	2.6920E+13	2.2353E+13	1.7690E+13
	88.10	3.9146E+13	3.5344E+13	3.1178E+13	2.6914E+13	2.2503E+13	1.7680E+13
496C	**88.10**	3.8014E+13	3.4336E+13	3.0967E+13	2.6044E+13	2.1573E+13	1.7033E+13
	89.10	3.9315E+13	3.5383E+13	3.1174E+13	2.6842E+13	2.2316E+13	1.7631E+13
	91.10	3.9260E+13	3.5379E+13	3.1280E+13	2.6783E+13	2.2331E+13	1.7574E+13
	93.10	3.9173E+13	3.5370E+13	3.1116E+13	2.6838E+13	2.2256E+13	1.7616E+13
	98.10	3.9216E+13	3.5620E+13	3.1352E+13	2.7068E+13	2.2506E+13	1.7778E+13
	103.10	3.9241E+13	3.5858E+13	3.2069E+13	2.7913E+13	2.3426E+13	1.8562E+13
	103.55	3.9254E+13	3.5932E+13	3.2095E+13	2.7949E+13	2.3430E+13	1.8684E+13

Target:		KP03 – Holder (E > 0.15 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.5911E+13	3.2526E+13	2.8720E+13	2.4838E+13	2.0603E+13	1.6395E+13
	1	3.7186E+13	3.3638E+13	2.9610E+13	2.5479E+13	2.1222E+13	1.6708E+13
	3	3.7121E+13	3.3537E+13	2.9631E+13	2.5452E+13	2.1275E+13	1.6802E+13
	5	3.7051E+13	3.3538E+13	2.9597E+13	2.5498E+13	2.1225E+13	1.6758E+13
	10	3.7085E+13	3.3503E+13	2.9582E+13	2.5536E+13	2.1238E+13	1.6773E+13
	15	3.7389E+13	3.3744E+13	2.9856E+13	2.5720E+13	2.1450E+13	1.6959E+13
	20	3.7943E+13	3.4387E+13	3.0567E+13	2.6358E+13	2.1972E+13	1.7445E+13
	22	3.8103E+13	3.4639E+13	3.0814E+13	2.6666E+13	2.2258E+13	1.7685E+13
	24	3.8478E+13	3.5047E+13	3.1328E+13	2.7198E+13	2.2787E+13	1.8124E+13
	25.72	3.8604E+13	3.5478E+13	3.1782E+13	2.7763E+13	2.3205E+13	1.8615E+13
494	**25.72**	3.5939E+13	3.2439E+13	2.8749E+13	2.4798E+13	2.0688E+13	1.6405E+13
	26.72	3.7077E+13	3.3496E+13	2.9523E+13	2.5559E+13	2.1824E+13	1.6775E+13
	28.72	3.6908E+13	3.3396E+13	2.9518E+13	2.5442E+13	2.1132E+13	1.6704E+13
	30.72	3.6858E+13	3.3315E+13	2.9407E+13	2.5332E+13	2.1100E+13	1.6699E+13
	35.72	3.6879E+13	3.3342E+13	2.9457E+13	2.5338E+13	2.1145E+13	1.6782E+13
	40.72	3.7091E+13	3.3559E+13	2.9622E+13	2.5609E+13	2.1334E+13	1.6838E+13
	45.72	3.7747E+13	3.4252E+13	3.0358E+13	2.6172E+13	2.1901E+13	1.7295E+13
	47.72	3.7954E+13	3.4551E+13	3.0706E+13	2.6552E+13	2.2268E+13	1.7562E+13
	49.72	3.8393E+13	3.5048E+13	3.1270E+13	2.7107E+13	2.2778E+13	1.8066E+13
	51.59	3.8548E+13	3.5450E+13	3.1670E+13	2.7631E+13	2.3247E+13	1.8565E+13
495	**51.59**	3.5820E+13	3.2276E+13	2.8608E+13	2.4714E+13	2.0654E+13	1.6333E+13
	52.59	3.6920E+13	3.3312E+13	2.9481E+13	2.5302E+13	2.1121E+13	1.6691E+13
	54.59	3.6990E+13	3.3399E+13	2.9445E+13	2.5308E+13	2.1110E+13	1.6678E+13
	56.59	3.6826E+13	3.3206E+13	2.9375E+13	2.5278E+13	2.1103E+13	1.6738E+13
	61.59	3.6932E+13	3.3306E+13	2.9492E+13	2.5362E+13	2.1107E+13	1.6705E+13
	66.59	3.7046E+13	3.3463E+13	2.9629E+13	2.5564E+13	2.1262E+13	1.6841E+13
	71.59	3.7643E+13	3.4271E+13	3.0313E+13	2.6130E+13	2.1822E+13	1.7279E+13
	73.59	3.7910E+13	3.4539E+13	3.0683E+13	2.6535E+13	2.2134E+13	1.7588E+13
	75.59	3.8297E+13	3.4992E+13	3.1124E+13	2.7041E+13	2.2598E+13	1.8017E+13
	77.58	3.8598E+13	3.5251E+13	3.1516E+13	2.7453E+13	2.3060E+13	1.8319E+13
496A	**77.58**	3.5601E+13	3.2286E+13	2.8623E+13	2.4766E+13	2.0715E+13	1.6459E+13
	77.63	3.5840E+13	3.2534E+13	2.8818E+13	2.4940E+13	2.0792E+13	1.6523E+13
496B	**77.63**	3.5631E+13	3.2355E+13	2.8686E+13	2.4815E+13	2.0723E+13	1.6466E+13
	78.63	3.6883E+13	3.3363E+13	2.9485E+13	2.5411E+13	2.1236E+13	1.6759E+13
	80.63	3.6745E+13	3.3223E+13	2.9261E+13	2.5211E+13	2.0965E+13	1.6621E+13
	82.63	3.6826E+13	3.3175E+13	2.9300E+13	2.5212E+13	2.0963E+13	1.6622E+13
	88.10	3.6658E+13	3.3094E+13	2.9203E+13	2.5220E+13	2.1093E+13	1.6611E+13
496C	**88.10**	3.5579E+13	3.2174E+13	2.9032E+13	2.4415E+13	2.0241E+13	1.5999E+13
	89.10	3.6823E+13	3.3132E+13	2.9202E+13	2.5162E+13	2.0929E+13	1.6573E+13
	91.10	3.6745E+13	3.3108E+13	2.9287E+13	2.5101E+13	2.0948E+13	1.6532E+13
	93.10	3.6651E+13	3.3108E+13	2.9150E+13	2.5151E+13	2.0880E+13	1.6566E+13
	98.10	3.6710E+13	3.3356E+13	2.9370E+13	2.5342E+13	2.1100E+13	1.6706E+13
	103.10	3.6735E+13	3.3578E+13	3.0027E+13	2.6159E+13	2.1984E+13	1.7450E+13
	103.55	3.6756E+13	3.3633E+13	3.0063E+13	2.6187E+13	2.1980E+13	1.7564E+13

Target:		KP03 – Holder (E > 0.2 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.4269E+13	3.1047E+13	2.7417E+13	2.3705E+13	1.9691E+13	1.5696E+13
	1	3.5472E+13	3.2095E+13	2.8252E+13	2.4328E+13	2.0295E+13	1.5990E+13
	3	3.5426E+13	3.2005E+13	2.8271E+13	2.4302E+13	2.0330E+13	1.6081E+13
	5	3.5355E+13	3.2004E+13	2.8251E+13	2.4342E+13	2.0277E+13	1.6034E+13
	10	3.5397E+13	3.1965E+13	2.8241E+13	2.4373E+13	2.0303E+13	1.6041E+13
	15	3.5670E+13	3.2213E+13	2.8494E+13	2.4561E+13	2.0490E+13	1.6216E+13
	20	3.6204E+13	3.2818E+13	2.9172E+13	2.5147E+13	2.0996E+13	1.6684E+13
	22	3.6350E+13	3.3059E+13	2.9412E+13	2.5461E+13	2.1250E+13	1.6922E+13
	24	3.6719E+13	3.3440E+13	2.9882E+13	2.5964E+13	2.1768E+13	1.7344E+13
	25.72	3.6836E+13	3.3853E+13	3.0331E+13	2.6491E+13	2.2164E+13	1.7811E+13
494	**25.72**	3.4293E+13	3.0957E+13	2.7416E+13	2.3672E+13	1.9771E+13	1.5689E+13
	26.72	3.5377E+13	3.1955E+13	2.8173E+13	2.4404E+13	2.0872E+13	1.6055E+13
	28.72	3.5210E+13	3.1870E+13	2.8162E+13	2.4287E+13	2.0175E+13	1.5981E+13
	30.72	3.5155E+13	3.1779E+13	2.8054E+13	2.4183E+13	2.0153E+13	1.5983E+13
	35.72	3.5178E+13	3.1803E+13	2.8114E+13	2.4188E+13	2.0192E+13	1.6060E+13
	40.72	3.5365E+13	3.2030E+13	2.8265E+13	2.4448E+13	2.0382E+13	1.6122E+13
	45.72	3.6031E+13	3.2700E+13	2.8973E+13	2.4982E+13	2.0928E+13	1.6550E+13
	47.72	3.6215E+13	3.2959E+13	2.9302E+13	2.5344E+13	2.1253E+13	1.6803E+13
	49.72	3.6618E+13	3.3439E+13	2.9828E+13	2.5871E+13	2.1752E+13	1.7289E+13
	51.59	3.6783E+13	3.3844E+13	3.0227E+13	2.6373E+13	2.2202E+13	1.7765E+13
495	**51.59**	3.4159E+13	3.0807E+13	2.7306E+13	2.3595E+13	1.9728E+13	1.5627E+13
	52.59	3.5222E+13	3.1782E+13	2.8138E+13	2.4150E+13	2.0174E+13	1.5963E+13
	54.59	3.5290E+13	3.1871E+13	2.8088E+13	2.4147E+13	2.0167E+13	1.5949E+13
	56.59	3.5138E+13	3.1680E+13	2.8020E+13	2.4119E+13	2.0153E+13	1.6002E+13
	61.59	3.5228E+13	3.1772E+13	2.8149E+13	2.4210E+13	2.0162E+13	1.5982E+13
	66.59	3.5346E+13	3.1927E+13	2.8269E+13	2.4406E+13	2.0299E+13	1.6094E+13
	71.59	3.5915E+13	3.2700E+13	2.8931E+13	2.4942E+13	2.0849E+13	1.6524E+13
	73.59	3.6159E+13	3.2944E+13	2.9276E+13	2.5330E+13	2.1152E+13	1.6821E+13
	75.59	3.6536E+13	3.3376E+13	2.9692E+13	2.5808E+13	2.1580E+13	1.7233E+13
	77.58	3.6817E+13	3.3629E+13	3.0065E+13	2.6199E+13	2.2026E+13	1.7525E+13
496A	**77.58**	3.3962E+13	3.0796E+13	2.7319E+13	2.3660E+13	1.9784E+13	1.5735E+13
	77.63	3.4185E+13	3.1046E+13	2.7497E+13	2.3805E+13	1.9863E+13	1.5812E+13
496B	**77.63**	3.3984E+13	3.0868E+13	2.7366E+13	2.3685E+13	1.9793E+13	1.5755E+13
	78.63	3.5189E+13	3.1817E+13	2.8125E+13	2.4255E+13	2.0287E+13	1.6024E+13
	80.63	3.5068E+13	3.1680E+13	2.7919E+13	2.4067E+13	2.0026E+13	1.5897E+13
	82.63	3.5124E+13	3.1650E+13	2.7941E+13	2.4068E+13	2.0032E+13	1.5908E+13
	88.10	3.4962E+13	3.1569E+13	2.7861E+13	2.4076E+13	2.0143E+13	1.5892E+13
496C	**88.10**	3.3933E+13	3.0687E+13	2.7712E+13	2.3301E+13	1.9332E+13	1.5308E+13
	89.10	3.5113E+13	3.1608E+13	2.7854E+13	2.4006E+13	1.9999E+13	1.5849E+13
	91.10	3.5047E+13	3.1578E+13	2.7945E+13	2.3963E+13	2.0007E+13	1.5817E+13
	93.10	3.4954E+13	3.1572E+13	2.7816E+13	2.4003E+13	1.9948E+13	1.5852E+13
	98.10	3.5019E+13	3.1832E+13	2.8021E+13	2.4184E+13	2.0149E+13	1.5984E+13
	103.10	3.5042E+13	3.2032E+13	2.8649E+13	2.4980E+13	2.1001E+13	1.6685E+13
	103.55	3.5056E+13	3.2073E+13	2.8677E+13	2.4984E+13	2.0994E+13	1.6804E+13

