ANL/RTR/TM-18/4

Irradiation Demonstration Element Design Parameters for MURR LEU U-Mo Fuel Conversion

Nuclear Science and Engineering Division

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DEFINITION OF TERMS AND ACRONYMS

Term	Definition
Best estimate	Parameter that is determined with the best available methods and models without including uncertainty.
Bounding	A condition that has been technically determined to not be exceeded under given conditions, such as, for example, normal operating conditions
Conservative	Method, or resulting parameter, that is not best estimate and includes uncertainty or margin whether discretionary or due to conservative assumptions
Conservative assumption	Parameter or other consideration technically determined to be conservative as a consequence of intentional addition of margin or the use bounding data or other consideration.
Conservative band of normal operating conditions	Conservative conditions that are reasonably expected to occur up to and including at the reactor licensed power, and including calculation and measurement uncertainties
DDE	Design demonstration element tested as an experiment in a test reactor
Design parameter	Parameter used in design, qualification tests, and licensing
Fission density	The number of nuclear fission events of all isotopes per volume of fuel
Fuel qualification	The process of designing, conducting, and evaluating experiments to assure that the fuel is capable of performing without failure during reactor operations up to reported performance limits. Fuel qualification also includes measurements and reporting of fuel properties that can be used in performance and safety modeling.
Irradiation conditions	Conditions occurring in a reactor during operation at power and that, in the context of fuel design and qualification, refer to conditions experienced in reactor driver fuel or fuel testing.
HEU	Highly-enriched uranium with ≥ 20 weight% enrichment
LCO	Limiting Condition of Operation
LEU	Low-enriched uranium with < 20 weight% enrichment
Licensed power	The power approved by the regulatory authority up to which the reactor can operate, including any amendments or changes that modify a safety basis. For a reactor without a defined licensed duration this term is taken to be the equivalent of approved operating power.
LSSS	Limiting Safety System Setting
LTA	Lead test assembly
Margin	A parameter where the value is determined other than on a best estimate basis, and to be conservative is increased (or decreased) on a discretionary basis or due to conservative assumptions
Maximum local parameter	Bounding value among considered operational states, and for a size scale relevant to the safety basis under which a reactor can operate. For example, maximum local fission density is calculated as an input to qualification tests, and then used in the licensing basis as a limit during fuel management. Also commonly referred to as a peak local parameter.
M3	NNSA Office of Material Management and Minimization
MURR	University of Missouri Research Reactor
NNSA	US National Nuclear Security Administration
Nominal	Value of a parameter under normal operating conditions

Term	Definition
Normal operating conditions	Conditions that are reasonably expected to occur up to and including at the reactor licensed power. These do not include calculation or measurement uncertainties.
NRC	US Nuclear Regulatory Commission
Power density	Heat generated by fission reactions deposited in a fuel volume
Prototypic	Conditions that are considered representative of normal operations.
PSAR	Preliminary SAR submitted to, and reviewed by, the regulator of the facility. A PSAR is distinct from the SAR since the SAR is submitted to modify a license.
R&D	Research and development
Safety basis	A SAR, referenced supporting information, and other regulatory materials that provide the basis for safe operation of a reactor facility
Safety limit	A regulator approved limit ensuring safe reactor operation
SAR	Safety Analysis Report submitted to, and approved by, the regulator of the facility
Steady-state	Conditions that can be persistent and are not transient
TS	Technical specification on reactor operations that are approved by the regulator. Technical specifications include licensed power, LCO, LSSS, and safety limit requirements.
Target test value	The goal value of a design parameter to be achieved during testing, such as during an irradiation experiment
UMo	Uranium molybdenum alloy fuel
U-10Mo	Uranium – 10 wt% molybdenum alloy fuel being developed as a monolithic metallic alloy fuel
USHPRR	US high-performance research reactor

PREFACE

This report contains the results of reactor design and performance calculations for conversion of the University of Missouri Research Reactor (MURR) from the use of highly-enriched uranium (HEU) fuel to the use of low-enriched uranium (LEU) fuel. The analyses were performed by staff members of the U.S. Department of Energy National Nuclear Security Administration (NNSA) Office of Material Management and Minimization (M3) Reactor Conversion Program at the Argonne National Laboratory and the MURR Facility.

In the framework of non-proliferation policies, the international community presently aims to minimize the amount of nuclear material available that could be used for nuclear weapons. In this geopolitical context most research and test reactors, both domestic and international, have completed or are in the process of conversion to the use of LEU fuel. At this time worldwide 100 reactors have been converted to LEU fuel, or are verified to have permanently shutdown and no longer use HEU. Among remaining HEU reactors worldwide, a number of high performance reactors that refuel frequently remain for which new higher-density fuel is required. A new type of LEU fuel based on an alloy of uranium and molybdenum has been developed by the NNSA U.S. High Performance Research Reactor (USHPRR) program across multiple US national laboratories. This U-10Mo fuel is expected to allow the conversion of U.S. domestic high performance research reactors like MURR.

As an overview to the fuel testing of the USHPRR program, 142 small and large-size UMo monolithic fuel plates have been irradiated with during the R&D phase of the program. Over half of these plates were fabricated with the down-selected fuel material system with roll-bonded zirconium interlayers between the cladding and U-10Mo fuel core. All plates from the down-selected system showed good irradiation performance when tested in the design parameter envelope required by the USHPRR. In future testing, many MURR-specific plates are planned to be irradiated during the qualification phase of the program. In addition, a full prototypic MURR element as a Design Demonstration Element (DDE) experiment is to be irradiated in a test reactor. Including irradiation of MURR's prototypic element, fuel qualification plans are to irradiate approximately at least a half-dozen full-size USHPRR U-10Mo elements for MURR, MITR, NBSR and ATR (which, in typical 2-pump operational mode, will achieve a fission density and power density similar to the maximum values for MURR) prior to conversion of MURR to the new LEU U-10Mo fuel.

This report presents the best estimate nominal steady-state irradiation conditions to be used in the design of the MURR DDE experiment. Included are the maximum irradiation parameters found in MURR cores fueled with LEU U-10Mo for key sets of plates. Also included are best estimate data for all fuel plates in the MURR element under prototypic conditions.

The data presented herein serve as design parameters for irradiation qualification tests and, upon successful completion of fuel qualification, allows the program to bound MURR and other USHPRR irradiation conditions, and so allow a licensing basis for a conversion Safety Analysis Report (SAR) specific to MURR. Within a program working on fuel fabrication at a commercial scale and fuel irradiation qualification, the source of the design parameters is fuel element design and safety and operational analyses that have been completed. This work provides the technical basis for what the MURR reactor recently submitted to the U.S. Nuclear Regulatory Commission (NRC) as a Preliminary SAR for LEU conversion. A final SAR and the ability to convert is awaiting successful completion of fuel fabrication deployment and fuel irradiation qualification efforts.

In addition to this report giving parameters from operational and safety analyses, for fabrication there are related documents for fuel element specifications and drawings. The design of the fuel element incorporates manufacturing tolerance requirements. These documents have also been completed

consistent with the design and safety basis that has been submitted to the NRC in the Preliminary SAR for MURR conversion to LEU U-10Mo fuel. Thus, the sum of the technical work completed to date provides a comprehensive basis for fabricating and irradiating fuel elements consistent with what is planned to be later required to license and operate MURR.

TABLE OF CONTENTS

List of Figures

List of Tables

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1.0 INTRODUCTION

The University of Missouri is working in conjunction with the National Nuclear Security Administration (NNSA) Material Management and Minimization (M3) Reactor Conversion Program at Argonne National Laboratory to perform fuel element design and fuel cycle performance analyses [1], and steady-state thermal-hydraulic safety analyses [2] to support conversion of the University of Missouri Research Reactor (MURR) from highly-enriched uranium (HEU) to low-enriched uranium (LEU) fuel. The conversion objectives are to develop a fuel element design that will ensure safe reactor operations, acceptable shutdown and safety margins, as well as maintain the existing experimental performance of the facility.

An LEU fuel element was designed by staff members at Argonne and MURR as a part of the Reactor Conversion Pillar in the M3 U.S. High Performance Research Reactor (USHPRR) LEU conversion program. A set of assumptions to reliably manufacture the fuel plates were provided by the Fuel Fabrication and Fuel Qualification USHPRR Pillar areas in the M3 Reactor Conversion Program. Consequently, the dimensions of the element were developed to meet the conversion goals and provide the best fuel cycle performance, while adhering to this set of manufacturing assumptions. Reference 1 describes the fuel design process.

Irradiation experiment conceptual design parameters for the LEU fuel element under nominal steady-state operating conditions in MURR were previously reported in Reference 3. Data for key fuel plates under conditions that are expected to yield the maximum local fission density, fission rate density, heat flux, and fuel and cladding temperatures. Core states that are not prototypic for MURR while operating at power were included in identifying the maximum irradiation parameters. The information in this report updates and replaces the data reported in Reference 3.

This report presents the nominal steady-state irradiation conditions of a key set of plates containing maximum local irradiation parameters found in prototypic MURR cores fueled with the LEU U-10Mo. The data presented herein serves as design parameters for irradiation qualification tests and, upon successful completion of fuel qualification, allows the program to bound MURR and other USHPRR irradiation conditions, and so allow a licensing basis for a conversion Safety Analysis Report (SAR) specific to MURR. Within a program working on fuel fabrication at a commercial scale and fuel irradiation qualification, the source of the design parameters is fuel element design and safety analysis that has been completed. This work provides the technical basis for what the MURR reactor recently submitted to the NRC as a Preliminary SAR (PSAR) for LEU conversion. [4] A final SAR, and the ability to convert is awaiting successful completion of fuel fabrication deployment and fuel irradiation qualification efforts.

The set of design parameters that have been identified by the USHPRR program for irradiation experiments, based on known or potential impacts on fuel performance, are: 1) fuel element/plate geometry, 2) local fission density, and 3) local power density. [5] Furthermore, temperatures achieved in the experiment should be regime appropriate. The DDE-MURR irradiation experiment of a full prototypic MURR element should be designed so that target test values match as closely as possible the set of design parameters at prototypic conditions that are given in this report.

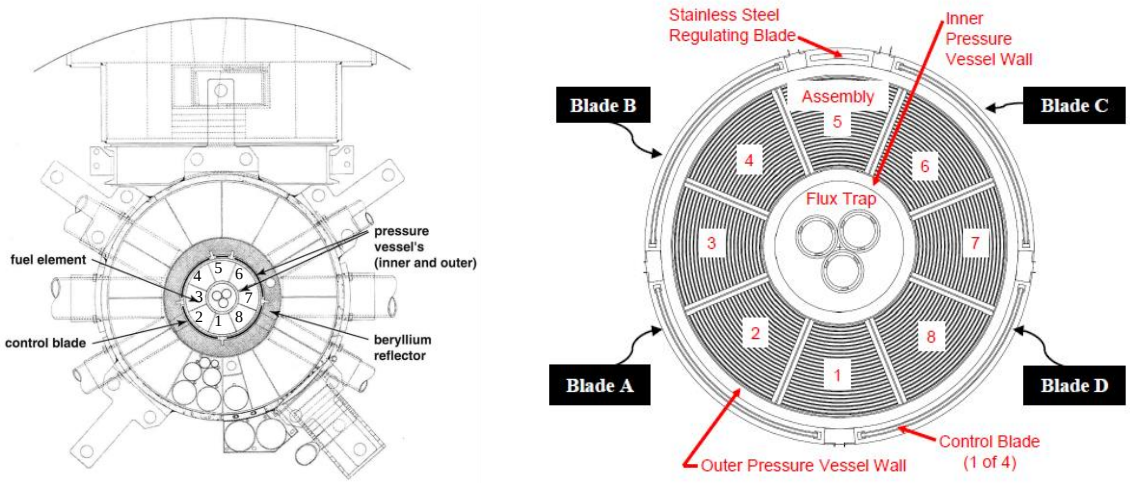
The proposed LEU fuel element has an overall design and exterior dimensions that are similar to those of the current HEU fuel elements. There are 23 fuel plates in the LEU design. The overall thickness of each plate is 44 mil, except for the exterior plate that is furthest from the center flux trap (plate 23), which is 49 mil thick. The proposed LEU fuel plates have U-10Mo monolithic fuel foils with a ^{235}U enrichment of 19.75% varying from 9 mil to 20 mil thick, and clad with aluminum AA6061. A thin interlayer of zirconium exists between the fuel core and the aluminum cladding as a diffusion barrier. The thinnest nominal combined zirconium and aluminum cladding thickness on each side of the fuel plates is 12 mil.