Target:		KP03 – Tube (E > 0.1 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.7995E+13	3.4294E+13	3.0199E+13	2.5959E+13	2.1439E+13	1.6796E+13
	1	3.9152E+13	3.5444E+13	3.1175E+13	2.6607E+13	2.2047E+13	1.7197E+13
	3	3.9260E+13	3.5403E+13	3.1094E+13	2.6673E+13	2.2058E+13	1.7206E+13
	5	3.9191E+13	3.5293E+13	3.1015E+13	2.6718E+13	2.1939E+13	1.7181E+13
	10	3.9200E+13	3.5250E+13	3.1080E+13	2.6710E+13	2.2169E+13	1.7219E+13
	15	3.9583E+13	3.5529E+13	3.1458E+13	2.6811E+13	2.2179E+13	1.7413E+13
	20	4.0140E+13	3.6377E+13	3.2116E+13	2.7490E+13	2.2794E+13	1.7899E+13
	22	4.0299E+13	3.6622E+13	3.2319E+13	2.7978E+13	2.3197E+13	1.8217E+13
	24	4.0666E+13	3.7005E+13	3.2949E+13	2.8420E+13	2.3642E+13	1.8594E+13
	25.72	4.0856E+13	3.7437E+13	3.3423E+13	2.9123E+13	2.4218E+13	1.9156E+13
494	**25.72**	3.7962E+13	3.4097E+13	3.0160E+13	2.5882E+13	2.1540E+13	1.6832E+13
	26.72	3.9126E+13	3.5317E+13	3.1165E+13	2.6698E+13	2.2736E+13	1.7280E+13
	28.72	3.8907E+13	3.5208E+13	3.1053E+13	2.6610E+13	2.1925E+13	1.7181E+13
	30.72	3.8936E+13	3.5182E+13	3.0819E+13	2.6503E+13	2.1898E+13	1.7135E+13
	35.72	3.8974E+13	3.5267E+13	3.0985E+13	2.6533E+13	2.2039E+13	1.7206E+13
	40.72	3.9179E+13	3.5417E+13	3.1076E+13	2.6642E+13	2.2201E+13	1.7266E+13
	45.72	3.9972E+13	3.6030E+13	3.1989E+13	2.7342E+13	2.2767E+13	1.7792E+13
	47.72	4.0204E+13	3.6381E+13	3.2371E+13	2.7811E+13	2.3180E+13	1.8167E+13
	49.72	4.0721E+13	3.7071E+13	3.2923E+13	2.8362E+13	2.3632E+13	1.8610E+13
	51.59	4.0804E+13	3.7436E+13	3.3360E+13	2.8912E+13	2.4235E+13	1.9158E+13
495	**51.59**	3.7958E+13	3.3984E+13	3.0112E+13	2.5842E+13	2.1471E+13	1.6827E+13
	52.59	3.9037E+13	3.5281E+13	3.0952E+13	2.6497E+13	2.2030E+13	1.7211E+13
	54.59	3.9109E+13	3.5283E+13	3.0973E+13	2.6465E+13	2.1884E+13	1.7200E+13
	56.59	3.8906E+13	3.5017E+13	3.0890E+13	2.6430E+13	2.1890E+13	1.7136E+13
	61.59	3.8931E+13	3.5104E+13	3.1048E+13	2.6526E+13	2.2001E+13	1.7224E+13
	66.59	3.9273E+13	3.5264E+13	3.1120E+13	2.6759E+13	2.2100E+13	1.7310E+13
	71.59	3.9803E+13	3.6189E+13	3.1830E+13	2.7428E+13	2.2701E+13	1.7823E+13
	73.59	4.0133E+13	3.6516E+13	3.2274E+13	2.7787E+13	2.3109E+13	1.8127E+13
	75.59	4.0605E+13	3.7005E+13	3.2814E+13	2.8404E+13	2.3483E+13	1.8542E+13
	77.58	4.0849E+13	3.7342E+13	3.3190E+13	2.8786E+13	2.3995E+13	1.8771E+13
496A	**77.58**	3.7690E+13	3.4145E+13	3.0164E+13	2.6052E+13	2.1541E+13	1.6914E+13
	77.63	3.8022E+13	3.4293E+13	3.0434E+13	2.6153E+13	2.1614E+13	1.7011E+13
496B	**77.63**	3.7726E+13	3.4208E+13	3.0115E+13	2.5943E+13	2.1648E+13	1.6901E+13
	78.63	3.9029E+13	3.5151E+13	3.1011E+13	2.6623E+13	2.2086E+13	1.7266E+13
	80.63	3.8880E+13	3.5055E+13	3.0826E+13	2.6423E+13	2.1860E+13	1.7141E+13
	82.63	3.8945E+13	3.4970E+13	3.0754E+13	2.6413E+13	2.1859E+13	1.7108E+13
	88.10	3.8891E+13	3.4949E+13	3.0733E+13	2.6467E+13	2.2025E+13	1.7060E+13
496C	**88.10**	3.7663E+13	3.3958E+13	3.0452E+13	2.5572E+13	2.1013E+13	1.6488E+13
	89.10	3.8985E+13	3.4936E+13	3.0741E+13	2.6270E+13	2.1803E+13	1.7030E+13
	91.10	3.8886E+13	3.5058E+13	3.0862E+13	2.6275E+13	2.1794E+13	1.7014E+13
	93.10	3.8860E+13	3.4936E+13	3.0755E+13	2.6330E+13	2.1731E+13	1.7030E+13
	98.10	3.8948E+13	3.5224E+13	3.0911E+13	2.6476E+13	2.1968E+13	1.7212E+13
	103.10	3.8980E+13	3.5509E+13	3.1725E+13	2.7479E+13	2.2889E+13	1.8058E+13
	103.55	3.9015E+13	3.5506E+13	3.1655E+13	2.7443E+13	2.2915E+13	1.8062E+13

Target:		KP03 – Tube (E > 0.15 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.5565E+13	3.2132E+13	2.8289E+13	2.4328E+13	2.0107E+13	1.5816E+13
	1	3.6659E+13	3.3197E+13	2.9199E+13	2.4939E+13	2.0697E+13	1.6173E+13
	3	3.6801E+13	3.3178E+13	2.9160E+13	2.5001E+13	2.0687E+13	1.6185E+13
	5	3.6674E+13	3.3070E+13	2.9052E+13	2.5043E+13	2.0582E+13	1.6154E+13
	10	3.6701E+13	3.2972E+13	2.9113E+13	2.5043E+13	2.0796E+13	1.6188E+13
	15	3.7076E+13	3.3250E+13	2.9483E+13	2.5154E+13	2.0778E+13	1.6368E+13
	20	3.7623E+13	3.4075E+13	3.0084E+13	2.5744E+13	2.1415E+13	1.6827E+13
	22	3.7769E+13	3.4305E+13	3.0247E+13	2.6221E+13	2.1756E+13	1.7120E+13
	24	3.8102E+13	3.4660E+13	3.0857E+13	2.6621E+13	2.2169E+13	1.7490E+13
	25.72	3.8243E+13	3.5005E+13	3.1323E+13	2.7318E+13	2.2724E+13	1.8027E+13
494	**25.72**	3.5567E+13	3.1941E+13	2.8250E+13	2.4254E+13	2.0217E+13	1.5823E+13
	26.72	3.6632E+13	3.3073E+13	2.9181E+13	2.5043E+13	2.1366E+13	1.6253E+13
	28.72	3.6420E+13	3.2963E+13	2.9105E+13	2.4931E+13	2.0576E+13	1.6178E+13
	30.72	3.6454E+13	3.2950E+13	2.8846E+13	2.4815E+13	2.0565E+13	1.6109E+13
	35.72	3.6515E+13	3.3013E+13	2.8999E+13	2.4863E+13	2.0686E+13	1.6189E+13
	40.72	3.6667E+13	3.3164E+13	2.9114E+13	2.5008E+13	2.0837E+13	1.6223E+13
	45.72	3.7451E+13	3.3726E+13	2.9962E+13	2.5659E+13	2.1370E+13	1.6718E+13
	47.72	3.7631E+13	3.4047E+13	3.0335E+13	2.6044E+13	2.1739E+13	1.7078E+13
	49.72	3.8104E+13	3.4711E+13	3.0826E+13	2.6593E+13	2.2165E+13	1.7516E+13
	51.59	3.8242E+13	3.5050E+13	3.1246E+13	2.7106E+13	2.2724E+13	1.8015E+13
495	**51.59**	3.5556E+13	3.1803E+13	2.8184E+13	2.4228E+13	2.0162E+13	1.5833E+13
	52.59	3.6559E+13	3.3026E+13	2.8970E+13	2.4847E+13	2.0679E+13	1.6176E+13
	54.59	3.6623E+13	3.3025E+13	2.9016E+13	2.4801E+13	2.0546E+13	1.6183E+13
	56.59	3.6437E+13	3.2783E+13	2.8910E+13	2.4769E+13	2.0538E+13	1.6113E+13
	61.59	3.6464E+13	3.2882E+13	2.9065E+13	2.4859E+13	2.0626E+13	1.6176E+13
	66.59	3.6732E+13	3.3044E+13	2.9135E+13	2.5045E+13	2.0716E+13	1.6275E+13
	71.59	3.7250E+13	3.3864E+13	2.9828E+13	2.5703E+13	2.1276E+13	1.6741E+13
	73.59	3.7573E+13	3.4212E+13	3.0244E+13	2.6033E+13	2.1684E+13	1.7048E+13
	75.59	3.7989E+13	3.4618E+13	3.0700E+13	2.6608E+13	2.2017E+13	1.7453E+13
	77.58	3.8241E+13	3.4935E+13	3.1082E+13	2.6964E+13	2.2524E+13	1.7643E+13
496A	**77.58**	3.5295E+13	3.1965E+13	2.8278E+13	2.4431E+13	2.0222E+13	1.5902E+13
	77.63	3.5585E+13	3.2115E+13	2.8494E+13	2.4503E+13	2.0275E+13	1.5990E+13
496B	**77.63**	3.5311E+13	3.2021E+13	2.8206E+13	2.4315E+13	2.0304E+13	1.5887E+13
	78.63	3.6544E+13	3.2918E+13	2.8999E+13	2.4946E+13	2.0723E+13	1.6247E+13
	80.63	3.6378E+13	3.2813E+13	2.8850E+13	2.4763E+13	2.0508E+13	1.6101E+13
	82.63	3.6451E+13	3.2737E+13	2.8784E+13	2.4742E+13	2.0505E+13	1.6079E+13
	88.10	3.6426E+13	3.2722E+13	2.8760E+13	2.4821E+13	2.0654E+13	1.6008E+13
496C	**88.10**	3.5253E+13	3.1822E+13	2.8540E+13	2.3981E+13	1.9699E+13	1.5483E+13
	89.10	3.6476E+13	3.2706E+13	2.8788E+13	2.4620E+13	2.0449E+13	1.6002E+13
	91.10	3.6389E+13	3.2803E+13	2.8899E+13	2.4620E+13	2.0446E+13	1.6003E+13
	93.10	3.6335E+13	3.2721E+13	2.8800E+13	2.4661E+13	2.0390E+13	1.6012E+13
	98.10	3.6471E+13	3.2997E+13	2.8931E+13	2.4783E+13	2.0607E+13	1.6169E+13
	103.10	3.6473E+13	3.3265E+13	2.9694E+13	2.5714E+13	2.1474E+13	1.6968E+13
	103.55	3.6514E+13	3.3241E+13	2.9619E+13	2.5711E+13	2.1479E+13	1.6997E+13

Target:		KP03 – Tube (E > 0.2 MeV)					
Subcapsule ID:		KP231	KP232	KP233	KP234	KP235	KP236
RAS Irradiation location:		331	332	333	334	335	336
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.3917E+13	3.0657E+13	2.6991E+13	2.3236E+13	1.9227E+13	1.5135E+13
	1	3.4980E+13	3.1674E+13	2.7849E+13	2.3820E+13	1.9781E+13	1.5490E+13
	3	3.5136E+13	3.1665E+13	2.7821E+13	2.3884E+13	1.9773E+13	1.5484E+13
	5	3.4988E+13	3.1567E+13	2.7717E+13	2.3910E+13	1.9653E+13	1.5471E+13
	10	3.5017E+13	3.1458E+13	2.7811E+13	2.3910E+13	1.9875E+13	1.5479E+13
	15	3.5380E+13	3.1735E+13	2.8130E+13	2.4005E+13	1.9852E+13	1.5656E+13
	20	3.5899E+13	3.2525E+13	2.8719E+13	2.4560E+13	2.0466E+13	1.6098E+13
	22	3.6033E+13	3.2712E+13	2.8872E+13	2.5036E+13	2.0775E+13	1.6384E+13
	24	3.6349E+13	3.3080E+13	2.9438E+13	2.5403E+13	2.1156E+13	1.6755E+13
	25.72	3.6511E+13	3.3397E+13	2.9893E+13	2.6058E+13	2.1712E+13	1.7250E+13
494	**25.72**	3.3950E+13	3.0483E+13	2.6947E+13	2.3159E+13	1.9316E+13	1.5133E+13
	26.72	3.4961E+13	3.1569E+13	2.7843E+13	2.3915E+13	2.0437E+13	1.5549E+13
	28.72	3.4759E+13	3.1474E+13	2.7781E+13	2.3793E+13	1.9642E+13	1.5488E+13
	30.72	3.4777E+13	3.1437E+13	2.7528E+13	2.3694E+13	1.9655E+13	1.5414E+13
	35.72	3.4848E+13	3.1498E+13	2.7673E+13	2.3731E+13	1.9749E+13	1.5498E+13
	40.72	3.4962E+13	3.1648E+13	2.7783E+13	2.3884E+13	1.9914E+13	1.5527E+13
	45.72	3.5736E+13	3.2193E+13	2.8616E+13	2.4509E+13	2.0427E+13	1.6002E+13
	47.72	3.5935E+13	3.2476E+13	2.8948E+13	2.4880E+13	2.0741E+13	1.6351E+13
	49.72	3.6348E+13	3.3119E+13	2.9396E+13	2.5386E+13	2.1168E+13	1.6768E+13
	51.59	3.6477E+13	3.3452E+13	2.9828E+13	2.5872E+13	2.1703E+13	1.7250E+13
495	**51.59**	3.3909E+13	3.0341E+13	2.6898E+13	2.3147E+13	1.9268E+13	1.5157E+13
	52.59	3.4870E+13	3.1516E+13	2.7637E+13	2.3737E+13	1.9741E+13	1.5476E+13
	54.59	3.4965E+13	3.1522E+13	2.7691E+13	2.3649E+13	1.9619E+13	1.5466E+13
	56.59	3.4776E+13	3.1272E+13	2.7565E+13	2.3668E+13	1.9613E+13	1.5410E+13
	61.59	3.4789E+13	3.1376E+13	2.7731E+13	2.3734E+13	1.9698E+13	1.5488E+13
	66.59	3.5041E+13	3.1552E+13	2.7812E+13	2.3905E+13	1.9785E+13	1.5559E+13
	71.59	3.5527E+13	3.2304E+13	2.8460E+13	2.4539E+13	2.0329E+13	1.6022E+13
	73.59	3.5846E+13	3.2634E+13	2.8870E+13	2.4850E+13	2.0711E+13	1.6320E+13
	75.59	3.6258E+13	3.3022E+13	2.9287E+13	2.5405E+13	2.1034E+13	1.6694E+13
	77.58	3.6473E+13	3.3351E+13	2.9668E+13	2.5737E+13	2.1531E+13	1.6872E+13
496A	**77.58**	3.3668E+13	3.0500E+13	2.6990E+13	2.3319E+13	1.9312E+13	1.5198E+13
	77.63	3.3940E+13	3.0658E+13	2.7195E+13	2.3371E+13	1.9382E+13	1.5304E+13
496B	**77.63**	3.3678E+13	3.0548E+13	2.6916E+13	2.3230E+13	1.9396E+13	1.5201E+13
	78.63	3.4878E+13	3.1396E+13	2.7650E+13	2.3827E+13	1.9812E+13	1.5545E+13
	80.63	3.4711E+13	3.1310E+13	2.7533E+13	2.3648E+13	1.9587E+13	1.5411E+13
	82.63	3.4781E+13	3.1238E+13	2.7440E+13	2.3610E+13	1.9596E+13	1.5396E+13
	88.10	3.4736E+13	3.1209E+13	2.7470E+13	2.3676E+13	1.9713E+13	1.5313E+13
496C	**88.10**	3.3623E+13	3.0368E+13	2.7232E+13	2.2884E+13	1.8833E+13	1.4818E+13
	89.10	3.4781E+13	3.1210E+13	2.7469E+13	2.3491E+13	1.9542E+13	1.5303E+13
	91.10	3.4722E+13	3.1287E+13	2.7566E+13	2.3504E+13	1.9527E+13	1.5306E+13
	93.10	3.4665E+13	3.1217E+13	2.7472E+13	2.3525E+13	1.9492E+13	1.5346E+13
	98.10	3.4799E+13	3.1495E+13	2.7601E+13	2.3649E+13	1.9681E+13	1.5474E+13
	103.10	3.4801E+13	3.1739E+13	2.8318E+13	2.4562E+13	2.0526E+13	1.6240E+13
	103.55	3.4837E+13	3.1708E+13	2.8244E+13	2.4531E+13	2.0510E+13	1.6268E+13

Target:		KP04 – Holder (E > 0.1 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.5806E+13	4.7389E+13	4.8688E+13	4.8473E+13	4.8215E+13	4.6367E+13
	1	4.8059E+13	4.9623E+13	5.1024E+13	5.0854E+13	5.1023E+13	4.8344E+13
	3	4.8113E+13	4.9638E+13	5.0946E+13	5.0693E+13	5.0313E+13	4.8283E+13
	5	4.7845E+13	4.9323E+13	5.0712E+13	5.0490E+13	5.0116E+13	4.8126E+13
	10	4.7808E+13	4.9291E+13	5.0619E+13	5.0303E+13	4.9847E+13	4.7942E+13
	15	4.8241E+13	4.9677E+13	5.0785E+13	5.0453E+13	5.0055E+13	4.8121E+13
	20	4.8628E+13	4.9757E+13	5.0742E+13	5.0603E+13	5.0196E+13	4.8441E+13
	22	4.8734E+13	4.9952E+13	5.0884E+13	5.0615E+13	5.0031E+13	4.8460E+13
	24	4.8854E+13	4.9914E+13	5.0730E+13	5.0442E+13	5.0055E+13	4.8426E+13
	25.72	4.8635E+13	4.9555E+13	5.0339E+13	5.0061E+13	4.9735E+13	4.8167E+13
494	**25.72**	4.5778E+13	4.7340E+13	4.8556E+13	4.8518E+13	4.8111E+13	4.6403E+13
	26.72	4.7979E+13	4.9678E+13	5.0826E+13	5.0716E+13	5.0152E+13	4.8338E+13
	28.72	4.7939E+13	4.9521E+13	5.0637E+13	5.0578E+13	5.0054E+13	4.8187E+13
	30.72	4.7845E+13	4.9447E+13	5.0706E+13	5.0537E+13	4.9885E+13	4.8089E+13
	35.72	4.7782E+13	4.9308E+13	5.0412E+13	5.0297E+13	4.9673E+13	4.7860E+13
	40.72	4.8027E+13	4.9565E+13	5.0617E+13	5.0452E+13	4.9845E+13	4.8105E+13
	45.72	4.8544E+13	4.9846E+13	5.0710E+13	5.0614E+13	5.0016E+13	4.8445E+13
	47.72	4.8530E+13	4.9699E+13	5.0706E+13	5.0556E+13	4.9968E+13	4.8448E+13
	49.72	4.8642E+13	4.9710E+13	5.0507E+13	5.0399E+13	4.9831E+13	4.8404E+13
	51.59	4.8560E+13	4.9644E+13	5.0248E+13	5.0036E+13	4.9688E+13	4.8244E+13
495	**51.59**	4.5433E+13	4.7081E+13	4.8188E+13	4.8189E+13	4.7714E+13	4.6201E+13
	52.59	4.7748E+13	4.9362E+13	5.0489E+13	5.0527E+13	4.9891E+13	4.8166E+13
	54.59	4.7742E+13	4.9531E+13	5.0474E+13	5.0534E+13	4.9893E+13	4.8228E+13
	56.59	4.7589E+13	4.9288E+13	5.0488E+13	5.0434E+13	4.9824E+13	4.8135E+13
	61.59	4.7448E+13	4.9097E+13	5.0136E+13	5.0138E+13	4.9581E+13	4.8009E+13
	66.59	4.7921E+13	4.9497E+13	5.0489E+13	5.0402E+13	4.9776E+13	4.8158E+13
	71.59	4.8586E+13	5.0032E+13	5.0848E+13	5.0803E+13	5.0204E+13	4.8580E+13
	73.59	4.8584E+13	4.9906E+13	5.0612E+13	5.0599E+13	4.9984E+13	4.8492E+13
	75.59	4.8662E+13	4.9935E+13	5.0501E+13	5.0461E+13	4.9857E+13	4.8414E+13
	77.58	4.8749E+13	4.9886E+13	5.0487E+13	5.0394E+13	4.9893E+13	4.8523E+13
496A	**77.58**	4.5194E+13	4.6854E+13	4.7857E+13	4.7918E+13	4.7382E+13	4.6060E+13
	77.63	4.5452E+13	4.7137E+13	4.8187E+13	4.8325E+13	4.7767E+13	4.6299E+13
496B	**77.63**	4.5202E+13	4.6883E+13	4.7898E+13	4.7983E+13	4.7499E+13	4.6091E+13
	78.63	4.7388E+13	4.9114E+13	5.0122E+13	5.0314E+13	4.9667E+13	4.8121E+13
	80.63	4.7733E+13	4.9466E+13	5.0407E+13	5.0367E+13	4.9832E+13	4.8121E+13
	82.63	4.7568E+13	4.9473E+13	5.0400E+13	5.0380E+13	4.9648E+13	4.8043E+13
	88.10	4.7502E+13	4.9149E+13	5.0063E+13	5.0110E+13	4.9513E+13	4.7826E+13
496C	**88.10**	4.6051E+13	4.7766E+13	4.8732E+13	4.8831E+13	4.8215E+13	4.6636E+13
	89.10	4.7830E+13	4.9543E+13	5.0469E+13	5.0629E+13	5.0004E+13	4.8247E+13
	91.10	4.7896E+13	4.9565E+13	5.0538E+13	5.0585E+13	4.9818E+13	4.8285E+13
	93.10	4.7679E+13	4.9201E+13	5.0214E+13	5.0199E+13	4.9591E+13	4.7924E+13
	98.10	4.7300E+13	4.8703E+13	4.9482E+13	4.9545E+13	4.8895E+13	4.7370E+13
	103.10	4.6469E+13	4.7627E+13	4.8229E+13	4.8200E+13	4.7659E+13	4.6305E+13
	103.55	4.6336E+13	4.7475E+13	4.7948E+13	4.7952E+13	4.7417E+13	4.6215E+13