The LEU U-10Mo monolithic fuel is not yet qualified as driver fuel in research reactors, but is under intense development under the auspices of the M3 Fuel Fabrication and Fuel Qualification Pillars. To assist in the design of mini- and full-size plates for the irradiation experiments, as well as the planning and execution of the experimental campaign, calculated design parameters have been compiled and are presented in this report.

A number of core states that could exist during steady-state operations of MURR were examined in Reference 1. These core states included variations in the burnup for the mixture of fuel elements loaded in the core, the core xenon buildup state, center flux trap contents, and control blade state. In this report, best estimate design parameters are presented for the LEU elements under the conditions that are expected in normal steady-state operations in MURR. Data for the highest plate cumulative fission density, power density (heat flux though redundant is also presented), and fuel and cladding temperatures under prototypic conditions are presented.

2.0 FUEL ELEMENT GEOMETRY

The MURR core has a fixed geometry consisting of eight fuel elements, each having identical physical dimensions. The fuel elements are placed vertically around an annulus between two cylindrical aluminum reactor pressure vessels. Cross-sectional views of the MURR reactor core and a close-up view of the core are shown in Figure 2.1.



MURR Reactor *MURR Core*

Figure 2.1. Cross-Sectional Views of MURR.

Figure 2.2 provides an illustration of the MURR fuel element. The curved fuel plates are swaged into two aluminum AA6061 side plates that are 0.150 inches (150 mil) thick, 3.16 inches wide, and 31.75 inches long. The plates fit into grooves cut into the side plate. A comb is attached over the fuel plates at their top and bottom to provide additional structural support and help maintain fuel plate spacing. The side plates are attached to the top and bottom end fittings. Rollers on the inside and outside edges of the end fittings facilitate insertion of the elements into the annular pressure vessel of the MURR. They also ensure that the minimum outer channel clearances are maintained. The overall length of the element is 32.5 inches.

The current HEU fuel element used in MURR has 24 curved plates that form a 45-degree arc. The HEU fuel plates are 50 mil thick (0.050 inches). The fuel meat is 20 mil thick in each plate and consists of UAl_x aluminide dispersion fuel containing uranium with a ^{235}U enrichment of approximately 93%. The HEU plates are nominally clad with 15 mil of aluminum AA6061. The fuel plates are 25.5 inches long, with an active fuel meat length of 24 inches. The fuel plate and fuel meat width varies by plate.

In order to meet the reactivity requirements of the MURR operating cycle with LEU fuel, it is necessary to have a much higher uranium density than the currently qualified UAl_x or silicide dispersion fuels. [6] U-10Mo monolithic foils that can provide a uranium density of 15.3 gU/cm^3 have been selected for the LEU fuel, pending successful fuel qualification. A fuel element design with U-10Mo LEU fuel developed in Reference 1 was found to safely meet the MURR operating cycle requirements and maintain existing reactor performance.

The LEU fuel element design has 23 fuel plates. A cross-sectional drawing of the fuel plates in the element is shown in Figure 2.3. Just as for the HEU element, each LEU fuel plate is 25.5 inches long, with a 24.0 inch fueled length. Because of the difference in the number of fuel plates, the LEU fuel plate and fuel foil widths are different than the HEU element. The unfueled edge on each side of the fuel plates is 145 mil, of

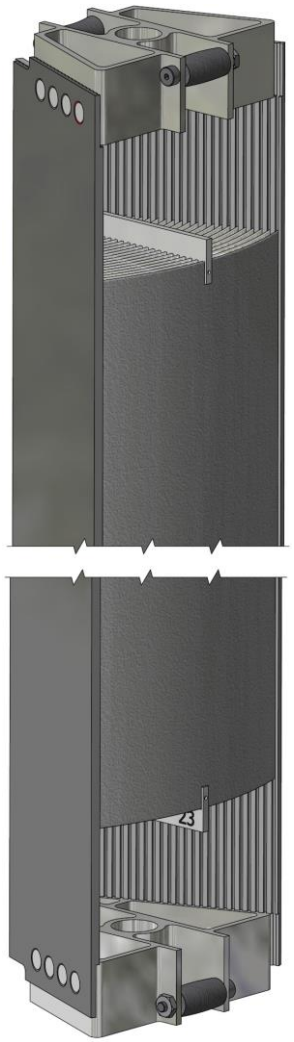


Figure 2.2. MURR Fuel Element.

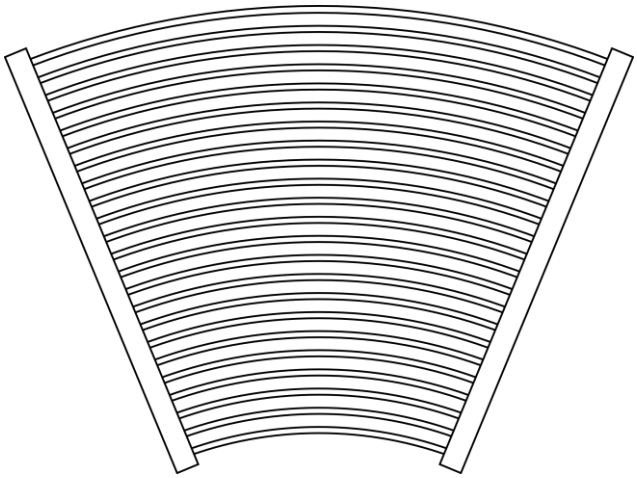


Figure 2.3. Cross-Sectional View of MURR LEU Fuel Element.

which nominally 69 mil extends into a 75 mil deep groove cut into the element side plates. The other portions of the element construction (e.g., side plate length, width, and thickness; and end fittings) will be identical to the HEU fuel element.

A complete description of the LEU element fuel design and associated tolerances is provided in References 4 and 7. Table 2.1 provides a summary of LEU fuel element dimensions and design parameters. The LEU element uses graded foil thicknesses to flatten the radial heat flux profile. This can be seen in Figure 2.4, which shows a cross-sectional view of the MURR LEU element plates 1-5 and 19-23 derived from the MCNP neutronics model. The different thicknesses of the fuel cores in the plates can be seen in the figure. Note that plates 6-18, which are not shown in Figure 2.4, have the same fuel foil and cladding thicknesses as plates 4-5 and 19-22. Full-thickness fuel foils with a fuel core thickness of 20 mil are loaded in plates 4-22. The thinnest fuel foil is loaded in plate 1, with a fuel core thickness of 9 mil. The cladding thickness also varies by plate, with the thinnest nominal cladding being 12 mil.

The cladding thicknesses on plates 1 and 23 are thicker (17.5 and 16 mil, respectively) because the outer plates are more susceptible to being scratched during handling. The fuel cladding consists of aluminum AA6061 and a thin (1 mil) zirconium layer at the fuel-cladding interface as an interaction barrier. The Zr interlayer is not shown in Figure 2.4, as it is combined with the AA6061 cladding in neutronics modeling. Plates 1 through 22 are designed to have a nominal thickness of 44 mil. Making the plates thinner than the HEU fuel element, as well having one less plate, gives a higher water-to-fuel ratio in the LEU element and increases the reactivity. Plate 23 is the widest fuel plate and is designed to have a nominal thickness of 49 mil, which gives greater resistance against bending forces in the MURR coolant flow field.

Table 2.1. Nominal LEU Fuel Element and Plate Dimensions and Loadings.

Channel or Plate	Meat thickness (mil)[1]	AA6061 Cladding +Zr Interlayer thickness (mil)	Plate thickness (mil)	Coolant Channel thickness (mil)
1	9	17.5	44	80.5[2]
2	12	16	44	93
3	16	14	44	93
4	20	12	44	93
5	20	12	44	93
6	20	12	44	92
7	20	12	44	92
8	20	12	44	92
9	20	12	44	92
10	20	12	44	92
11	20	12	44	92
12	20	12	44	92
13	20	12	44	92
14	20	12	44	92
15	20	12	44	92
16	20	12	44	92
17	20	12	44	92
18	20	12	44	92
19	20	12	44	92
20	20	12	44	93
21	20	12	44	93
22	20	12	44	93
23	17	16	49	93
24				80.5[3]

[1] ± 1 mil for all plates
[2] Plate 1 to outer edge of inner roller
[3] Plate 23 to outer edge of outer roller

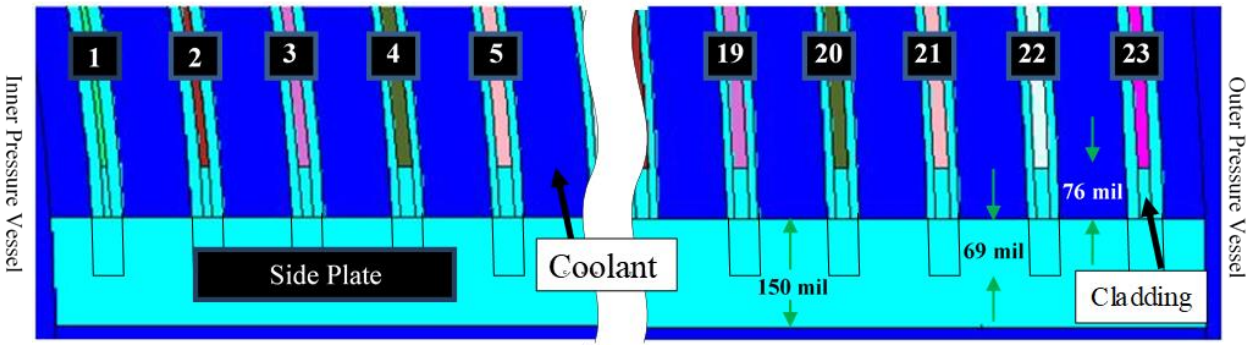


Figure 2.4. Cross-Sectional View of MURR LEU Element Plates 1-5 and 19-23.

3.0 LEU OPERATIONS DESIGN PARAMETERS

The MURR is currently licensed for a maximum steady-state power level of 10 MW thermal with HEU fuel. This power level provides neutron flux levels in the center flux trap and irradiation positions in the graphite reflector region that enable MURR to fulfill its mission of providing experimental and irradiation services to a variety of users.

The goal of the analysis for conversion to LEU fuel is to develop a fuel element design that will continue to ensure safe reactor operations, as well as maintaining existing performance. The LEU fuel element was designed according to a set of manufacturing assumptions that were provided by the Fuel Fabrication and Fuel Qualification Pillars of the Reduced Enrichment for Research and Test (RERTR) program to reliably manufacture the U-10Mo monolithic fuel plates. It has also been shown in Reference 1 that a power uprate to 12 MW will be needed for the LEU fueled core to continue to meet the facility's mission. A detailed thermal-hydraulics analysis was performed to establish the steady-state safety basis of the proposed LEU fuel and power uprate [2,4].

Clarification of the power normalization employed in the analysis is in order to ensure that there is a proper understanding of the basis of the results presented in previous work and in this report. The calculated heat flux profiles presented in Reference 1 are based on f7 tallies in MCNP, which conservatively assumes that all heat resulting from fission is deposited at the site of the fission event (i.e., in the fuel core of the plate). The gamma heating in the beryllium reflector and other ex-core components which contributes to the total *reactor plant* power was neglected in the power normalization. Thus, the data presented in Reference 1 are normalized to a *core* (i.e., fuel plates and associated coolant) power level of 12 MW. Note that for the steady-state thermal-hydraulic safety basis analysis performed in References 2 and 4, gamma heating in the ex-core components was taken into account in the power normalization so as to not be overly conservative in predicting the margins to safety.