Target:		KP04 – Holder (E > 0.15 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.2921E+13	4.4371E+13	4.5594E+13	4.5381E+13	4.5163E+13	4.3373E+13
	1	4.5002E+13	4.6445E+13	4.7786E+13	4.7606E+13	4.7804E+13	4.5255E+13
	3	4.5049E+13	4.6470E+13	4.7698E+13	4.7453E+13	4.7116E+13	4.5183E+13
	5	4.4803E+13	4.6157E+13	4.7510E+13	4.7256E+13	4.6939E+13	4.5045E+13
	10	4.4769E+13	4.6124E+13	4.7412E+13	4.7094E+13	4.6688E+13	4.4882E+13
	15	4.5181E+13	4.6500E+13	4.7546E+13	4.7219E+13	4.6885E+13	4.5012E+13
	20	4.5503E+13	4.6560E+13	4.7498E+13	4.7342E+13	4.7000E+13	4.5349E+13
	22	4.5635E+13	4.6751E+13	4.7646E+13	4.7365E+13	4.6881E+13	4.5360E+13
	24	4.5733E+13	4.6707E+13	4.7513E+13	4.7226E+13	4.6861E+13	4.5331E+13
	25.72	4.5548E+13	4.6373E+13	4.7128E+13	4.6845E+13	4.6579E+13	4.5054E+13
494	**25.72**	4.2842E+13	4.4294E+13	4.5470E+13	4.5408E+13	4.5041E+13	4.3430E+13
	26.72	4.4930E+13	4.6487E+13	4.7568E+13	4.7487E+13	4.6967E+13	4.5245E+13
	28.72	4.4890E+13	4.6357E+13	4.7405E+13	4.7340E+13	4.6885E+13	4.5111E+13
	30.72	4.4787E+13	4.6294E+13	4.7479E+13	4.7304E+13	4.6703E+13	4.5016E+13
	35.72	4.4742E+13	4.6156E+13	4.7183E+13	4.7097E+13	4.6519E+13	4.4794E+13
	40.72	4.4950E+13	4.6409E+13	4.7403E+13	4.7208E+13	4.6667E+13	4.5037E+13
	45.72	4.5440E+13	4.6655E+13	4.7448E+13	4.7385E+13	4.6817E+13	4.5353E+13
	47.72	4.5421E+13	4.6507E+13	4.7471E+13	4.7328E+13	4.6777E+13	4.5339E+13
	49.72	4.5533E+13	4.6531E+13	4.7291E+13	4.7152E+13	4.6648E+13	4.5326E+13
	51.59	4.5466E+13	4.6476E+13	4.7053E+13	4.6810E+13	4.6509E+13	4.5155E+13
495	**51.59**	4.2510E+13	4.4071E+13	4.5112E+13	4.5102E+13	4.4668E+13	4.3241E+13
	52.59	4.4695E+13	4.6213E+13	4.7262E+13	4.7282E+13	4.6709E+13	4.5087E+13
	54.59	4.4701E+13	4.6349E+13	4.7252E+13	4.7288E+13	4.6711E+13	4.5129E+13
	56.59	4.4542E+13	4.6131E+13	4.7249E+13	4.7205E+13	4.6632E+13	4.5069E+13
	61.59	4.4434E+13	4.5956E+13	4.6944E+13	4.6935E+13	4.6395E+13	4.4941E+13
	66.59	4.4849E+13	4.6339E+13	4.7256E+13	4.7163E+13	4.6582E+13	4.5078E+13
	71.59	4.5482E+13	4.6814E+13	4.7605E+13	4.7555E+13	4.6988E+13	4.5458E+13
	73.59	4.5469E+13	4.6719E+13	4.7360E+13	4.7359E+13	4.6791E+13	4.5401E+13
	75.59	4.5546E+13	4.6717E+13	4.7271E+13	4.7244E+13	4.6638E+13	4.5300E+13
	77.58	4.5647E+13	4.6696E+13	4.7253E+13	4.7175E+13	4.6695E+13	4.5421E+13
496A	**77.58**	4.2301E+13	4.3852E+13	4.4790E+13	4.4871E+13	4.4364E+13	4.3110E+13
	77.63	4.2561E+13	4.4124E+13	4.5099E+13	4.5220E+13	4.4699E+13	4.3336E+13
496B	**77.63**	4.2304E+13	4.3867E+13	4.4830E+13	4.4946E+13	4.4460E+13	4.3132E+13
	78.63	4.4367E+13	4.5965E+13	4.6905E+13	4.7074E+13	4.6488E+13	4.5053E+13
	80.63	4.4659E+13	4.6298E+13	4.7174E+13	4.7144E+13	4.6645E+13	4.5036E+13
	82.63	4.4531E+13	4.6328E+13	4.7200E+13	4.7164E+13	4.6468E+13	4.4961E+13
	88.10	4.4463E+13	4.6000E+13	4.6842E+13	4.6899E+13	4.6339E+13	4.4751E+13
496C	**88.10**	4.3087E+13	4.4731E+13	4.5617E+13	4.5696E+13	4.5127E+13	4.3631E+13
	89.10	4.4767E+13	4.6379E+13	4.7229E+13	4.7367E+13	4.6815E+13	4.5167E+13
	91.10	4.4831E+13	4.6385E+13	4.7292E+13	4.7345E+13	4.6649E+13	4.5219E+13
	93.10	4.4625E+13	4.6065E+13	4.7009E+13	4.6989E+13	4.6420E+13	4.4881E+13
	98.10	4.4285E+13	4.5573E+13	4.6316E+13	4.6369E+13	4.5762E+13	4.4334E+13
	103.10	4.3473E+13	4.4561E+13	4.5139E+13	4.5094E+13	4.4605E+13	4.3324E+13
	103.55	4.3358E+13	4.4434E+13	4.4871E+13	4.4888E+13	4.4392E+13	4.3268E+13

Target:		KP04 – Holder (E > 0.2 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.0945E+13	4.2341E+13	4.3504E+13	4.3288E+13	4.3084E+13	4.1367E+13
	1	4.2946E+13	4.4301E+13	4.5596E+13	4.5409E+13	4.5612E+13	4.3157E+13
	3	4.2972E+13	4.4316E+13	4.5503E+13	4.5259E+13	4.4936E+13	4.3094E+13
	5	4.2747E+13	4.4034E+13	4.5327E+13	4.5074E+13	4.4782E+13	4.2961E+13
	10	4.2715E+13	4.3981E+13	4.5225E+13	4.4906E+13	4.4538E+13	4.2799E+13
	15	4.3098E+13	4.4327E+13	4.5345E+13	4.5038E+13	4.4739E+13	4.2937E+13
	20	4.3388E+13	4.4402E+13	4.5303E+13	4.5140E+13	4.4839E+13	4.3246E+13
	22	4.3543E+13	4.4577E+13	4.5451E+13	4.5154E+13	4.4725E+13	4.3254E+13
	24	4.3636E+13	4.4557E+13	4.5317E+13	4.5048E+13	4.4712E+13	4.3245E+13
	25.72	4.3457E+13	4.4224E+13	4.4962E+13	4.4685E+13	4.4441E+13	4.2977E+13
494	**25.72**	4.0858E+13	4.2253E+13	4.3382E+13	4.3307E+13	4.2972E+13	4.1422E+13
	26.72	4.2865E+13	4.4325E+13	4.5362E+13	4.5278E+13	4.4796E+13	4.3135E+13
	28.72	4.2807E+13	4.4224E+13	4.5213E+13	4.5152E+13	4.4719E+13	4.3014E+13
	30.72	4.2709E+13	4.4144E+13	4.5292E+13	4.5114E+13	4.4551E+13	4.2939E+13
	35.72	4.2695E+13	4.4040E+13	4.5003E+13	4.4922E+13	4.4393E+13	4.2719E+13
	40.72	4.2888E+13	4.4267E+13	4.5218E+13	4.5028E+13	4.4522E+13	4.2951E+13
	45.72	4.3331E+13	4.4482E+13	4.5239E+13	4.5185E+13	4.4638E+13	4.3254E+13
	47.72	4.3333E+13	4.4369E+13	4.5282E+13	4.5152E+13	4.4610E+13	4.3237E+13
	49.72	4.3420E+13	4.4382E+13	4.5111E+13	4.4964E+13	4.4505E+13	4.3227E+13
	51.59	4.3381E+13	4.4323E+13	4.4883E+13	4.4649E+13	4.4377E+13	4.3079E+13
495	**51.59**	4.0532E+13	4.2032E+13	4.3050E+13	4.3020E+13	4.2608E+13	4.1247E+13
	52.59	4.2641E+13	4.4077E+13	4.5089E+13	4.5107E+13	4.4555E+13	4.3000E+13
	54.59	4.2628E+13	4.4199E+13	4.5094E+13	4.5114E+13	4.4566E+13	4.3050E+13
	56.59	4.2475E+13	4.3984E+13	4.5063E+13	4.5020E+13	4.4486E+13	4.2988E+13
	61.59	4.2362E+13	4.3821E+13	4.4784E+13	4.4773E+13	4.4251E+13	4.2866E+13
	66.59	4.2787E+13	4.4193E+13	4.5080E+13	4.4993E+13	4.4427E+13	4.2989E+13
	71.59	4.3378E+13	4.4642E+13	4.5402E+13	4.5347E+13	4.4825E+13	4.3348E+13
	73.59	4.3374E+13	4.4552E+13	4.5186E+13	4.5165E+13	4.4638E+13	4.3302E+13
	75.59	4.3449E+13	4.4554E+13	4.5082E+13	4.5050E+13	4.4484E+13	4.3209E+13
	77.58	4.3525E+13	4.4512E+13	4.5085E+13	4.5000E+13	4.4539E+13	4.3324E+13
496A	**77.58**	4.0351E+13	4.1807E+13	4.2707E+13	4.2796E+13	4.2308E+13	4.1128E+13
	77.63	4.0595E+13	4.2103E+13	4.3002E+13	4.3130E+13	4.2639E+13	4.1350E+13
496B	**77.63**	4.0357E+13	4.1833E+13	4.2745E+13	4.2861E+13	4.2415E+13	4.1131E+13
	78.63	4.2302E+13	4.3838E+13	4.4762E+13	4.4892E+13	4.4340E+13	4.2973E+13
	80.63	4.2580E+13	4.4162E+13	4.4985E+13	4.4971E+13	4.4492E+13	4.2946E+13
	82.63	4.2464E+13	4.4168E+13	4.5009E+13	4.4988E+13	4.4332E+13	4.2891E+13
	88.10	4.2414E+13	4.3854E+13	4.4672E+13	4.4745E+13	4.4182E+13	4.2682E+13
496C	**88.10**	4.1090E+13	4.2660E+13	4.3512E+13	4.3577E+13	4.3052E+13	4.1615E+13
	89.10	4.2696E+13	4.4236E+13	4.5060E+13	4.5174E+13	4.4634E+13	4.3091E+13
	91.10	4.2761E+13	4.4231E+13	4.5106E+13	4.5141E+13	4.4486E+13	4.3129E+13
	93.10	4.2574E+13	4.3930E+13	4.4842E+13	4.4822E+13	4.4277E+13	4.2801E+13
	98.10	4.2229E+13	4.3453E+13	4.4179E+13	4.4218E+13	4.3649E+13	4.2295E+13
	103.10	4.1468E+13	4.2493E+13	4.3042E+13	4.3002E+13	4.2560E+13	4.1316E+13
	103.55	4.1362E+13	4.2388E+13	4.2787E+13	4.2797E+13	4.2336E+13	4.1268E+13

Target:		KP04 – Tube (E > 0.1 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.6187E+13	4.7705E+13	4.8862E+13	4.8665E+13	4.8131E+13	4.6251E+13
	1	4.8370E+13	4.9789E+13	5.1174E+13	5.0966E+13	5.0700E+13	4.8157E+13
	3	4.8513E+13	4.9997E+13	5.1111E+13	5.0878E+13	5.0259E+13	4.8208E+13
	5	4.8203E+13	4.9649E+13	5.0905E+13	5.0649E+13	5.0089E+13	4.7963E+13
	10	4.8241E+13	4.9574E+13	5.0862E+13	5.0427E+13	4.9681E+13	4.7796E+13
	15	4.8621E+13	4.9973E+13	5.0945E+13	5.0494E+13	4.9947E+13	4.7993E+13
	20	4.8942E+13	5.0072E+13	5.0852E+13	5.0696E+13	5.0208E+13	4.8298E+13
	22	4.9183E+13	5.0279E+13	5.1207E+13	5.0765E+13	5.0100E+13	4.8474E+13
	24	4.9236E+13	5.0143E+13	5.0971E+13	5.0670E+13	5.0049E+13	4.8343E+13
	25.72	4.8891E+13	4.9858E+13	5.0442E+13	5.0320E+13	4.9831E+13	4.8250E+13
494	**25.72**	4.6252E+13	4.7736E+13	4.8776E+13	4.8709E+13	4.8053E+13	4.6263E+13
	26.72	4.8430E+13	5.0001E+13	5.0965E+13	5.0728E+13	5.0192E+13	4.8324E+13
	28.72	4.8366E+13	4.9793E+13	5.0924E+13	5.0724E+13	5.0053E+13	4.8038E+13
	30.72	4.8172E+13	4.9715E+13	5.0742E+13	5.0649E+13	5.0001E+13	4.8021E+13
	35.72	4.8145E+13	4.9721E+13	5.0672E+13	5.0371E+13	4.9651E+13	4.7802E+13
	40.72	4.8523E+13	4.9825E+13	5.0807E+13	5.0683E+13	4.9849E+13	4.8059E+13
	45.72	4.8864E+13	5.0075E+13	5.0818E+13	5.0735E+13	5.0121E+13	4.8266E+13
	47.72	4.8949E+13	4.9865E+13	5.0925E+13	5.0698E+13	5.0071E+13	4.8350E+13
	49.72	4.8878E+13	4.9936E+13	5.0751E+13	5.0424E+13	4.9714E+13	4.8323E+13
	51.59	4.8867E+13	4.9801E+13	5.0456E+13	5.0101E+13	4.9732E+13	4.8140E+13
495	**51.59**	4.5879E+13	4.7427E+13	4.8513E+13	4.8325E+13	4.7755E+13	4.6120E+13
	52.59	4.8135E+13	4.9730E+13	5.0690E+13	5.0579E+13	4.9915E+13	4.7977E+13
	54.59	4.8210E+13	4.9843E+13	5.0770E+13	5.0669E+13	4.9931E+13	4.8078E+13
	56.59	4.8114E+13	4.9625E+13	5.0693E+13	5.0507E+13	4.9750E+13	4.7949E+13
	61.59	4.7946E+13	4.9464E+13	5.0272E+13	5.0375E+13	4.9530E+13	4.7862E+13
	66.59	4.8217E+13	4.9803E+13	5.0597E+13	5.0538E+13	4.9818E+13	4.8034E+13
	71.59	4.9009E+13	5.0450E+13	5.1089E+13	5.0935E+13	5.0219E+13	4.8565E+13
	73.59	4.8962E+13	5.0249E+13	5.0733E+13	5.0688E+13	5.0078E+13	4.8472E+13
	75.59	4.8957E+13	5.0181E+13	5.0551E+13	5.0655E+13	4.9878E+13	4.8355E+13
	77.58	4.9067E+13	5.0140E+13	5.0665E+13	5.0529E+13	4.9971E+13	4.8482E+13
496A	**77.58**	4.5551E+13	4.7136E+13	4.8033E+13	4.7985E+13	4.7391E+13	4.5916E+13
	77.63	4.5830E+13	4.7425E+13	4.8382E+13	4.8383E+13	4.7779E+13	4.6162E+13
496B	**77.63**	4.5699E+13	4.7203E+13	4.8077E+13	4.8116E+13	4.7557E+13	4.6154E+13
	78.63	4.7818E+13	4.9417E+13	5.0430E+13	5.0530E+13	4.9727E+13	4.7990E+13
	80.63	4.8175E+13	4.9746E+13	5.0605E+13	5.0525E+13	4.9810E+13	4.7990E+13
	82.63	4.7993E+13	4.9648E+13	5.0597E+13	5.0484E+13	4.9712E+13	4.7967E+13
	88.10	4.7954E+13	4.9413E+13	5.0253E+13	5.0173E+13	4.9541E+13	4.7770E+13
496C	**88.10**	4.6558E+13	4.8089E+13	4.8885E+13	4.9021E+13	4.8291E+13	4.6531E+13
	89.10	4.8217E+13	4.9942E+13	5.0812E+13	5.0786E+13	5.0034E+13	4.8180E+13
	91.10	4.8369E+13	4.9774E+13	5.0761E+13	5.0695E+13	4.9862E+13	4.8102E+13
	93.10	4.8089E+13	4.9566E+13	5.0397E+13	5.0228E+13	4.9602E+13	4.7678E+13
	98.10	4.7724E+13	4.9071E+13	4.9658E+13	4.9688E+13	4.8846E+13	4.7224E+13
	103.10	4.6785E+13	4.7906E+13	4.8458E+13	4.8363E+13	4.7660E+13	4.6292E+13
	103.55	4.6711E+13	4.7743E+13	4.8243E+13	4.8023E+13	4.7423E+13	4.6152E+13

Target:		KP04 – Tube (E > 0.15 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.3282E+13	4.4658E+13	4.5761E+13	4.5551E+13	4.5094E+13	4.3250E+13
	1	4.5278E+13	4.6579E+13	4.7890E+13	4.7688E+13	4.7486E+13	4.5094E+13
	3	4.5385E+13	4.6784E+13	4.7836E+13	4.7634E+13	4.7051E+13	4.5087E+13
	5	4.5119E+13	4.6482E+13	4.7679E+13	4.7401E+13	4.6897E+13	4.4866E+13
	10	4.5183E+13	4.6377E+13	4.7644E+13	4.7200E+13	4.6543E+13	4.4748E+13
	15	4.5522E+13	4.6767E+13	4.7707E+13	4.7240E+13	4.6764E+13	4.4894E+13
	20	4.5786E+13	4.6807E+13	4.7598E+13	4.7415E+13	4.7017E+13	4.5199E+13
	22	4.6046E+13	4.7040E+13	4.7934E+13	4.7501E+13	4.6986E+13	4.5374E+13
	24	4.6065E+13	4.6910E+13	4.7715E+13	4.7437E+13	4.6846E+13	4.5257E+13
	25.72	4.5768E+13	4.6630E+13	4.7210E+13	4.7044E+13	4.6648E+13	4.5111E+13
494	**25.72**	4.3250E+13	4.4668E+13	4.5643E+13	4.5577E+13	4.4981E+13	4.3293E+13
	26.72	4.5354E+13	4.6777E+13	4.7677E+13	4.7508E+13	4.6988E+13	4.5225E+13
	28.72	4.5264E+13	4.6584E+13	4.7674E+13	4.7441E+13	4.6887E+13	4.4973E+13
	30.72	4.5074E+13	4.6538E+13	4.7495E+13	4.7395E+13	4.6805E+13	4.4963E+13
	35.72	4.5084E+13	4.6546E+13	4.7405E+13	4.7138E+13	4.6487E+13	4.4741E+13
	40.72	4.5382E+13	4.6688E+13	4.7559E+13	4.7449E+13	4.6683E+13	4.4966E+13
	45.72	4.5726E+13	4.6855E+13	4.7527E+13	4.7480E+13	4.6922E+13	4.5173E+13
	47.72	4.5821E+13	4.6639E+13	4.7657E+13	4.7440E+13	4.6864E+13	4.5264E+13
	49.72	4.5753E+13	4.6743E+13	4.7494E+13	4.7166E+13	4.6558E+13	4.5233E+13
	51.59	4.5728E+13	4.6617E+13	4.7258E+13	4.6840E+13	4.6522E+13	4.5055E+13
495	**51.59**	4.2922E+13	4.4387E+13	4.5389E+13	4.5236E+13	4.4682E+13	4.3143E+13
	52.59	4.5019E+13	4.6541E+13	4.7435E+13	4.7332E+13	4.6725E+13	4.4920E+13
	54.59	4.5124E+13	4.6620E+13	4.7499E+13	4.7389E+13	4.6729E+13	4.4998E+13
	56.59	4.5008E+13	4.6449E+13	4.7445E+13	4.7282E+13	4.6563E+13	4.4888E+13
	61.59	4.4882E+13	4.6308E+13	4.7050E+13	4.7135E+13	4.6367E+13	4.4787E+13
	66.59	4.5094E+13	4.6598E+13	4.7369E+13	4.7288E+13	4.6634E+13	4.4956E+13
	71.59	4.5860E+13	4.7212E+13	4.7831E+13	4.7680E+13	4.7006E+13	4.5431E+13
	73.59	4.5823E+13	4.7020E+13	4.7481E+13	4.7430E+13	4.6882E+13	4.5376E+13
	75.59	4.5790E+13	4.6960E+13	4.7311E+13	4.7402E+13	4.6651E+13	4.5270E+13
	77.58	4.5932E+13	4.6939E+13	4.7431E+13	4.7306E+13	4.6764E+13	4.5372E+13
496A	**77.58**	4.2602E+13	4.4104E+13	4.4935E+13	4.4930E+13	4.4364E+13	4.2965E+13
	77.63	4.2924E+13	4.4370E+13	4.5264E+13	4.5271E+13	4.4686E+13	4.3215E+13
496B	**77.63**	4.2756E+13	4.4163E+13	4.4988E+13	4.5057E+13	4.4501E+13	4.3177E+13
	78.63	4.4741E+13	4.6249E+13	4.7193E+13	4.7277E+13	4.6526E+13	4.4916E+13
	80.63	4.5072E+13	4.6559E+13	4.7346E+13	4.7292E+13	4.6639E+13	4.4935E+13
	82.63	4.4922E+13	4.6485E+13	4.7360E+13	4.7247E+13	4.6515E+13	4.4868E+13
	88.10	4.4904E+13	4.6259E+13	4.6991E+13	4.6953E+13	4.6359E+13	4.4703E+13
496C	**88.10**	4.3547E+13	4.5015E+13	4.5732E+13	4.5874E+13	4.5160E+13	4.3517E+13
	89.10	4.5112E+13	4.6728E+13	4.7533E+13	4.7515E+13	4.6819E+13	4.5069E+13
	91.10	4.5270E+13	4.6574E+13	4.7504E+13	4.7419E+13	4.6688E+13	4.5054E+13
	93.10	4.5014E+13	4.6413E+13	4.7179E+13	4.6981E+13	4.6399E+13	4.4626E+13
	98.10	4.4653E+13	4.5947E+13	4.6486E+13	4.6497E+13	4.5715E+13	4.4216E+13
	103.10	4.3774E+13	4.4815E+13	4.5345E+13	4.5247E+13	4.4623E+13	4.3308E+13
	103.55	4.3698E+13	4.4662E+13	4.5157E+13	4.4919E+13	4.4384E+13	4.3205E+13

Target:		KP04 – Tube (E > 0.2 MeV)					
Subcapsule ID:		KP321	KP322	KP323	KP324	KP325	KP326
RAS Irradiation location:		221	222	223	224	225	226
Fuel:		LEUCO	NUCO	LEUCO	NUCO	LEUCO	NUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	4.1289E+13	4.2606E+13	4.3668E+13	4.3452E+13	4.3027E+13	4.1256E+13
	1	4.3211E+13	4.4429E+13	4.5697E+13	4.5492E+13	4.5315E+13	4.3024E+13
	3	4.3325E+13	4.4616E+13	4.5658E+13	4.5438E+13	4.4887E+13	4.2996E+13
	5	4.3049E+13	4.4353E+13	4.5504E+13	4.5203E+13	4.4756E+13	4.2790E+13
	10	4.3125E+13	4.4237E+13	4.5441E+13	4.5019E+13	4.4385E+13	4.2677E+13
	15	4.3408E+13	4.4567E+13	4.5527E+13	4.5061E+13	4.4630E+13	4.2843E+13
	20	4.3692E+13	4.4643E+13	4.5388E+13	4.5210E+13	4.4822E+13	4.3107E+13
	22	4.3937E+13	4.4821E+13	4.5732E+13	4.5293E+13	4.4830E+13	4.3263E+13
	24	4.3954E+13	4.4753E+13	4.5507E+13	4.5259E+13	4.4718E+13	4.3205E+13
	25.72	4.3683E+13	4.4498E+13	4.5042E+13	4.4887E+13	4.4533E+13	4.3039E+13
494	**25.72**	4.1278E+13	4.2613E+13	4.3541E+13	4.3463E+13	4.2914E+13	4.1288E+13
	26.72	4.3271E+13	4.4635E+13	4.5467E+13	4.5302E+13	4.4838E+13	4.3110E+13
	28.72	4.3183E+13	4.4452E+13	4.5450E+13	4.5254E+13	4.4719E+13	4.2894E+13
	30.72	4.2985E+13	4.4389E+13	4.5306E+13	4.5194E+13	4.4654E+13	4.2885E+13
	35.72	4.3027E+13	4.4423E+13	4.5225E+13	4.4976E+13	4.4369E+13	4.2678E+13
	40.72	4.3299E+13	4.4513E+13	4.5386E+13	4.5292E+13	4.4557E+13	4.2885E+13
	45.72	4.3600E+13	4.4672E+13	4.5322E+13	4.5269E+13	4.4717E+13	4.3108E+13
	47.72	4.3698E+13	4.4502E+13	4.5465E+13	4.5280E+13	4.4721E+13	4.3161E+13
	49.72	4.3637E+13	4.4603E+13	4.5284E+13	4.4960E+13	4.4419E+13	4.3156E+13
	51.59	4.3648E+13	4.4470E+13	4.5063E+13	4.4693E+13	4.4389E+13	4.2999E+13
495	**51.59**	4.0938E+13	4.2328E+13	4.3312E+13	4.3144E+13	4.2617E+13	4.1164E+13
	52.59	4.2948E+13	4.4392E+13	4.5263E+13	4.5166E+13	4.4562E+13	4.2837E+13
	54.59	4.3047E+13	4.4490E+13	4.5334E+13	4.5197E+13	4.4592E+13	4.2947E+13
	56.59	4.2916E+13	4.4310E+13	4.5241E+13	4.5087E+13	4.4434E+13	4.2826E+13
	61.59	4.2798E+13	4.4169E+13	4.4887E+13	4.4962E+13	4.4232E+13	4.2748E+13
	66.59	4.3024E+13	4.4449E+13	4.5182E+13	4.5094E+13	4.4492E+13	4.2867E+13
	71.59	4.3740E+13	4.5021E+13	4.5621E+13	4.5470E+13	4.4844E+13	4.3322E+13
	73.59	4.3689E+13	4.4842E+13	4.5310E+13	4.5228E+13	4.4709E+13	4.3290E+13
	75.59	4.3671E+13	4.4769E+13	4.5162E+13	4.5217E+13	4.4492E+13	4.3178E+13
	77.58	4.3821E+13	4.4754E+13	4.5262E+13	4.5123E+13	4.4600E+13	4.3262E+13
496A	**77.58**	4.0650E+13	4.2058E+13	4.2850E+13	4.2863E+13	4.2307E+13	4.0992E+13
	77.63	4.0954E+13	4.2333E+13	4.3160E+13	4.3167E+13	4.2627E+13	4.1228E+13
496B	**77.63**	4.0777E+13	4.2148E+13	4.2886E+13	4.2993E+13	4.2466E+13	4.1170E+13
	78.63	4.2652E+13	4.4115E+13	4.5040E+13	4.5104E+13	4.4374E+13	4.2852E+13
	80.63	4.2974E+13	4.4421E+13	4.5132E+13	4.5128E+13	4.4495E+13	4.2838E+13
	82.63	4.2864E+13	4.4313E+13	4.5195E+13	4.5074E+13	4.4412E+13	4.2812E+13
	88.10	4.2837E+13	4.4088E+13	4.4802E+13	4.4818E+13	4.4233E+13	4.2643E+13
496C	**88.10**	4.1518E+13	4.2931E+13	4.3614E+13	4.3760E+13	4.3067E+13	4.1501E+13
	89.10	4.3039E+13	4.4579E+13	4.5368E+13	4.5314E+13	4.4645E+13	4.3005E+13
	91.10	4.3196E+13	4.4437E+13	4.5297E+13	4.5224E+13	4.4538E+13	4.2977E+13
	93.10	4.2960E+13	4.4269E+13	4.5020E+13	4.4834E+13	4.4261E+13	4.2551E+13
	98.10	4.2587E+13	4.3838E+13	4.4348E+13	4.4352E+13	4.3619E+13	4.2185E+13
	103.10	4.1750E+13	4.2745E+13	4.3239E+13	4.3143E+13	4.2626E+13	4.1318E+13
	103.55	4.1686E+13	4.2614E+13	4.3075E+13	4.2831E+13	4.2332E+13	4.1240E+13