For the data presented here, gamma heating in the beryllium and graphite reflectors and other ex-core components of MURR has been accounted for in the power normalization to provide more representative values for the design parameters for irradiation experiments. Analysts at MURR have calculated that for the LEU-fueled core the fraction of the plant power generated in ex-core structures is 3.6% of the total power [8]. Consequently, for the results presented here, the plate power density and heat flux profiles have been normalized to a *core* power level of 11.57 MW, or 96.4% of a *total plant* power of 12 MW. There is, however, no adjustment to the plate heat flux or power density to account for fission heat deposited directly in the coolant (in other words, the same assumptions as made for the f7 tallies), which remains a conservative assumption.

Calculated results for the fission density were also presented in Reference 1. These data were derived from REBUS-DIF3D depletion modeling, which was based on a power normalization to a *total plant* power of 12 MW. In other words, heat generation in the ex-core components (reflectors, pool, pressure vessels, flux trap) is included in the power normalization in the REBUS-DIF3D calculations. Consequently, the fission rate and fission density calculated by the REBUS-DIF3D model are properly normalized for the LEU-fueled MURR operating at the anticipated uprated power of 12 MW. As such, no renormalization of the fission density results presented in Reference 1 is needed.

3.1 Scope of Steady-State Core Conditions Evaluated

Power peaking in MURR is dependent upon the mixture of burnup states among the elements in the core, upon the core xenon buildup state, upon critical control blade compositions and positions, and upon the experiment/sample loadings, particularly in the flux trap. Twenty-four cores loaded with the proposed LEU fuel design that cover the range of expected variations in these conditions were examined. In the results

presented on the following pages, cases are labeled with a nomenclature *cfb*, where *c* indicates the fuel burnup and xenon condition, *f* indicates the flux trap loading, and *b* indicates the control blade conditions. The nomenclature of the core labels is defined in Table 3.1. The derivation of each of the components of the core state is described below. A summary of the MCNP cases for these twenty-four cores is provided in Table 3.2.

Table 3.1. Nomenclature for LEU Core Case Names: *cfb* (e.g. 5B1)

c=5	All fresh LEU elements, BOC (no Xe)
c=6	All fresh LEU elements, day 2 (eq. Xe)
c=7	Reference mixed burnup LEU core, BOC (no Xe)
c=8	Reference mixed burnup LEU core, day 2 (eq. Xe)

f=A	Flux trap holder with typical samples loaded in center flux trap
f=B	No flux trap holder or samples loaded in center flux trap –water only

b=*null*	All blades fresh and banked.
b=1	Blades C and D at 8 years prior use, blades A and B fresh. Blades C and D positioned 1 inch higher than A and B, per Technical Specification (TS) limit.
b=2	Blades A and D at 8 years prior use, blades B and C fresh. Blades A and D positioned 1 inch higher than B and C, per TS limit.

Core burnup state. The MURR operates continuously with the exception of a weekly scheduled shutdown. Over the past 41 years of operation, the MURR has averaged approximately 6.3 days/week at full power. The weekly shutdown provides an opportunity to access samples in the center flux trap, to perform surveillance tests and maintenance, and to replace all eight fuel elements in the core. Replacing all fuel elements provides the chance to remix or shuffle the elements that will be used in the core and a xenon free core for restart. The active fuel cycle typically consists of 32 fuel elements, corresponding to sixteen pairs of elements. A core loading will always consist of four different pairs of elements, with the two elements of each pair loaded opposite of each other in the core (e.g., positions 1 and 5 in Figure 2.1 are paired together).

A fuel cycle simulation of the complex MURR fuel shuffling sequence was performed with REBUS-DIF3D to obtain a "pseudo-equilibrium" reference mixed burnup core [1] that is prototypic for MURR operations. Elements are loaded in the core about 19 times before discharge from the fuel cycle. This is the same number of times the HEU fuel is typically loaded in the MURR before discharge from the fuel cycle. While the core residence time is the same for both the LEU and HEU fuel, the discharge burnup of the LEU elements is 20% greater (about 180 MWd) due to the higher core operating power level. An MCNP model of a chosen reference mixed-burnup core that is prototypic for MURR operations was used to evaluate experimental performance, calculate reactivity parameters, and calculate the detailed power distributions needed for the steady-state thermal-hydraulics analyses. The fuel compositions for the MCNP analyses were derived from the REBUS-DIF3D results.

Table 3.3 below summarizes the anticipated burnup ranges of LEU elements in the eight core positions of MURR, as well as the burnups of the elements at the beginning-of-cycle (BOC) for the selected reference mixed-burnup core. Note that cores with eight fresh elements were also evaluated, but these will only be loaded for startup testing of the converted core.

Flux trap conditions. Two center flux trap conditions were considered. The prototypic case, indicated by *f*=A in the case name label, has the flux trap holder loaded with typical samples for MURR operations. A non-prototypic "empty flux trap" case, in which the flux trap holder is not inserted and only pool water is

Table 3.2. Summary of Power Distribution Evaluations for LEU Cores.

Core state that may bound power peaking				Element Burnup (MWd) at Beginning of Cycle						Critical Blade Position (Inches withdrawn)			
Case	Burnup State	Xe State	Flux Trap	X1 X5	X2 X6	X3 X7	X4 X8	Fresh Blades	Depleted Blades	Fresh Blades	Depleted Blades	Reg Blade	MCNP k-eff
5A	Fresh	No Xe	Samples	0	0	0	0	A, B, C, D		13.259		10	1.00016
5A1	Fresh	No Xe	Samples	0	0	0	0	A, B	C, D	10.656	11.656	10	0.99993
5A2	Fresh	No Xe	Samples	0	0	0	0	B, C	A, D	10.814	11.814	10	0.99999
6A	Fresh	Eq. Xe	Samples	0	0	0	0	A, B, C, D		17.193		15	0.99985
6A1	Fresh	Eq. Xe	Samples	0	0	0	0	A, B	C, D	14.912	15.912	15	1.00001
6A2	Fresh	Eq. Xe	Samples	0	0	0	0	B, C	A, D	15.027	16.027	15	0.99990
7A	Mixed BU	No Xe	Samples	0	96	77	170	A, B, C, D		17.567		10	1.00008
7A1	Mixed BU	No Xe	Samples	0	96	77	170	A, B	C, D	15.209	16.209	10	0.99975
7A2	Mixed BU	No Xe	Samples	0	96	77	170	B, C	A, D	15.351	16.351	10	1.00014
8A	Mixed BU	Eq. Xe	Samples	0	96	77	170	A, B, C, D		24.314		15	1.00001
8A1	Mixed BU	Eq. Xe	Samples	0	96	77	170	A, B	C, D	22.765	23.765	15	1.00004
8A2	Mixed BU	Eq. Xe	Samples	0	96	77	170	B, C	A, D	22.698	23.698	15	0.99986
5B	Fresh	No Xe	Empty	0	0	0	0	A, B, C, D		13.650		10	0.99998
5B1	Fresh	No Xe	Empty	0	0	0	0	A, B	C, D	11.080	12.080	10	1.00003
5B2	Fresh	No Xe	Empty	0	0	0	0	B, C	A, D	11.258	12.258	10	1.00009
6B	Fresh	Eq. Xe	Empty	0	0	0	0	A, B, C, D		17.891		15	0.99997
6B1	Fresh	Eq. Xe	Empty	0	0	0	0	A, B	C, D	15.580	16.580	15	0.99988
6B2	Fresh	Eq. Xe	Empty	0	0	0	0	B, C	A, D	15.741	16.741	15	1.00017
7B	Mixed BU	No Xe	Empty	0	96	77	170	A, B, C, D		18.193		10	1.00013
7B1	Mixed BU	No Xe	Empty	0	96	77	170	A, B	C, D	15.933	16.933	10	1.00012
7B2	Mixed BU	No Xe	Empty	0	96	77	170	B, C	A, D	16.030	17.030	10	1.00003
8B	Mixed BU	Eq. Xe	Empty	0	96	77	170	A, B, C, D		26.000		15	0.99917
8B1	Mixed BU	Eq. Xe	Empty	0	96	77	170	A, B	C, D	25.621	26.000	15	0.99998
8B2	Mixed BU	Eq. Xe	Empty	0	96	77	170	B, C	A, D	25.312	26.000	15	0.99986

“Samples” indicates a typical loading of samples in all three flux trap tubes.
“Empty” indicates neither samples nor tubes in the flux trap (i.e., "empty island" configuration).
Full blade withdrawal is 26 inches.

Table 3.3. Beginning-of-Cycle Burnups for Reference LEU Mixed Burnup Core (*c*=7,8).

Core Positions	Typical BOC Burnup Range (MWd)[1]	Reference Core BOC Burnup (MWd)[1]
X1 and X5	0 to 50 (20 avg.)	0
X3 and X7	40 to 90 (64 avg.)	77
X2 and X6	85 to 135 (108 avg.)	96
X4 and X8	125 to 170 (153 avg.)	170

[1] Burnup values from fuel cycle simulation in REBUS-DIF3D

in the center flux trap, is indicated by *f*=B. In all cases, the irradiation positions in the graphite reflector were modeled with typical samples for those locations.

Control blade conditions. Reactivity control of MURR is accomplished by control blades that move vertically in an annular gap between the outer reactor pressure vessel and a beryllium reflector (see Figure 2.1). The blades control the reactivity by absorbing neutrons and reducing neutron reflection from the beryllium reflector back into the core. There are four shim control blades constructed of BORAL®, and one stainless steel regulating blade.

Within the first two days of the one week cycle, the control blades move from a typical position of 17 inches withdrawn at BOC to 23 inches withdrawn in response to the reactivity effects of xenon. The change in the control blade position affects the axial shape of the neutron flux and power peaking. Furthermore, while the control blades are typically "banked" at the same axial position, the MURR TS allow for the blade tips to differ in height relative to one another by up to one inch (from the highest to the lowest control blade). This blade height mismatch can cause a tilting of the neutron flux shape across the core. Lastly, the BORAL® material depletes significantly with blade use in the region near the blade tip. To accommodate this effect, the MURR control blades are shuffled in a multi-year scheme analogous to fuel shuffling. Blades are inserted for a two year cycle and typically average about 4 years of use before being retired, but can be used for as long as 10 years. Thus, in addition to a case with fresh control blades banked at the same height, the effects of control blade depletion and mismatch of the control blade heights relative to one another were evaluated. The two alternate control blade pattern cases identified in Table 3.1 were selected to maximize the impact on the power distribution in the core. These cases were evaluated for safety analyses and are considered extreme cases within the conservative band of operating conditions for MURR. The case with fresh blades that are banked is considered more prototypic for MURR operations.

3.2 Axial and Azimuthal Discretization of the Results

Detailed power distribution tallies were compiled using MCNP. In these tallies, the fuel core in each plate was divided into 24 one-inch axial segments. While the power distribution varies most significantly in the axial and radial (plate-by-plate) dimensions of the fuel element, the power density also varies along the width of the fuel core, and can peak sharply at the edge of the fueled section of the plate due to an increase in the local water-to-fuel ratio near the edge of the fuel core. Lateral conduction of the heat generated by fission to the unfueled portion of the fuel plate is not modeled in the one-dimensional steady-state thermal-hydraulics analysis employed for MURR. Rather, an appropriately-sized finite "hot-stripe" width was selected for the power tally segment width that yields conservative estimates of the fuel temperature and the heat conduction into the coolant channel for flow instability and critical heat flux analyses. Three-dimensional computational fluid dynamics (CFD) analyses were performed to determine the proper discretization of the fuel plates in the azimuthal dimension [9]. It was concluded from that analysis that the MCNP power distributions should be tallied by azimuthally subdividing the fuel core of each fuel plate into nine tally stripes; three stripes of 0.5 cm (5 mm) each along both edges of the fuel core, and three stripes of equal angle in the middle portion of the fuel core to cover the balance of the fuel width. The resulting tally

mesh size used for the MURR safety basis and for calculating the power density irradiation parameters is 0.5 x 2.54 cm. For the fission density irradiation parameter, the mesh size is 0.5 x 5.08 cm.

3.3 Design Parameter Data

MURR can operate under a range of conditions while safely fulfilling its mission. As discussed above, these conditions include the burnup of the fuel elements used in the weekly operating cycle, the experiment loading, and the prior history and the relative positioning of the control blades used for reactivity control. Each of these can have an impact on safety margins and local irradiation parameters such as power density, fission density, or heat flux. Other conditions that may vary during operation include the coolant flow rate through the core, the coolant pressure, and the coolant inlet temperature to the core. However, while coolant conditions will have an impact on safety margins, they will have little or no effect on local irradiation parameters. Additionally, variations in the coolant conditions from normal operating conditions are usually short in duration (minutes or hours) compared to variations in fuel, experiment, or control blade utilization (weeks).

Steady-state neutronics analysis under nominal operating conditions for the set of twenty-four cores identified in Section 3.1 were performed to predict key local heating rates in Reference 1. For completeness, the results for all cases are summarized in Table 3.4. Note that the power density and heat flux data in Table 3.4 have been renormalized to a core power level of 11.57 MW, as discussed in Section 3.0, above. Among these cases, only the two cases that are shaded in blue (Core 7A and 8A) are considered prototypic for MURR operations.

Local irradiation conditions expected during nominal steady-state operations are of interest as design parameters for the purpose of planning and evaluating irradiation experiments. A key design parameter which has been observed to affect fuel thermo-physical properties and the blister threshold temperature in U-10Mo monolithic fuel is the cumulative fission density in the fuel. The discharge fission density of the fuel in the MURR fuel element under prototypic conditions will vary by plate, as well as axial and azimuthal position in the plate. Furthermore, each of the USHPRR reactors is expected to discharge fuel over a wide range of fission densities. Post-irradiation examination of the irradiated fuel will include inspection for fuel integrity, as well as measurements and modeling of irradiation-induced swelling, thermal conductivity and other properties that are affected by fuel burnup, and blister threshold measurements for the irradiated fuel. A detailed examination of the fission density data for the discharged MURR fuel element under prototypic conditions is provided in Section 3.3.1 and Appendix A.

Another design parameter being experimentally tested to determine if it impacts fuel performance is the power density in the fuel during operation. The exact geometry and cooling conditions of the MURR fuel plate design, which can affect the heat flux and fuel temperature, may not be reproduced in fuel irradiation experiments, especially in plate-level tests. However, irradiation experiments can be designed to reproduce the prototypic power density/fission rate in the fuel plates. Table 3.4 shows that the maximum local power density occurs in Core 5B1, which is a core loaded with all fresh LEU elements at BOC, an empty flux trap, and the control blades in a skewed position (refer to Table 3.1 above for a description of the control blade pattern). Table 3.5 compares the calculated maximum power density by element for this core, as well as the greatest power density for fuel elements in the cores labeled 7A and 8A. The greatest power density values for Core 7A (no Xe conditions) and Core 8A (equilibrium Xe conditions) are 9% and 19% lower, respectively, compared with Core 5B1. However, Cores 7A and 8A will be prototypic of MURR operations following conversion, as they are modeled with a mixture of fresh and previously burned LEU elements and have experiments loaded in the center flux trap. A detailed examination of the power density data for MURR fuel elements under prototypic conditions is provided in Section 3.3.2 and Appendix B.

Table 3.4. Summary of Local Power Parameters Evaluated for LEU Cores.

Core	Local Power Density (kW/cm^3)		Local Heat Flux (W/cm^2)	
	Maximum	Location[1]	Maximum	Location[1]
5A	14.374	X3 P01 S1 A17	214.2	X8 P23 S9 A17
5A1	14.719	X7 P01 S9 A16	224.9	X7 P23 S1 A17
5A2	14.601	X2 P01 S9 A16	221.2	X1 P23 S9 A17
6A	13.772	X4 P01 S9 A14	204.3	X8 P23 S9 A15
6A1	13.680	X8 P01 S1 A15	214.2	X6 P23 S9 A15
6A2	13.575	X2 P01 S9 A14	208.6	X8 P23 S9 A15
7A	14.400	X5 P01 S1 A15	203.2	X1 P23 S1 A16
7A1	14.191	X5 P01 S9 A14	219.9	X1 P23 S1 A15
7A2	14.075	X1 P01 S9 A15	210.2	X1 P23 S9 A17
8A	12.780	X5 P01 S1 A12	186.1	X1 P23 S1 A14
8A1	12.709	X1 P01 S1 A12	194.6	X1 P23 S1 A14
8A2	12.583	X5 P01 S1 A14	189.6	X1 P23 S1 A11
5B	15.415	X2 P01 S9 A17	212.4	X8 P23 S9 A17
5B1	15.826	X7 P01 S1 A16	225.6	X6 P23 S9 A16
5B2	15.439	X1 P01 S1 A16	221.6	X8 P23 S9 A17
6B	14.617	X1 P01 S1 A15	202.6	X6 P23 S9 A15
6B1	14.187	X7 P01 S9 A14	209.4	X7 P23 S1 A13
6B2	14.171	X8 P01 S9 A15	205.8	X8 P23 S9 A14
7B	14.647	X5 P01 S1 A14	201.4	X1 P23 S1 A15
7B1	14.762	X5 P01 S1 A15	218.2	X1 P23 S1 A15
7B2	14.757	X1 P01 S1 A15	209.2	X1 P23 S1 A14
8B	13.039	X1 P01 S1 A13	183.8	X1 P23 S1 A13
8B1	12.943	X1 P01 S1 A10	184.4	X1 P23 S1 A13
8B2	12.815	X5 P01 S9 A12	184.7	X1 P23 S1 A10

[1] Xi is element number, as shown in Figure 2.1. Pkk is plate, numbered 1-23 moving from inner pressure vessel to outer pressure vessel. Sj is azimuthal stripe in plate, numbered 1-9 moving clockwise, looking from above. Azz is axial level, numbered 1-24 from top of the fuel core in the fuel plate.

Table 3.5. Maximum Power Density for Various Cores.

Core Position	Fuel Element Burnup (MWd)			Maximum Power Density (kW/cm^3)		
	5B1 (No Xe conditions)	7A (No Xe conditions)	8A (Eq. Xe conditions)	5B1 (No Xe conditions)	7A (No Xe conditions)	8A (Eq. Xe conditions)
1	0	0	3	15.1	13.9	12.5
2	0	96	99	14.6	11.5	10.2
3	0	77	80	14.3	12.0	10.5
4	0	170	173	14.4	9.6	8.2
5	0	0	3	15.0	**14.4**	**12.8**
6	0	96	99	15.6	11.5	10.2
7	0	77	80	**15.8**	11.8	10.6
8	0	170	174	15.3	9.5	8.5
Location of Maximum[1]				X5 P01 S1 A15	X5 P01 S1 A12	X7 P01 S1 A16

[1]Nomenclature for location of maximum value is described in footnote of Table 3.4.

It should also be noted that the specified geometry of the LEU fuel element design is also considered part of the set of design parameters for irradiation experiment design. The nominal LEU fuel element and plate dimensions are summarized in Table 2.1.

The DDE-MURR irradiation experiment of a full prototypic MURR element should be designed so that target test values match as closely as possible the set of design parameters which are given in this report at prototypic conditions.

Best estimate heat flux and temperature data for a prototypic case at nominal operating conditions will also be examined in this report. Plate-level data for the MURR fuel element heat flux are presented in Section 3.3.3. Plate-level data for the fuel and cladding temperature are presented in Section 3.3.4. Heat flux is not a design parameter since it is determined by the combination of the specified geometry and power density. It is the geometry and power density, as well as fission density, that are of interest for irradiation experiments for fuel qualification to determine whether there is an impact on fuel performance. However, heat flux is often reported in the safety basis analysis, and so is listed here as a helpful tie to both values reported in the MURR PSAR [4], as well as to aid in checking experiment design.

Heat flux also affects the fuel and cladding temperatures reached during operation. It should be noted that corrosion of the cladding is not being tested in the fuel qualification program since the AA6061 aluminum alloy cladding is not being changed by conversion. Moreover, the coolant water chemistry in a test reactor is not the same as MURR, and so any measured data are not applicable to MURR. The predicted LEU corrosion thicknesses used in safety basis analyses have been based on experimentally measured and correlated values in the MURR reactor coolant chemistry.

3.3.1 Fission Density

Table 3.6 provides the best estimate cumulative fission density averaged for each plate, and the maximum local fission density for each plate with axial and azimuthal factors applied, for an LEU element discharged from a reference "pseudo-equilibrium" fuel cycle simulation that is prototypic for the fuel management in MURR. The total burnup for this element calculated in the REBUS-DIF3D fuel cycle simulation was 180.1 MWd. The fuel was not subdivided azimuthally in the REBUS-DIF3D model to avoid having an excessively large number of depletion zones in the model. Rather, the azimuthal power peaking factor for each plate from the MCNP power distribution analysis was applied to the axially-dependent fission density calculated from the REBUS-DIF3D analysis to obtain the maximum local burnup values which occur along the edge of the fuel foil. It should be noted that the depletion modeling in REBUS-DIF3D divided the fuel in each plate into 12 axial depletion zones of 2 inches each in length. Consequently, the mesh size for the fission density data presented in this section is 0.5 x 5.08 cm.

The best estimate maximum local burnup for the LEU fuel in MURR is 3.37×10^{21} fissions/cm^3 and occurs in plate 1. This includes fission in all fissionable isotopes, not solely ^{235}U. Figure 3.1 provides a plot of the radial profile (plate-by-plate) of the fission density in a discharged LEU fuel element. Both plate average and maximum local burnup values with all peaking factors applied are presented. Table 3.7 compares the average and maximum burnup values by axial segment for the 3 most highly-burned plates in the discharged element. The axial burnup profiles for these plates are plotted in Figure 3.2.

Detailed axial and azimuthal fission density profiles for all 23 fuel plates in a discharged LEU fuel element under prototypic operating conditions are provided in Appendix A. As discussed above, the fission density

Table 3.6. Plate Discharge Fission Density for LEU Fuel.

Plate	Plate Average Fission Density ($x10^{20}$ fiss/cm^3)	Axial Burnup Peaking Factor	Azimuthal Peaking factor	Maximum Local Burnup	
				Fission Density ($x10^{20}$ fiss/cm^3)	Atom % Burnup
1	26.56	1.223	1.038	33.72	43.5%
2	20.60	1.245	1.087	27.86	35.9%
3	15.68	1.254	1.144	22.50	29.0%
4	12.25	1.262	1.196	18.49	23.9%
5	10.36	1.264	1.234	16.17	20.9%
6	9.34	1.263	1.251	14.76	19.0%
7	8.58	1.263	1.250	13.54	17.5%
8	8.07	1.263	1.251	12.75	16.4%
9	7.72	1.263	1.247	12.16	15.7%
10	7.46	1.264	1.241	11.71	15.1%
11	7.28	1.265	1.240	11.43	14.7%
12	7.15	1.266	1.243	11.26	14.5%
13	7.18	1.267	1.245	11.33	14.6%
14	7.13	1.269	1.255	11.35	14.6%
15	7.11	1.271	1.264	11.42	14.7%
16	7.15	1.274	1.273	11.60	15.0%
17	7.28	1.278	1.288	11.98	15.5%
18	7.52	1.282	1.302	12.55	16.2%
19	8.05	1.287	1.307	13.53	17.5%
20	8.84	1.293	1.297	14.83	19.1%
21	10.34	1.297	1.268	17.01	22.0%
22	13.22	1.300	1.202	20.66	26.7%
23	18.01	1.289	1.115	25.89	33.4%

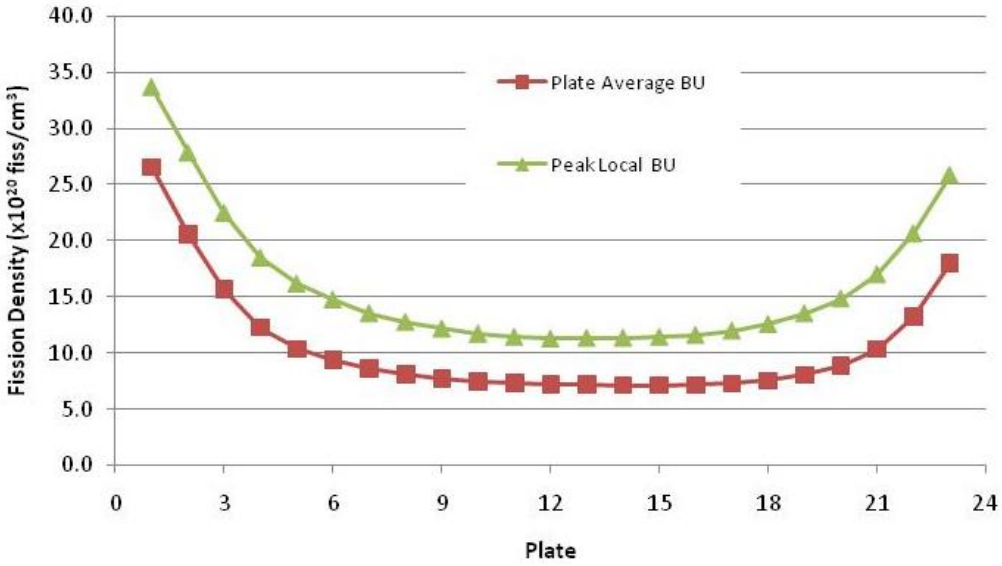


Figure 3.1. Fission Density by Plate in Discharged LEU Fuel.