Target:		KP05 – Holder (E > 0.1 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.8398E+13	3.4738E+13	3.0682E+13	2.6478E+13	2.2053E+13	1.7407E+13
	1	3.9714E+13	3.5840E+13	3.1710E+13	2.7235E+13	2.2637E+13	1.7820E+13
	3	3.9759E+13	3.5895E+13	3.1642E+13	2.7267E+13	2.2673E+13	1.7836E+13
	5	3.9615E+13	3.5722E+13	3.1579E+13	2.7203E+13	2.2624E+13	1.7830E+13
	10	3.9565E+13	3.5759E+13	3.1606E+13	2.7292E+13	2.2660E+13	1.7822E+13
	15	3.9941E+13	3.6013E+13	3.1816E+13	2.7466E+13	2.2874E+13	1.8000E+13
	20	4.0485E+13	3.6697E+13	3.2602E+13	2.8160E+13	2.3484E+13	1.8545E+13
	22	4.0789E+13	3.6940E+13	3.2895E+13	2.8428E+13	2.3789E+13	1.8833E+13
	24	4.1027E+13	3.7494E+13	3.3447E+13	2.9044E+13	2.4302E+13	1.9235E+13
	25.72	4.1307E+13	3.7884E+13	3.3953E+13	2.9611E+13	2.4907E+13	1.9745E+13
494	**25.72**	3.8364E+13	3.4691E+13	3.0648E+13	2.6451E+13	2.2069E+13	1.7462E+13
	26.72	3.9570E+13	3.5700E+13	3.1536E+13	2.7106E+13	2.2628E+13	1.7791E+13
	28.72	3.9501E+13	3.5637E+13	3.1514E+13	2.7164E+13	2.2536E+13	1.7782E+13
	30.72	3.9451E+13	3.5704E+13	3.1413E+13	2.6999E+13	2.2534E+13	1.7810E+13
	35.72	3.9392E+13	3.5549E+13	3.1533E+13	2.7108E+13	2.2567E+13	1.7828E+13
	40.72	3.9628E+13	3.5801E+13	3.1710E+13	2.7292E+13	2.2746E+13	1.8014E+13
	45.72	4.0293E+13	3.6563E+13	3.2418E+13	2.7970E+13	2.3321E+13	1.8452E+13
	47.72	4.0576E+13	3.6840E+13	3.2778E+13	2.8423E+13	2.3716E+13	1.8745E+13
	49.72	4.1021E+13	3.7441E+13	3.3399E+13	2.9007E+13	2.4245E+13	1.9296E+13
	51.59	4.1269E+13	3.7881E+13	3.3973E+13	2.9566E+13	2.4784E+13	1.9716E+13
495	**51.59**	3.8208E+13	3.4627E+13	3.0591E+13	2.6379E+13	2.2028E+13	1.7417E+13
	52.59	3.9425E+13	3.5588E+13	3.1498E+13	2.7043E+13	2.2507E+13	1.7766E+13
	54.59	3.9588E+13	3.6243E+13	3.1513E+13	2.7116E+13	2.2512E+13	1.7749E+13
	56.59	3.9301E+13	3.5524E+13	3.1386E+13	2.6964E+13	2.2470E+13	1.7739E+13
	61.59	3.9964E+13	3.5594E+13	3.1383E+13	2.7054E+13	2.2620E+13	1.7754E+13
	66.59	3.9721E+13	3.5805E+13	3.1717E+13	2.7333E+13	2.2702E+13	1.7939E+13
	71.59	4.0336E+13	3.6553E+13	3.2388E+13	2.7914E+13	2.3295E+13	1.8418E+13
	73.59	4.0449E+13	3.6792E+13	3.2738E+13	2.8283E+13	2.3605E+13	1.8703E+13
	75.59	4.0919E+13	3.7401E+13	3.3265E+13	2.8855E+13	2.4139E+13	1.9131E+13
	77.58	4.1187E+13	3.7718E+13	3.3740E+13	2.9303E+13	2.4611E+13	1.9483E+13
496A	**77.58**	3.8117E+13	3.4610E+13	3.0624E+13	2.6384E+13	2.1993E+13	1.7467E+13
	77.63	3.8287E+13	3.4706E+13	3.0744E+13	2.6549E+13	2.2249E+13	1.7544E+13
496B	**77.63**	3.8147E+13	3.4557E+13	3.0698E+13	2.6478E+13	2.2075E+13	1.7509E+13
	78.63	3.9399E+13	3.5653E+13	3.1457E+13	2.7138E+13	2.2616E+13	1.7821E+13
	80.63	3.9378E+13	3.5505E+13	3.1340E+13	2.6950E+13	2.2400E+13	1.7716E+13
	82.63	3.9273E+13	3.5466E+13	3.1305E+13	2.6962E+13	2.2377E+13	1.7687E+13
	88.10	3.9226E+13	3.5355E+13	3.1226E+13	2.6934E+13	2.2391E+13	1.7680E+13
496C	**88.10**	3.8004E+13	3.4466E+13	3.0433E+13	2.6128E+13	2.1625E+13	1.7094E+13
	89.10	3.9366E+13	3.5438E+13	3.1241E+13	2.6933E+13	2.2300E+13	1.7611E+13
	91.10	3.9279E+13	3.5397E+13	3.1254E+13	2.6743E+13	2.2289E+13	1.7585E+13
	93.10	3.9291E+13	3.5421E+13	3.1277E+13	2.6895E+13	2.2303E+13	1.7599E+13
	98.10	3.9267E+13	3.5503E+13	3.1467E+13	2.7096E+13	2.2516E+13	1.7746E+13
	103.10	3.9252E+13	3.5927E+13	3.2078E+13	2.7896E+13	2.3404E+13	1.8580E+13
	103.55	3.9190E+13	3.5915E+13	3.2206E+13	2.7978E+13	2.3566E+13	1.8705E+13

Target:		KP05 – Holder (E > 0.15 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.5965E+13	3.2537E+13	2.8739E+13	2.4813E+13	2.0690E+13	1.6367E+13
	1	3.7201E+13	3.3558E+13	2.9721E+13	2.5529E+13	2.1249E+13	1.6760E+13
	3	3.7229E+13	3.3603E+13	2.9648E+13	2.5552E+13	2.1281E+13	1.6770E+13
	5	3.7105E+13	3.3465E+13	2.9581E+13	2.5501E+13	2.1213E+13	1.6768E+13
	10	3.7044E+13	3.3493E+13	2.9602E+13	2.5569E+13	2.1254E+13	1.6757E+13
	15	3.7415E+13	3.3739E+13	2.9803E+13	2.5740E+13	2.1458E+13	1.6925E+13
	20	3.7924E+13	3.4364E+13	3.0555E+13	2.6372E+13	2.2042E+13	1.7443E+13
	22	3.8200E+13	3.4599E+13	3.0807E+13	2.6653E+13	2.2321E+13	1.7696E+13
	24	3.8415E+13	3.5108E+13	3.1326E+13	2.7198E+13	2.2798E+13	1.8073E+13
	25.72	3.8711E+13	3.5473E+13	3.1803E+13	2.7765E+13	2.3370E+13	1.8547E+13
494	**25.72**	3.5926E+13	3.2490E+13	2.8707E+13	2.4811E+13	2.0694E+13	1.6425E+13
	26.72	3.7023E+13	3.3428E+13	2.9550E+13	2.5410E+13	2.1232E+13	1.6722E+13
	28.72	3.6986E+13	3.3355E+13	2.9524E+13	2.5462E+13	2.1147E+13	1.6729E+13
	30.72	3.6943E+13	3.3413E+13	2.9437E+13	2.5292E+13	2.1128E+13	1.6752E+13
	35.72	3.6885E+13	3.3290E+13	2.9538E+13	2.5403E+13	2.1164E+13	1.6742E+13
	40.72	3.7111E+13	3.3534E+13	2.9698E+13	2.5583E+13	2.1333E+13	1.6930E+13
	45.72	3.7714E+13	3.4229E+13	3.0380E+13	2.6217E+13	2.1883E+13	1.7339E+13
	47.72	3.8005E+13	3.4485E+13	3.0706E+13	2.6648E+13	2.2233E+13	1.7621E+13
	49.72	3.8415E+13	3.5057E+13	3.1277E+13	2.7165E+13	2.2740E+13	1.8130E+13
	51.59	3.8659E+13	3.5471E+13	3.1829E+13	2.7720E+13	2.3245E+13	1.8531E+13
495	**51.59**	3.5778E+13	3.2407E+13	2.8648E+13	2.4713E+13	2.0662E+13	1.6377E+13
	52.59	3.6920E+13	3.3312E+13	2.9490E+13	2.5331E+13	2.1114E+13	1.6702E+13
	54.59	3.7071E+13	3.3986E+13	2.9499E+13	2.5431E+13	2.1123E+13	1.6679E+13
	56.59	3.6796E+13	3.3263E+13	2.9405E+13	2.5264E+13	2.1080E+13	1.6669E+13
	61.59	3.7450E+13	3.3342E+13	2.9421E+13	2.5353E+13	2.1206E+13	1.6673E+13
	66.59	3.7206E+13	3.3529E+13	2.9700E+13	2.5601E+13	2.1271E+13	1.6863E+13
	71.59	3.7761E+13	3.4224E+13	3.0327E+13	2.6140E+13	2.1860E+13	1.7295E+13
	73.59	3.7879E+13	3.4446E+13	3.0650E+13	2.6497E+13	2.2151E+13	1.7585E+13
	75.59	3.8299E+13	3.5010E+13	3.1142E+13	2.7037E+13	2.2655E+13	1.7976E+13
	77.58	3.8558E+13	3.5309E+13	3.1596E+13	2.7450E+13	2.3083E+13	1.8321E+13
496A	**77.58**	3.5692E+13	3.2402E+13	2.8665E+13	2.4731E+13	2.0630E+13	1.6417E+13
	77.63	3.5853E+13	3.2489E+13	2.8797E+13	2.4889E+13	2.0868E+13	1.6503E+13
496B	**77.63**	3.5715E+13	3.2364E+13	2.8742E+13	2.4807E+13	2.0709E+13	1.6464E+13
	78.63	3.6885E+13	3.3386E+13	2.9449E+13	2.5419E+13	2.1230E+13	1.6741E+13
	80.63	3.6871E+13	3.3249E+13	2.9349E+13	2.5253E+13	2.1001E+13	1.6655E+13
	82.63	3.6766E+13	3.3216E+13	2.9321E+13	2.5247E+13	2.0994E+13	1.6622E+13
	88.10	3.6720E+13	3.3106E+13	2.9227E+13	2.5226E+13	2.0993E+13	1.6613E+13
496C	**88.10**	3.5588E+13	3.2260E+13	2.8509E+13	2.4491E+13	2.0269E+13	1.6074E+13
	89.10	3.6868E+13	3.3190E+13	2.9245E+13	2.5223E+13	2.0908E+13	1.6556E+13
	91.10	3.6747E+13	3.3136E+13	2.9264E+13	2.5076E+13	2.0906E+13	1.6519E+13
	93.10	3.6777E+13	3.3158E+13	2.9284E+13	2.5200E+13	2.0908E+13	1.6529E+13
	98.10	3.6765E+13	3.3252E+13	2.9471E+13	2.5387E+13	2.1119E+13	1.6692E+13
	103.10	3.6753E+13	3.3644E+13	3.0043E+13	2.6145E+13	2.1953E+13	1.7451E+13
	103.55	3.6676E+13	3.3627E+13	3.0165E+13	2.6211E+13	2.2092E+13	1.7582E+13