Table 3.7. Discharge Fission Density (x10^{20} fissions/cm^3) in LEU Fuel Plates.

Distance from top of fuel (inches)	Plate 1		Plate 2		Plate 23	
	Average	Maximum	Average	Maximum	Average	Maximum
1.0	18.1	18.8	13.4	14.6	6.0	6.6
3.0	21.0	21.9	15.8	17.1	10.6	11.8
5.0	25.2	26.1	19.2	20.9	16.0	17.8
7.0	28.7	29.8	22.3	24.2	19.4	21.7
9.0	31.2	32.4	24.4	26.5	21.6	24.1
11.0	32.5	33.7	25.6	27.8	22.9	25.5
13.0	32.5	**33.7**	25.7	**27.9**	23.2	**25.9**
15.0	31.1	32.3	24.5	26.6	22.7	25.3
17.0	28.7	29.8	22.6	24.5	21.4	23.9
19.0	25.9	26.9	20.2	22.0	19.5	21.7
21.0	22.8	23.6	17.5	19.0	17.1	19.1
23.0	21.2	22.0	16.1	17.5	15.9	17.7

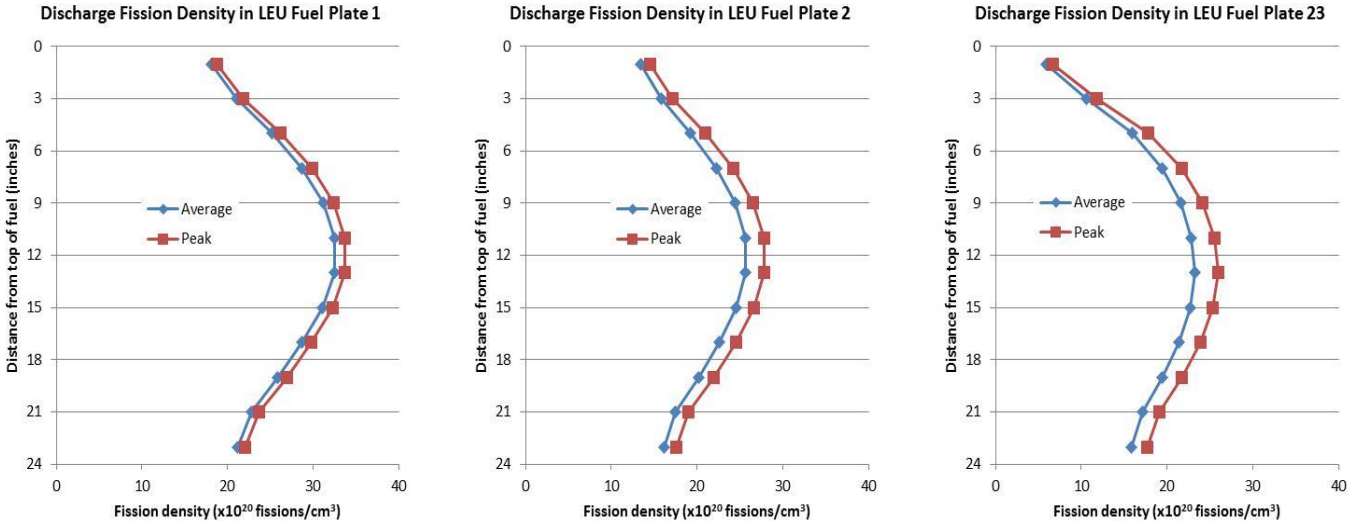


Figure 3.2. Axial Profile of Discharge Fission Density in LEU Fuel Plates.

data were not calculated with any azimuthal detail in the REBUS-DIF3D analysis. Instead, the local fission density values for the fuel plates were calculated by integrating the detailed time-dependent two-dimensional power density profiles calculated by MCNP over the life of the element and normalizing the results to match the maximum fission density for each plate listed in Table 3.6. A power generation of 201.4 MeV (or 3.23E-11 J) per fission event was used in the analysis. The mesh size for the fission density data provided in Appendix A is 0.5 x 2.54 cm.

3.3.2 Power Density

Table 3.8 provides the best estimate two-dimensional power density profile for the plate that has the maximum power density of all the steady-state cores examined. This occurs in plate 1 of a fresh fuel element in core position 7 of Core 5B1. A contour plot of the power density for this plate is shown in Figure 3.3.

Table 3.8. Power Density Data (kW/cm^3) for Plate with Maximum Power Density of All Steady-State Cores: Fresh LEU Element in Core 5B1, Position X7, No Xe, Plate 1, Empty FT.

Fuel core width	1.690	inches	Fuel core thickness	9	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	3.78	3.79	3.66	3.66	3.58	3.79	3.74	3.92	3.77
1.5	4.10	4.02	3.71	3.61	3.81	3.97	3.83	3.81	3.93
2.5	4.57	4.69	4.51	4.56	4.23	4.58	4.55	4.51	4.41
3.5	5.72	5.36	5.33	5.20	5.28	5.46	5.47	5.27	5.53
4.5	6.43	6.27	6.37	6.02	5.85	6.26	6.21	6.43	6.59
5.5	7.44	7.20	6.90	7.32	6.65	7.18	7.18	7.17	7.50
6.5	8.35	8.23	8.41	8.33	8.21	8.18	8.26	8.06	8.17
7.5	9.22	9.30	9.15	9.13	8.59	8.97	9.06	9.34	9.86
8.5	10.50	10.18	9.93	10.05	9.53	10.01	10.05	9.88	10.47
9.5	11.58	11.27	10.88	11.31	10.77	11.10	11.06	11.27	11.47
10.5	12.68	12.07	12.01	12.10	11.41	12.37	12.25	12.05	12.49
11.5	13.11	13.06	12.86	12.86	12.68	13.31	12.87	12.97	13.32
12.5	14.46	13.87	13.60	13.62	12.97	13.87	13.94	13.92	14.01
13.5	14.77	14.68	14.38	14.31	13.59	14.34	14.26	14.18	14.86
14.5	15.19	15.06	14.78	14.62	14.08	14.75	14.40	14.53	14.92
15.5	**15.83**	14.92	14.63	14.76	13.99	14.64	14.68	14.67	15.53
16.5	15.48	15.25	15.00	14.60	13.53	14.73	14.79	15.16	15.27
17.5	15.63	14.78	14.37	14.27	13.66	14.14	14.42	14.24	15.17
18.5	14.97	14.03	13.92	14.07	13.01	14.18	13.65	13.98	14.75
19.5	13.82	13.09	13.05	12.96	12.32	13.43	13.29	13.59	13.95
20.5	12.16	12.10	11.89	12.00	11.36	12.11	11.93	12.14	12.49
21.5	11.31	10.80	10.79	10.66	10.03	10.63	10.94	11.08	11.56
22.5	10.19	9.53	9.67	9.88	9.28	9.81	9.48	9.90	10.27
23.5	10.27	9.99	9.85	9.49	9.23	9.63	9.79	10.12	10.42
Ax. Avg.	10.90	10.56	10.40	10.39	9.90	10.48	10.42	10.51	10.86

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

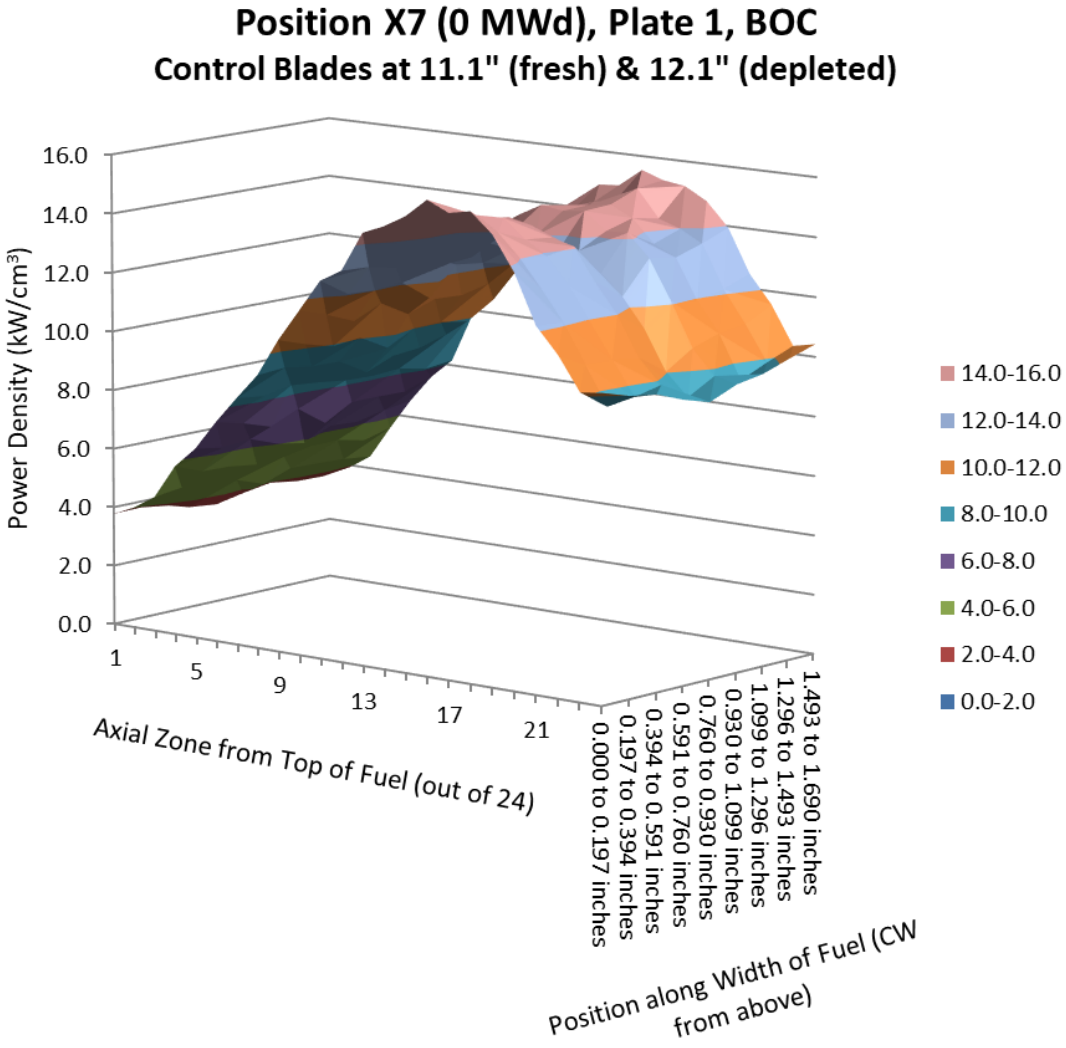


Figure 3.3. Power Density Profile (kW/cm^3) for Plate with Maximum Power Density of All Steady-State Cores: Fresh LEU Element in Core 5B1, Position X7, No Xe, Plate 1, Empty FT.