Target:		KP05 – Holder (E > 0.2 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.4312E+13	3.1048E+13	2.7423E+13	2.3671E+13	1.9774E+13	1.5661E+13
	1	3.5488E+13	3.2027E+13	2.8384E+13	2.4378E+13	2.0316E+13	1.6032E+13
	3	3.5514E+13	3.2056E+13	2.8298E+13	2.4390E+13	2.0332E+13	1.6050E+13
	5	3.5398E+13	3.1943E+13	2.8208E+13	2.4351E+13	2.0266E+13	1.6045E+13
	10	3.5350E+13	3.1961E+13	2.8256E+13	2.4413E+13	2.0320E+13	1.6026E+13
	15	3.5694E+13	3.2184E+13	2.8439E+13	2.4580E+13	2.0505E+13	1.6176E+13
	20	3.6179E+13	3.2795E+13	2.9165E+13	2.5188E+13	2.1054E+13	1.6678E+13
	22	3.6457E+13	3.3007E+13	2.9403E+13	2.5438E+13	2.1306E+13	1.6930E+13
	24	3.6658E+13	3.3500E+13	2.9908E+13	2.5961E+13	2.1779E+13	1.7285E+13
	25.72	3.6941E+13	3.3837E+13	3.0338E+13	2.6506E+13	2.2325E+13	1.7751E+13
494	**25.72**	3.4264E+13	3.0994E+13	2.7410E+13	2.3692E+13	1.9766E+13	1.5720E+13
	26.72	3.5314E+13	3.1905E+13	2.8202E+13	2.4261E+13	2.0281E+13	1.5995E+13
	28.72	3.5284E+13	3.1826E+13	2.8184E+13	2.4300E+13	2.0193E+13	1.6000E+13
	30.72	3.5232E+13	3.1876E+13	2.8093E+13	2.4130E+13	2.0178E+13	1.6028E+13
	35.72	3.5196E+13	3.1767E+13	2.8178E+13	2.4254E+13	2.0212E+13	1.6021E+13
	40.72	3.5407E+13	3.2018E+13	2.8342E+13	2.4429E+13	2.0372E+13	1.6190E+13
	45.72	3.5980E+13	3.2656E+13	2.8991E+13	2.5037E+13	2.0906E+13	1.6584E+13
	47.72	3.6241E+13	3.2907E+13	2.9303E+13	2.5435E+13	2.1230E+13	1.6860E+13
	49.72	3.6661E+13	3.3438E+13	2.9834E+13	2.5927E+13	2.1720E+13	1.7335E+13
	51.59	3.6892E+13	3.3852E+13	3.0363E+13	2.6466E+13	2.2202E+13	1.7732E+13
495	**51.59**	3.4137E+13	3.0914E+13	2.7345E+13	2.3579E+13	1.9740E+13	1.5677E+13
	52.59	3.5237E+13	3.1778E+13	2.8137E+13	2.4171E+13	2.0171E+13	1.5972E+13
	54.59	3.5356E+13	3.2449E+13	2.8140E+13	2.4272E+13	2.0174E+13	1.5954E+13
	56.59	3.5099E+13	3.1738E+13	2.8051E+13	2.4114E+13	2.0138E+13	1.5957E+13
	61.59	3.5754E+13	3.1803E+13	2.8069E+13	2.4194E+13	2.0248E+13	1.5947E+13
	66.59	3.5474E+13	3.1992E+13	2.8341E+13	2.4433E+13	2.0320E+13	1.6128E+13
	71.59	3.6014E+13	3.2652E+13	2.8943E+13	2.4964E+13	2.0872E+13	1.6538E+13
	73.59	3.6146E+13	3.2856E+13	2.9240E+13	2.5285E+13	2.1157E+13	1.6817E+13
	75.59	3.6549E+13	3.3399E+13	2.9727E+13	2.5798E+13	2.1631E+13	1.7197E+13
	77.58	3.6780E+13	3.3678E+13	3.0150E+13	2.6201E+13	2.2041E+13	1.7520E+13
496A	**77.58**	3.4049E+13	3.0916E+13	2.7349E+13	2.3614E+13	1.9706E+13	1.5711E+13
	77.63	3.4204E+13	3.1009E+13	2.7488E+13	2.3746E+13	1.9929E+13	1.5792E+13
496B	**77.63**	3.4077E+13	3.0875E+13	2.7437E+13	2.3689E+13	1.9779E+13	1.5750E+13
	78.63	3.5189E+13	3.1848E+13	2.8086E+13	2.4247E+13	2.0275E+13	1.6014E+13
	80.63	3.5161E+13	3.1726E+13	2.7994E+13	2.4104E+13	2.0054E+13	1.5936E+13
	82.63	3.5065E+13	3.1671E+13	2.7986E+13	2.4104E+13	2.0055E+13	1.5903E+13
	88.10	3.5034E+13	3.1563E+13	2.7888E+13	2.4074E+13	2.0042E+13	1.5889E+13
496C	**88.10**	3.3953E+13	3.0767E+13	2.7202E+13	2.3368E+13	1.9347E+13	1.5365E+13
	89.10	3.5162E+13	3.1665E+13	2.7900E+13	2.4068E+13	1.9969E+13	1.5832E+13
	91.10	3.5055E+13	3.1618E+13	2.7924E+13	2.3937E+13	1.9967E+13	1.5801E+13
	93.10	3.5067E+13	3.1627E+13	2.7935E+13	2.4053E+13	1.9958E+13	1.5815E+13
	98.10	3.5063E+13	3.1725E+13	2.8104E+13	2.4226E+13	2.0178E+13	1.5965E+13
	103.10	3.5065E+13	3.2089E+13	2.8657E+13	2.4965E+13	2.0959E+13	1.6695E+13
	103.55	3.4977E+13	3.2082E+13	2.8778E+13	2.5008E+13	2.1102E+13	1.6810E+13

Target:		KP05 – Tube (E > 0.1 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.8043E+13	3.4332E+13	3.0222E+13	2.5989E+13	2.1445E+13	1.6763E+13
	1	3.9291E+13	3.5482E+13	3.1329E+13	2.6756E+13	2.2139E+13	1.7202E+13
	3	3.9420E+13	3.5344E+13	3.1145E+13	2.6732E+13	2.2060E+13	1.7319E+13
	5	3.9228E+13	3.5355E+13	3.1197E+13	2.6713E+13	2.2032E+13	1.7307E+13
	10	3.9168E+13	3.5233E+13	3.1079E+13	2.6831E+13	2.2110E+13	1.7204E+13
	15	3.9559E+13	3.5639E+13	3.1366E+13	2.6954E+13	2.2333E+13	1.7508E+13
	20	4.0175E+13	3.6300E+13	3.2131E+13	2.7725E+13	2.2932E+13	1.7915E+13
	22	4.0475E+13	3.6445E+13	3.2534E+13	2.7928E+13	2.3291E+13	1.8237E+13
	24	4.0717E+13	3.7016E+13	3.3008E+13	2.8523E+13	2.3664E+13	1.8606E+13
	25.72	4.0911E+13	3.7517E+13	3.3613E+13	2.9138E+13	2.4355E+13	1.9052E+13
494	**25.72**	3.7905E+13	3.4351E+13	3.0225E+13	2.5970E+13	2.1523E+13	1.6878E+13
	26.72	3.9205E+13	3.5351E+13	3.0980E+13	2.6670E+13	2.2077E+13	1.7190E+13
	28.72	3.9162E+13	3.5153E+13	3.0992E+13	2.6594E+13	2.1948E+13	1.7179E+13
	30.72	3.8986E+13	3.5226E+13	3.0918E+13	2.6507E+13	2.2014E+13	1.7153E+13
	35.72	3.9075E+13	3.5182E+13	3.1071E+13	2.6548E+13	2.2001E+13	1.7179E+13
	40.72	3.9294E+13	3.5459E+13	3.1214E+13	2.6822E+13	2.2175E+13	1.7403E+13
	45.72	3.9896E+13	3.6150E+13	3.2005E+13	2.7512E+13	2.2800E+13	1.7832E+13
	47.72	4.0207E+13	3.6554E+13	3.2278E+13	2.8007E+13	2.3163E+13	1.8082E+13
	49.72	4.0706E+13	3.7000E+13	3.2995E+13	2.8531E+13	2.3649E+13	1.8592E+13
	51.59	4.0881E+13	3.7478E+13	3.3511E+13	2.8963E+13	2.4208E+13	1.9187E+13
495	**51.59**	3.7895E+13	3.4261E+13	3.0186E+13	2.5903E+13	2.1558E+13	1.6839E+13
	52.59	3.9071E+13	3.5165E+13	3.1006E+13	2.6532E+13	2.2002E+13	1.7185E+13
	54.59	3.9304E+13	3.5997E+13	3.1118E+13	2.6530E+13	2.1968E+13	1.7180E+13
	56.59	3.8911E+13	3.5165E+13	3.0925E+13	2.6545E+13	2.1895E+13	1.7144E+13
	61.59	3.9399E+13	3.5165E+13	3.1022E+13	2.6635E+13	2.2093E+13	1.7186E+13
	66.59	3.9380E+13	3.5362E+13	3.1289E+13	2.6819E+13	2.2200E+13	1.7342E+13
	71.59	4.0019E+13	3.6114E+13	3.1952E+13	2.7422E+13	2.2766E+13	1.7876E+13
	73.59	4.0081E+13	3.6277E+13	3.2303E+13	2.7749E+13	2.3016E+13	1.8102E+13
	75.59	4.0591E+13	3.7068E+13	3.2812E+13	2.8324E+13	2.3521E+13	1.8543E+13
	77.58	4.0913E+13	3.7369E+13	3.3282E+13	2.8758E+13	2.4094E+13	1.8864E+13
496A	**77.58**	3.7796E+13	3.4180E+13	3.0236E+13	2.5865E+13	2.1489E+13	1.6954E+13
	77.63	3.7880E+13	3.4364E+13	3.0392E+13	2.6058E+13	2.1661E+13	1.6973E+13
496B	**77.63**	3.7682E+13	3.4110E+13	3.0222E+13	2.5932E+13	2.1665E+13	1.6924E+13
	78.63	3.8994E+13	3.5181E+13	3.1013E+13	2.6605E+13	2.2051E+13	1.7193E+13
	80.63	3.8938E+13	3.5056E+13	3.0879E+13	2.6435E+13	2.1839E+13	1.7145E+13
	82.63	3.9019E+13	3.4993E+13	3.0782E+13	2.6459E+13	2.1886E+13	1.7123E+13
	88.10	3.8902E+13	3.4892E+13	3.0800E+13	2.6367E+13	2.1856E+13	1.7111E+13
496C	**88.10**	3.7646E+13	3.4086E+13	2.9876E+13	2.5575E+13	2.1111E+13	1.6536E+13
	89.10	3.8889E+13	3.4980E+13	3.0762E+13	2.6371E+13	2.1831E+13	1.6990E+13
	91.10	3.8887E+13	3.4967E+13	3.0819E+13	2.6254E+13	2.1837E+13	1.7021E+13
	93.10	3.8979E+13	3.5009E+13	3.0814E+13	2.6443E+13	2.1777E+13	1.6997E+13
	98.10	3.8950E+13	3.5121E+13	3.0969E+13	2.6564E+13	2.2039E+13	1.7204E+13
	103.10	3.8942E+13	3.5633E+13	3.1674E+13	2.7443E+13	2.2933E+13	1.7942E+13
	103.55	3.8898E+13	3.5607E+13	3.1849E+13	2.7521E+13	2.3167E+13	1.8076E+13

Target:		KP05 – Tube (E > 0.15 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.5633E+13	3.2165E+13	2.8303E+13	2.4367E+13	2.0121E+13	1.5748E+13
	1	3.6800E+13	3.3210E+13	2.9352E+13	2.5094E+13	2.0770E+13	1.6158E+13
	3	3.6917E+13	3.3085E+13	2.9200E+13	2.5039E+13	2.0708E+13	1.6293E+13
	5	3.6733E+13	3.3106E+13	2.9207E+13	2.5011E+13	2.0688E+13	1.6275E+13
	10	3.6674E+13	3.2978E+13	2.9121E+13	2.5116E+13	2.0739E+13	1.6182E+13
	15	3.7031E+13	3.3386E+13	2.9351E+13	2.5270E+13	2.0918E+13	1.6463E+13
	20	3.7628E+13	3.3997E+13	3.0094E+13	2.5959E+13	2.1512E+13	1.6850E+13
	22	3.7898E+13	3.4152E+13	3.0491E+13	2.6185E+13	2.1855E+13	1.7123E+13
	24	3.8123E+13	3.4657E+13	3.0902E+13	2.6714E+13	2.2190E+13	1.7491E+13
	25.72	3.8331E+13	3.5116E+13	3.1490E+13	2.7306E+13	2.2864E+13	1.7917E+13
494	**25.72**	3.5493E+13	3.2148E+13	2.8324E+13	2.4339E+13	2.0187E+13	1.5872E+13
	26.72	3.6660E+13	3.3114E+13	2.9024E+13	2.5005E+13	2.0699E+13	1.6169E+13
	28.72	3.6675E+13	3.2897E+13	2.9042E+13	2.4932E+13	2.0601E+13	1.6154E+13
	30.72	3.6479E+13	3.2969E+13	2.8956E+13	2.4835E+13	2.0627E+13	1.6153E+13
	35.72	3.6569E+13	3.2915E+13	2.9090E+13	2.4871E+13	2.0626E+13	1.6139E+13
	40.72	3.6783E+13	3.3183E+13	2.9234E+13	2.5121E+13	2.0792E+13	1.6350E+13
	45.72	3.7306E+13	3.3854E+13	3.0015E+13	2.5791E+13	2.1381E+13	1.6736E+13
	47.72	3.7628E+13	3.4235E+13	3.0236E+13	2.6273E+13	2.1735E+13	1.6997E+13
	49.72	3.8135E+13	3.4621E+13	3.0866E+13	2.6727E+13	2.2194E+13	1.7471E+13
	51.59	3.8285E+13	3.5111E+13	3.1388E+13	2.7156E+13	2.2731E+13	1.8028E+13
495	**51.59**	3.5478E+13	3.2065E+13	2.8240E+13	2.4236E+13	2.0232E+13	1.5836E+13
	52.59	3.6561E+13	3.2919E+13	2.9036E+13	2.4835E+13	2.0647E+13	1.6156E+13
	54.59	3.6765E+13	3.3760E+13	2.9122E+13	2.4857E+13	2.0603E+13	1.6148E+13
	56.59	3.6426E+13	3.2906E+13	2.8964E+13	2.4891E+13	2.0550E+13	1.6120E+13
	61.59	3.6892E+13	3.2953E+13	2.9077E+13	2.4956E+13	2.0729E+13	1.6146E+13
	66.59	3.6880E+13	3.3126E+13	2.9296E+13	2.5096E+13	2.0799E+13	1.6306E+13
	71.59	3.7468E+13	3.3791E+13	2.9924E+13	2.5678E+13	2.1357E+13	1.6772E+13
	73.59	3.7511E+13	3.3950E+13	3.0237E+13	2.6000E+13	2.1580E+13	1.7016E+13
	75.59	3.8010E+13	3.4691E+13	3.0700E+13	2.6550E+13	2.2056E+13	1.7413E+13
	77.58	3.8275E+13	3.5014E+13	3.1155E+13	2.6916E+13	2.2590E+13	1.7754E+13
496A	**77.58**	3.5381E+13	3.1996E+13	2.8296E+13	2.4249E+13	2.0133E+13	1.5944E+13
	77.63	3.5454E+13	3.2188E+13	2.8468E+13	2.4412E+13	2.0310E+13	1.5943E+13
496B	**77.63**	3.5280E+13	3.1917E+13	2.8280E+13	2.4285E+13	2.0343E+13	1.5929E+13
	78.63	3.6494E+13	3.2923E+13	2.9001E+13	2.4916E+13	2.0727E+13	1.6166E+13
	80.63	3.6469E+13	3.2815E+13	2.8917E+13	2.4751E+13	2.0501E+13	1.6126E+13
	82.63	3.6503E+13	3.2760E+13	2.8820E+13	2.4790E+13	2.0538E+13	1.6117E+13
	88.10	3.6398E+13	3.2680E+13	2.8801E+13	2.4728E+13	2.0477E+13	1.6070E+13
496C	**88.10**	3.5249E+13	3.1915E+13	2.7977E+13	2.3980E+13	1.9791E+13	1.5564E+13
	89.10	3.6395E+13	3.2754E+13	2.8804E+13	2.4712E+13	2.0468E+13	1.5973E+13
	91.10	3.6378E+13	3.2733E+13	2.8856E+13	2.4581E+13	2.0461E+13	1.6002E+13
	93.10	3.6476E+13	3.2755E+13	2.8841E+13	2.4777E+13	2.0403E+13	1.5970E+13
	98.10	3.6449E+13	3.2874E+13	2.9024E+13	2.4872E+13	2.0679E+13	1.6199E+13
	103.10	3.6460E+13	3.3357E+13	2.9670E+13	2.5695E+13	2.1524E+13	1.6862E+13
	103.55	3.6408E+13	3.3339E+13	2.9841E+13	2.5764E+13	2.1724E+13	1.6997E+13

Target:		KP05 – Tube (E > 0.2 MeV)					
Subcapsule ID:		KP331	KP332	KP333	KP334	KP335	KP336
RAS irradiation location:		231	232	233	234	235	236
Fuel:		LEUCO	LEUCO	LEUCO	LEUCO	LEUCO	LEUCO
HFIR Cycle	**Irradiation time (days)**						
493	**0**	3.4003E+13	3.0694E+13	2.7015E+13	2.3265E+13	1.9240E+13	1.5068E+13
	1	3.5083E+13	3.1686E+13	2.8024E+13	2.3980E+13	1.9848E+13	1.5461E+13
	3	3.5219E+13	3.1578E+13	2.7882E+13	2.3895E+13	1.9777E+13	1.5592E+13
	5	3.5054E+13	3.1580E+13	2.7881E+13	2.3880E+13	1.9786E+13	1.5570E+13
	10	3.4993E+13	3.1458E+13	2.7808E+13	2.3992E+13	1.9813E+13	1.5476E+13
	15	3.5342E+13	3.1834E+13	2.8014E+13	2.4158E+13	1.9982E+13	1.5745E+13
	20	3.5920E+13	3.2443E+13	2.8699E+13	2.4805E+13	2.0544E+13	1.6112E+13
	22	3.6147E+13	3.2572E+13	2.9116E+13	2.4993E+13	2.0853E+13	1.6391E+13
	24	3.6378E+13	3.3079E+13	2.9494E+13	2.5495E+13	2.1208E+13	1.6726E+13
	25.72	3.6596E+13	3.3506E+13	3.0030E+13	2.6075E+13	2.1843E+13	1.7165E+13
494	**25.72**	3.3844E+13	3.0698E+13	2.7039E+13	2.3222E+13	1.9281E+13	1.5189E+13
	26.72	3.4968E+13	3.1583E+13	2.7712E+13	2.3884E+13	1.9787E+13	1.5465E+13
	28.72	3.5002E+13	3.1378E+13	2.7728E+13	2.3800E+13	1.9686E+13	1.5434E+13
	30.72	3.4781E+13	3.1464E+13	2.7623E+13	2.3695E+13	1.9699E+13	1.5452E+13
	35.72	3.4878E+13	3.1414E+13	2.7753E+13	2.3777E+13	1.9700E+13	1.5447E+13
	40.72	3.5085E+13	3.1694E+13	2.7904E+13	2.3990E+13	1.9841E+13	1.5651E+13
	45.72	3.5599E+13	3.2294E+13	2.8627E+13	2.4625E+13	2.0430E+13	1.6016E+13
	47.72	3.5875E+13	3.2671E+13	2.8858E+13	2.5082E+13	2.0735E+13	1.6267E+13
	49.72	3.6397E+13	3.3014E+13	2.9463E+13	2.5511E+13	2.1204E+13	1.6717E+13
	51.59	3.6545E+13	3.3513E+13	2.9978E+13	2.5936E+13	2.1709E+13	1.7253E+13
495	**51.59**	3.3867E+13	3.0595E+13	2.6957E+13	2.3152E+13	1.9320E+13	1.5160E+13
	52.59	3.4894E+13	3.1392E+13	2.7723E+13	2.3693E+13	1.9717E+13	1.5458E+13
	54.59	3.5078E+13	3.2238E+13	2.7781E+13	2.3725E+13	1.9679E+13	1.5430E+13
	56.59	3.4738E+13	3.1398E+13	2.7644E+13	2.3749E+13	1.9632E+13	1.5430E+13
	61.59	3.5220E+13	3.1427E+13	2.7735E+13	2.3822E+13	1.9792E+13	1.5455E+13
	66.59	3.5159E+13	3.1601E+13	2.7954E+13	2.3939E+13	1.9873E+13	1.5582E+13
	71.59	3.5727E+13	3.2234E+13	2.8575E+13	2.4521E+13	2.0396E+13	1.6026E+13
	73.59	3.5806E+13	3.2396E+13	2.8840E+13	2.4816E+13	2.0619E+13	1.6285E+13
	75.59	3.6267E+13	3.3125E+13	2.9296E+13	2.5309E+13	2.1061E+13	1.6661E+13
	77.58	3.6506E+13	3.3406E+13	2.9732E+13	2.5700E+13	2.1551E+13	1.6994E+13
496A	**77.58**	3.3745E+13	3.0525E+13	2.7015E+13	2.3136E+13	1.9230E+13	1.5264E+13
	77.63	3.3839E+13	3.0722E+13	2.7181E+13	2.3293E+13	1.9409E+13	1.5274E+13
496B	**77.63**	3.3669E+13	3.0443E+13	2.6999E+13	2.3196E+13	1.9436E+13	1.5246E+13
	78.63	3.4820E+13	3.1405E+13	2.7654E+13	2.3791E+13	1.9808E+13	1.5469E+13
	80.63	3.4758E+13	3.1290E+13	2.7589E+13	2.3621E+13	1.9583E+13	1.5445E+13
	82.63	3.4803E+13	3.1235E+13	2.7517E+13	2.3659E+13	1.9627E+13	1.5418E+13
	88.10	3.4717E+13	3.1172E+13	2.7481E+13	2.3599E+13	1.9545E+13	1.5353E+13
496C	**88.10**	3.3615E+13	3.0428E+13	2.6711E+13	2.2887E+13	1.8899E+13	1.4882E+13
	89.10	3.4709E+13	3.1255E+13	2.7451E+13	2.3594E+13	1.9559E+13	1.5283E+13
	91.10	3.4711E+13	3.1236E+13	2.7556E+13	2.3465E+13	1.9539E+13	1.5302E+13
	93.10	3.4786E+13	3.1256E+13	2.7523E+13	2.3663E+13	1.9503E+13	1.5296E+13
	98.10	3.4768E+13	3.1359E+13	2.7684E+13	2.3731E+13	1.9770E+13	1.5493E+13
	103.10	3.4791E+13	3.1816E+13	2.8291E+13	2.4537E+13	2.0558E+13	1.6134E+13
	103.55	3.4728E+13	3.1786E+13	2.8456E+13	2.4595E+13	2.0758E+13	1.6257E+13