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

While this plate has the maximum power density among all the plates in all steady-state cores examined, Core 5B1 is not prototypic for MURR operations. Tables 3.9 to 3.12 provide the power density profiles for plate 1 in elements at four different core positions at BOC in Core 7A. This core has a mixture of fuel elements at burnups that are expected to be typical for the MURR prototypic "pseudo-equilibrium" operating cycle, as well as experiments in the flux trap and irradiation materials in the graphite reflector that are typical for MURR operations. The burnups of the fuel elements in this reference core were derived from the extensive fuel cycle simulation that was representative of typical fuel management in MURR. It should be noted that the burnup indicated in these tables is the average burnup for the entire element, not the plate burnup. It should also be noted that the data presented in these tables are under xenon-free conditions, even for those plates that have experienced prior burnup.

Each profile in Tables 3.9 to 3.12 is for a fuel plate 1 (the plate adjacent to the center flux trap) in an element that has reached a different burnup in its expected lifetime under steady-state operating conditions. Since Core 7A has a mixture of fuel elements at burnups that are expected to be typical for MURR at the beginning of weekly operations under a "pseudo-equilibrium" fuel management schedule, the data in Tables 3.9 to 3.12 are representative of the power density in a MURR fuel plate with the thinnest fuel core thickness over its anticipated lifetime. Likewise, Figures 3.4 and 3.5 are for illustrative purposes and show the power density profile contours for the plate at each point in its burnup history, and illustrate the significant reduction and flattening of the power density in the plate that occurs during the fuel element's use.

The core axial and radial power distribution is influenced by the critical control blade insertion height in MURR. The insertion of the control blades at the xenon-free state that exists at the beginning of the weekly MURR operating cycle causes axial power peaking towards the bottom of the core. The fuel irradiation experiments that are being planned by the Fuel Qualification Pillar will not be conducted in MURR and may not be able to achieve this same axial power shape. Since the equilibrium xenon concentration is reached after about 48 hours of operation in a typical 6.3-day cycle in MURR, the power density data at equilibrium xenon conditions are representative of the fuel operating conditions for most of its residence in the MURR core. As can be seen in Table 3.2, the control blades are about 6 to 7 inches more fully withdrawn at equilibrium xenon, largely due to the reactivity poisoning effect of the xenon. This results in a power distribution that is less peaked axially, and also less radially peaked towards plate 1.

Tables 3.13 to 3.16 provide best estimate power density data for fuel plate 1 in a typical MURR LEU element's lifetime at different burnup states and at equilibrium xenon conditions. The element burnup values are about 3 MWd greater than those presented in Tables 3.9 to 3.12, respectively, corresponding to the increased element burnup two days after the start of the weekly cycle. The maximum power density in MURR plate 1 under equilibrium xenon irradiation conditions that are prototypic for the weekly operating cycle in MURR is 12.8 kW/cm^3. This is 11% lower than the maximum power density in the same plate under xenon-free conditions in MURR, and 19% lower than the maximum power density for a fresh plate 1 for all steady-state cases examined.

The MURR fuel plates are loaded with fuel foils of differing thicknesses. The thinnest fuel foil thickness among all the foils used in the MURR LEU fuel element design is loaded in plate 1, which has a fuel core thickness of 9 mil. Loading this thin fuel foil in the high importance region near the center flux trap results in high power density (as discussed above) and higher fission density compared to other plates in the discharged element (as discussed in Section 3.3.1). This design feature also reduces the plate heat flux and fuel temperature compared to other plates.

Table 3.9. Power Density Data (kW/cm^3) in Fuel Plate 1 in 0 MWd Element in Reference Mixed Burnup Core: Core 7A, Position X5, No Xe, FT loaded with typical samples.

Fuel core width	1.690	inches	Fuel core thickness	9	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	4.20	3.67	3.71	3.47	3.76	3.66	3.54	3.54	3.61
1.5	4.03	3.78	3.80	3.73	3.53	3.80	3.54	3.75	3.74
2.5	4.66	4.63	4.40	4.43	3.98	4.52	4.19	4.47	4.68
3.5	5.50	5.45	5.39	5.41	5.04	5.15	5.52	5.37	5.43
4.5	6.67	6.10	6.36	6.53	6.07	6.42	6.39	6.30	6.55
5.5	7.38	7.26	7.08	7.14	6.70	7.35	7.11	7.27	7.41
6.5	8.25	8.14	7.85	7.76	7.49	7.98	7.90	8.08	8.15
7.5	9.17	8.59	8.92	8.66	8.12	8.71	8.33	8.65	8.99
8.5	10.13	9.69	9.61	9.65	9.47	9.93	9.42	9.19	9.94
9.5	11.32	10.66	10.42	10.62	10.03	10.74	10.84	10.71	10.93
10.5	12.18	11.97	11.54	11.73	11.00	11.71	11.79	11.86	11.98
11.5	12.84	12.56	12.50	12.35	11.70	13.06	12.61	12.77	13.08
12.5	13.73	13.72	13.09	13.45	12.53	12.86	12.87	13.24	13.43
13.5	14.32	13.64	13.22	13.27	12.92	13.28	13.83	13.62	13.94
14.5	**14.40**	13.67	13.22	13.34	13.15	13.53	13.59	13.74	13.86
15.5	13.69	13.42	13.27	12.90	12.64	13.77	13.14	13.63	13.70
16.5	13.33	12.68	12.50	12.87	12.33	12.65	12.60	12.96	13.04
17.5	12.81	12.60	12.12	12.17	11.30	11.79	11.55	11.86	12.25
18.5	11.98	11.43	11.37	11.44	11.02	10.99	11.19	11.75	11.66
19.5	11.13	10.68	10.73	11.05	10.43	10.23	10.35	10.46	10.81
20.5	10.60	10.41	10.06	10.20	9.44	9.80	9.74	10.48	10.13
21.5	9.90	9.55	9.12	9.17	9.06	9.21	9.37	9.43	9.47
22.5	8.99	8.67	8.84	8.47	8.05	8.14	7.96	8.37	8.58
23.5	9.11	8.91	8.89	8.85	8.35	8.92	8.95	8.90	9.07
Ax. Avg.	10.02	9.66	9.50	9.53	9.09	9.51	9.43	9.60	9.77

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.10. Power Density Data (kW/cm^3) in Fuel Plate 1 in 77 MWd Element in Reference Mixed Burnup Core: Core 7A, Position X3, No Xe, FT loaded with typical samples.

Fuel core width	1.690	inches	Fuel core thickness	9	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	3.63	3.50	3.52	3.41	3.43	3.37	3.35	3.60	3.65
1.5	3.83	3.61	3.47	3.43	3.51	3.50	3.52	3.56	3.66
2.5	4.10	3.93	3.90	4.08	3.91	3.91	3.92	3.80	4.03
3.5	4.88	4.86	4.65	4.76	4.34	4.56	4.71	4.59	4.80
4.5	5.52	5.51	5.48	5.33	4.90	5.25	5.43	5.40	5.35
5.5	6.14	6.35	6.15	6.09	5.89	5.95	5.95	5.95	6.30
6.5	6.86	6.58	6.61	6.66	6.34	6.85	6.66	6.72	6.96
7.5	7.94	7.53	7.33	7.56	7.39	7.66	7.37	7.50	7.59
8.5	8.39	8.27	8.36	8.02	7.86	8.03	7.90	8.20	8.28
9.5	9.29	8.98	8.93	8.94	8.47	9.07	8.99	9.11	9.29
10.5	10.09	9.78	9.58	9.89	8.96	9.44	9.55	9.49	9.87
11.5	10.81	10.68	10.31	10.37	9.68	10.27	10.20	10.54	10.57
12.5	11.44	11.14	11.02	11.01	10.47	10.90	10.80	10.90	10.91
13.5	11.45	11.44	10.96	11.21	10.53	11.06	11.27	11.32	11.72
14.5	**11.99**	11.65	11.21	11.24	10.95	11.40	11.39	11.50	11.83
15.5	11.65	11.20	11.01	11.17	10.48	11.01	11.17	11.38	11.60
16.5	11.46	11.15	11.13	10.84	10.59	10.78	10.71	10.85	11.43
17.5	11.24	10.99	10.48	10.37	9.81	10.61	10.16	10.75	10.41
18.5	10.48	10.29	10.02	10.06	9.43	10.24	9.72	9.90	10.16
19.5	10.12	9.66	9.67	9.48	9.18	9.56	9.57	9.29	9.54
20.5	9.50	9.21	8.86	9.30	8.57	8.96	9.08	8.92	9.06
21.5	8.38	8.35	8.17	7.85	7.86	8.17	8.16	8.07	8.12
22.5	7.79	7.86	7.50	7.30	6.97	7.14	7.36	7.76	7.90
23.5	8.49	8.06	7.76	7.86	7.30	7.92	7.86	7.82	8.34
Ax. Avg.	8.56	8.35	8.17	8.17	7.79	8.15	8.12	8.21	8.39

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.11. Power Density Data (kW/cm^3) in Fuel Plate 1 in 96 MWd Element in Reference Mixed Burnup Core: Core 7A, Position X2, No Xe, FT loaded with typical samples.

Fuel core width 1.690 inches Fuel core thickness 9 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	3.49	3.36	3.25	3.10	3.06	3.20	3.40	3.38	3.47
1.5	3.58	3.41	3.33	3.72	3.27	3.54	3.32	3.41	3.56
2.5	4.10	3.93	3.93	3.83	3.82	3.91	3.93	3.84	4.14
3.5	4.62	4.84	4.53	4.71	4.44	4.77	4.69	4.65	4.73
4.5	5.29	5.13	5.14	5.21	4.83	5.19	5.02	5.19	5.38
5.5	6.34	6.19	5.84	5.82	5.69	5.94	5.88	5.94	6.21
6.5	6.62	6.31	6.39	6.52	6.07	6.49	6.36	6.44	6.69
7.5	7.56	7.68	7.28	7.26	6.93	7.46	7.35	7.48	7.24
8.5	8.33	8.21	8.13	8.04	7.54	7.90	8.18	8.38	8.06
9.5	9.22	8.85	8.75	8.93	8.59	8.97	8.71	8.90	9.27
10.5	9.58	9.47	9.28	9.39	8.97	9.24	9.24	9.47	9.56
11.5	10.28	9.86	10.04	9.95	9.60	10.10	10.03	10.19	10.41
12.5	10.64	10.68	10.27	10.26	9.97	10.21	10.58	10.36	10.61
13.5	11.16	10.72	10.45	10.86	10.18	10.88	10.65	10.70	11.20
14.5	**11.53**	11.02	10.89	10.61	10.55	10.86	11.27	11.15	11.41
15.5	10.99	10.67	10.80	10.64	10.42	10.81	10.73	11.18	11.16
16.5	11.04	10.72	10.63	10.70	10.47	11.05	10.27	10.97	11.38
17.5	10.52	10.34	10.38	10.11	9.99	10.46	10.15	10.48	10.83
18.5	10.50	10.03	9.93	10.09	9.78	10.18	9.93	10.05	10.29
19.5	9.55	9.59	9.57	9.27	9.21	9.24	9.58	9.72	9.69
20.5	9.42	8.87	8.77	8.72	8.21	8.92	8.61	9.10	9.44
21.5	8.72	8.28	7.72	7.86	7.56	8.02	8.10	7.97	8.32
22.5	7.80	7.26	7.27	7.34	7.01	7.60	7.43	7.39	7.63
23.5	8.20	8.16	7.88	7.53	7.46	7.48	7.71	7.50	8.00
Ax. Avg.	8.30	8.06	7.94	7.94	7.65	8.02	7.96	8.07	8.28

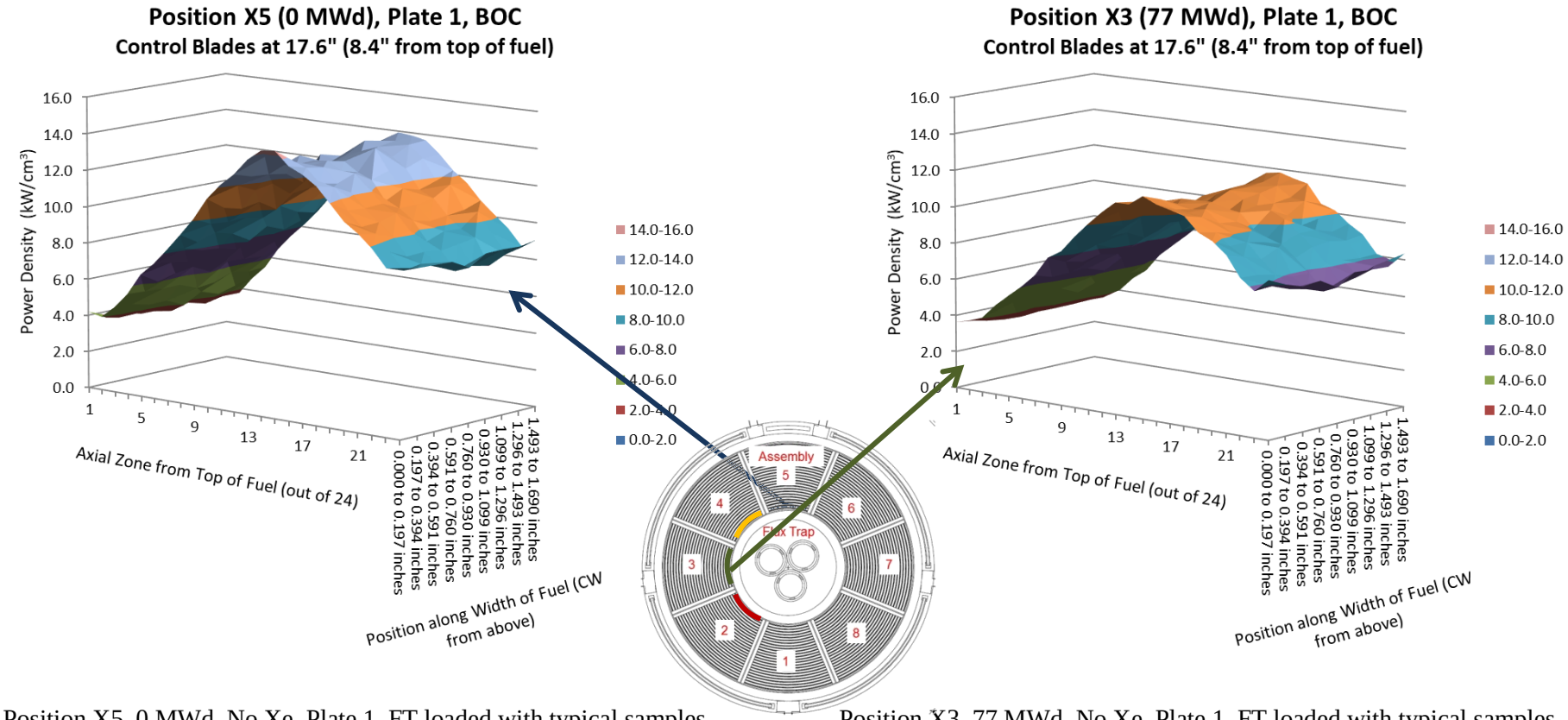
POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.12. Power Density Data (kW/cm^3) in Fuel Plate 1 in 170 MWd Burnup Element in Reference Mixed Burnup Core: Core 7A, Position X4, No Xe, FT loaded with typical samples.

Fuel core width	1.690	inches	Fuel core thickness	9	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	3.09	3.07	3.06	3.18	2.81	3.05	2.99	3.13	3.12
1.5	3.10	3.09	3.13	3.06	2.98	3.21	3.11	3.29	3.32
2.5	3.56	3.48	3.56	3.53	3.33	3.48	3.55	3.60	3.62
3.5	4.17	4.25	4.12	4.20	4.14	4.26	4.04	4.15	4.11
4.5	4.64	4.48	4.46	4.45	4.50	4.48	4.45	4.51	4.72
5.5	5.21	5.11	5.10	4.97	5.01	5.27	5.24	5.15	5.53
6.5	5.49	5.58	5.63	5.64	5.14	5.52	5.57	5.62	5.55
7.5	6.19	6.03	5.87	6.36	6.03	6.31	6.26	6.36	6.38
8.5	6.72	6.41	6.33	6.47	6.30	6.41	6.68	6.78	6.72
9.5	7.23	7.22	6.87	7.18	6.72	6.85	7.15	7.26	7.33
10.5	7.63	7.47	7.46	7.62	7.44	7.50	7.53	8.00	7.88
11.5	8.40	8.31	8.27	8.21	7.78	8.32	8.17	8.54	8.85
12.5	9.02	8.79	8.44	8.85	8.41	8.74	8.82	9.04	9.15
13.5	9.41	9.17	8.93	9.13	8.47	9.06	8.97	9.23	9.16
14.5	9.51	9.35	9.37	9.32	8.75	9.32	9.14	9.31	**9.60**
15.5	9.14	9.09	9.23	9.25	8.61	8.74	9.15	9.14	9.17
16.5	9.25	8.85	8.86	9.04	8.75	8.92	8.99	9.49	9.32
17.5	8.85	8.62	8.38	8.71	8.31	8.89	8.85	8.60	8.73
18.5	8.56	8.64	8.43	8.50	8.07	8.40	8.74	8.30	9.03
19.5	8.00	7.83	7.95	7.78	7.56	7.83	7.84	8.14	8.11
20.5	7.76	7.59	7.49	7.69	7.22	7.46	7.50	7.80	7.85
21.5	7.26	7.02	6.93	7.27	6.90	7.19	7.20	6.99	7.33
22.5	6.76	6.77	6.74	6.64	6.28	6.46	6.42	6.90	6.80
23.5	7.37	6.86	6.73	6.94	6.49	7.03	7.02	6.85	7.21
Ax. Avg.	6.93	6.79	6.72	6.83	6.50	6.78	6.81	6.93	7.02

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

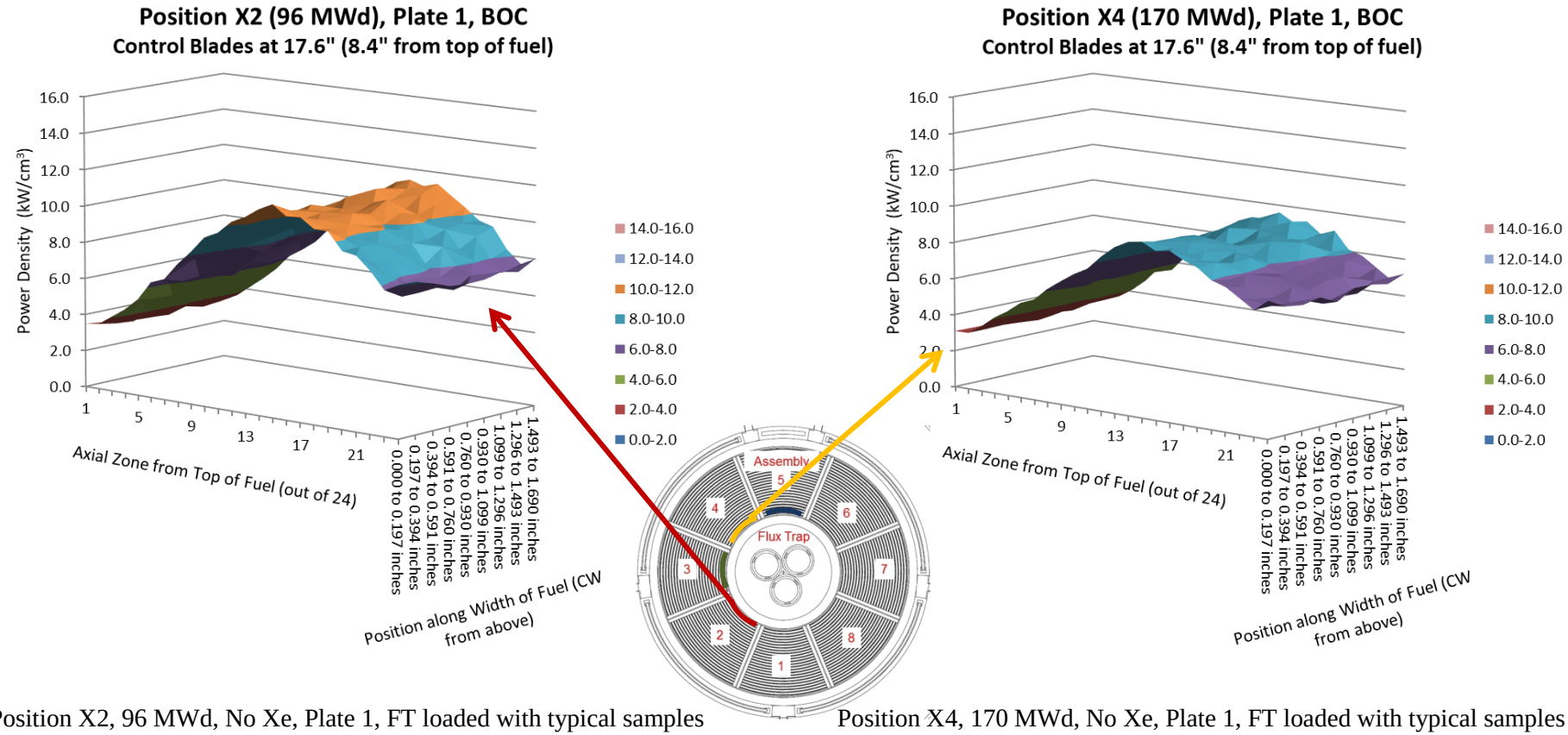


Position X5, 0 MWd, No Xe, Plate 1, FT loaded with typical samples

Position X3, 77 MWd, No Xe, Plate 1, FT loaded with typical samples

Figure 3.4. Evolution of Power Density Profile (kW/cm³) for LEU Fuel Plate 1, Element Burnup from 0 to 77 MWd: Core 7A, no Xe, FT loaded with typical samples.

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.



Position X2, 96 MWd, No Xe, Plate 1, FT loaded with typical samples

Position X4, 170 MWd, No Xe, Plate 1, FT loaded with typical samples

Figure 3.5. Evolution of Power Density Profile (kW/cm^3) for LEU Fuel Plate 1, Element Burnup from 96 to 170 MWd: Core 7A, no Xe, FT loaded with typical samples.

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.13. Power Density Data (kW/cm^3) in Fuel Plate 1 in 3 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Position X5, FT loaded with typical samples.

Fuel core width 1.690 inches Fuel core thickness 9 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.72	5.41	5.43	5.70	4.94	5.37	5.35	5.33	5.59
1.5	5.78	5.49	5.48	5.46	5.19	5.57	5.32	5.52	5.52
2.5	6.27	6.24	6.47	6.25	6.15	6.34	6.16	6.38	6.52
3.5	7.45	7.11	7.13	6.88	6.98	7.16	7.16	7.45	7.56
4.5	8.53	8.16	7.86	8.05	7.75	7.96	8.34	8.35	8.86
5.5	9.28	9.02	9.06	8.68	8.24	8.60	8.72	9.02	9.62
6.5	10.34	9.44	9.57	9.52	9.08	9.49	9.55	9.91	9.75
7.5	10.62	10.23	9.99	9.98	9.48	9.89	9.97	9.98	10.09
8.5	11.20	10.69	10.39	10.53	9.99	10.51	10.42	10.41	10.16
9.5	11.73	11.28	11.23	11.14	10.46	11.16	11.14	11.13	11.54
10.5	12.19	11.32	11.31	11.54	11.08	11.40	11.27	11.77	11.79
11.5	**12.78**	12.19	11.66	11.59	11.23	11.75	11.55	11.98	12.39
12.5	12.47	12.04	11.85	12.14	11.30	11.56	11.60	11.72	12.06
13.5	12.47	12.04	11.61	11.67	11.17	11.93	11.86	12.12	12.25
14.5	12.27	11.82	11.61	11.38	10.65	11.37	11.49	11.84	12.07
15.5	11.35	11.14	10.81	11.24	10.29	10.92	10.65	11.13	11.65
16.5	10.59	10.28	10.22	10.10	9.87	10.13	10.00	10.35	10.94
17.5	10.10	9.81	9.44	9.94	9.01	9.50	9.38	9.53	9.60
18.5	9.20	8.78	8.94	8.65	8.53	8.76	8.81	8.80	8.83
19.5	8.79	8.52	8.38	8.27	7.51	8.32	8.14	8.12	8.31
20.5	7.96	8.04	7.88	7.72	7.34	7.39	7.67	7.68	7.51
21.5	7.31	7.06	6.95	6.99	6.63	7.13	6.61	6.74	7.13
22.5	6.86	6.43	6.23	6.64	5.84	6.24	6.42	6.67	6.58
23.5	7.19	6.75	6.71	7.06	6.32	6.56	6.46	6.58	7.00
Ax. Avg.	9.52	9.14	9.01	9.05	8.55	8.96	8.92	9.11	9.31

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.14. Power Density Data (kW/cm^3) in Fuel Plate 1 in 80 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Position X3, FT loaded with typical samples.

Fuel core width	1.690	inches	Fuel core thickness	9	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.43	5.21	5.04	5.14	4.88	5.32	5.21	5.15	5.42
1.5	5.64	5.29	5.03	5.22	4.93	5.14	4.98	5.11	5.17
2.5	5.91	5.82	5.73	5.74	5.54	5.76	5.52	5.61	5.97
3.5	6.70	6.34	6.49	6.51	6.15	6.62	6.49	6.48	6.73
4.5	7.34	7.13	7.06	7.35	6.99	7.21	6.88	7.12	7.35
5.5	8.13	7.88	7.90	8.04	7.42	7.94	7.73	7.90	8.02
6.5	8.76	8.35	8.11	8.03	7.63	8.17	8.01	8.25	8.35
7.5	9.22	8.57	8.62	8.66	8.22	8.49	8.56	8.62	8.76
8.5	9.35	8.89	8.97	8.71	8.56	8.78	8.67	9.10	9.02
9.5	9.88	9.43	9.15	9.09	8.73	9.14	9.40	9.21	9.57
10.5	9.97	9.86	9.41	9.61	9.10	9.69	9.47	9.43	9.91
11.5	10.34	10.08	9.71	10.17	9.25	9.81	9.79	9.93	10.04
12.5	**10.51**	10.06	10.01	10.19	9.26	10.20	9.99	9.73	10.38
13.5	10.30	9.81	9.86	9.90	9.67	10.18	9.82	10.12	10.48
14.5	10.25	9.88	9.75	9.55	9.34	9.81	9.80	9.94	9.93
15.5	9.60	9.46	9.46	9.52	8.81	9.40	9.14	9.45	9.81
16.5	9.36	9.12	8.88	8.97	8.73	8.81	8.67	8.71	9.01
17.5	8.70	8.50	8.44	8.49	8.11	8.30	8.50	8.35	8.65
18.5	8.38	8.10	7.88	7.83	7.36	7.94	7.79	7.81	8.38
19.5	8.04	7.34	7.30	7.54	7.05	7.14	7.43	7.26	7.72
20.5	7.20	6.98	6.66	6.98	6.64	6.60	6.78	7.00	6.94
21.5	6.59	6.44	6.23	6.20	5.83	6.34	6.08	6.16	6.21
22.5	6.03	5.72	5.69	5.70	5.73	5.78	5.88	5.58	5.81
23.5	6.22	5.97	6.03	5.99	5.70	5.89	6.02	5.87	6.16
Ax. Avg.	8.25	7.93	7.81	7.88	7.49	7.85	7.77	7.83	8.07

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.15. Power Density Data (kW/cm^3) in Fuel Plate 1 in 99 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Position X2, FT loaded with typical samples.

Fuel core width 1.690 inches Fuel core thickness 9 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.10	5.06	5.02	5.23	4.77	4.83	4.96	4.98	5.08
1.5	5.40	5.13	5.24	4.99	4.99	5.13	4.87	5.05	5.36
2.5	6.11	5.69	5.62	5.74	5.67	5.76	5.47	5.49	5.89
3.5	6.74	6.66	6.70	6.75	6.20	6.33	6.56	6.58	6.73
4.5	7.33	7.13	6.97	6.77	6.56	6.86	7.08	6.96	7.36
5.5	7.83	7.51	7.62	7.72	7.56	7.58	7.69	7.79	7.91
6.5	8.36	8.00	7.83	7.94	7.56	8.40	8.09	8.30	8.56
7.5	9.03	8.71	8.55	8.71	7.96	8.37	8.46	8.83	8.90
8.5	9.01	8.85	8.99	8.87	8.53	8.85	8.61	8.78	8.86
9.5	9.65	9.19	9.24	9.23	9.00	9.41	9.14	9.26	9.41
10.5	9.47	9.45	9.23	9.46	9.07	9.55	9.31	9.34	9.81
11.5	9.77	9.69	9.53	9.45	9.16	9.18	9.47	9.57	9.73
12.5	10.01	9.43	9.54	9.38	9.15	9.59	9.77	9.78	**10.17**
13.5	9.79	9.29	9.34	9.56	9.11	9.82	9.60	9.56	9.95
14.5	9.56	9.48	9.49	9.53	9.07	9.52	9.45	9.72	9.72
15.5	9.26	9.33	9.08	8.81	8.54	9.30	9.00	9.41	9.34
16.5	9.14	8.66	8.88	8.79	8.27	8.79	8.81	9.00	9.03
17.5	8.53	8.29	8.14	8.20	8.03	8.36	8.25	8.28	8.42
18.5	8.02	8.15	7.90	8.03	7.40	7.69	7.85	7.94	8.18
19.5	7.47	7.20	7.07	7.39	7.05	7.29	7.08	7.48	7.67
20.5	6.88	6.84	6.39	6.76	6.35	6.84	6.67	6.88	6.98
21.5	6.26	6.24	6.01	6.17	5.80	6.03	5.96	6.17	6.40
22.5	5.96	5.78	5.68	5.55	5.35	5.61	5.74	5.54	6.07
23.5	6.01	5.86	5.64	5.75	5.38	5.70	5.76	5.91	5.98
Ax. Avg.	7.95	7.74	7.65	7.70	7.36	7.70	7.65	7.78	7.98

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.16. Power Density Data (kW/cm^3) in Fuel Plate 1 in 173 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Position X4, FT loaded with typical samples.

Fuel core width 1.690 inches Fuel core thickness 9 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.930 inches	0.930 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	4.65	4.38	4.52	4.43	4.28	4.78	4.32	4.50	4.78
1.5	4.71	4.67	4.67	4.43	4.15	4.52	4.62	4.74	4.77
2.5	4.97	4.95	4.78	4.84	4.58	4.87	4.93	4.99	4.99
3.5	5.84	5.39	5.58	5.61	5.18	5.50	5.60	5.91	5.97
4.5	6.05	5.90	6.10	5.92	5.74	6.28	6.18	6.11	6.18
5.5	6.86	6.71	6.62	6.70	6.13	6.64	6.66	6.54	6.76
6.5	7.01	6.66	6.77	6.84	6.50	6.94	6.75	6.64	7.02
7.5	7.20	6.95	6.97	7.29	6.66	7.02	6.83	7.11	7.16
8.5	7.34	7.24	6.74	7.08	7.01	7.32	7.01	7.32	7.29
9.5	7.81	7.71	7.61	7.45	7.10	7.54	7.37	7.69	7.65
10.5	7.68	7.64	7.66	7.66	7.34	7.50	7.64	7.48	7.67
11.5	7.97	7.69	8.05	7.82	7.30	8.11	7.59	7.86	8.11
12.5	8.06	8.33	7.83	8.11	7.67	7.99	8.09	8.04	8.03
13.5	8.18	7.86	7.89	7.89	7.62	7.94	8.12	8.19	8.09
14.5	8.14	8.16	7.92	8.21	7.70	8.08	7.72	8.04	**8.21**
15.5	7.51	7.62	7.25	7.54	7.25	7.75	7.39	7.51	7.61
16.5	7.52	7.29	7.30	7.45	7.22	7.64	7.42	7.37	7.69
17.5	6.75	6.74	6.78	6.93	6.46	6.90	6.91	6.94	7.26
18.5	7.12	6.62	6.66	6.49	6.35	6.90	6.67	6.84	7.04
19.5	6.26	6.16	5.94	5.96	5.84	6.28	6.37	6.49	6.37
20.5	6.21	6.27	6.02	5.88	5.75	5.75	5.91	6.09	6.14
21.5	5.42	5.43	5.48	5.32	5.16	5.29	5.40	5.43	5.67
22.5	5.01	4.88	4.78	5.01	4.66	4.99	5.03	5.12	5.14
23.5	5.38	5.31	5.39	5.12	5.16	5.11	5.16	5.15	5.39
Ax. Avg.	6.65	6.52	6.48	6.50	6.20	6.57	6.49	6.59	6.70

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Plates 4-22 contain full-thickness fuel foils, with a fuel core thickness of 20 mil. Among all plates in the MURR fuel element, plate 22 has been found to have the maximum steady-state fuel temperature (see Section 3.3.4). Best estimate power density data for plate 22 were collected and are summarized in Tables 3.17 to 3.21. Just as for the data collected for plate 1, the data are representative of the power density profile in plate 22 over it's lifetime from beginning of life (BOL) to near discharge. Table 3.17 provides the power density data in a fresh plate 22 in Core 7A, which is a core configuration that is typical for weekly MURR operations under xenon-free conditions. Tables 3.18 to 3.21 provide the power density for this plate at other points in the lifetime of the fuel element under equilibrium xenon conditions. The burnup indicated in these tables is the average burnup for the entire element, not the plate burnup.

Best estimate power density data for all plates in a MURR fuel element under prototypic steady-state conditions are provided in Appendix B. The data are representative over the lifetime of these plates in the MURR "pseudo-equilibrium" fuel cycle from BOL to near discharge

Table 3.17. Power Density Data (kW/cm^3) in Fuel Plate 22 in 0 MWd Burnup Element at No Xe Conditions in Reference Mixed Burnup Core: Core 7A, Position X1, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	0.78	0.75	0.66	0.75	0.90	0.78	0.66	0.73	0.81
1.5	0.77	0.65	0.68	0.75	0.89	0.74	0.72	0.70	0.75
2.5	0.89	0.91	0.86	0.94	1.03	0.89	0.80	0.78	0.89
3.5	1.09	1.02	1.01	1.06	1.20	1.05	0.95	0.96	1.04
4.5	1.29	1.11	1.16	1.24	1.41	1.23	1.18	1.08	1.24
5.5	1.42	1.39	1.37	1.42	1.72	1.44	1.36	1.36	1.46
6.5	1.71	1.56	1.55	1.79	2.03	1.75	1.66	1.67	1.91
7.5	2.27	2.14	2.13	2.26	2.56	2.23	2.14	2.15	2.25
8.5	3.83	3.44	3.47	3.28	3.21	3.23	3.24	3.38	3.86
9.5	5.35	4.70	4.31	4.17	3.93	4.17	4.48	4.56	5.21
10.5	6.02	5.17	5.03	4.70	4.47	4.81	5.00	5.19	5.84
11.5	6.64	5.64	5.48	5.08	4.92	5.14	5.64	5.73	6.58
12.5	6.73	6.02	5.74	5.51	5.08	5.45	5.74	5.98	6.74
13.5	7.32	6.29	6.18	5.66	5.39	5.59	5.83	5.97	7.13
14.5	7.32	6.44	6.00	5.76	5.48	5.67	6.03	6.38	**7.40**
15.5	7.23	6.23	5.87	5.73	5.49	5.75	6.09	5.95	7.18
16.5	7.23	6.21	6.00	5.73	5.39	5.55	5.68	6.17	7.02
17.5	7.05	6.06	5.80	5.46	5.25	5.56	5.59	6.01	6.83
18.5	6.59	5.78	5.58	5.24	4.94	5.22	5.36	5.86	6.51
19.5	6.13	5.28	5.22	4.94	4.79	4.95	5.33	5.27	6.28
20.5	5.83	4.95	4.90	4.51	4.48	4.58	4.71	4.95	5.81
21.5	5.27	4.50	4.29	4.20	3.98	4.14	4.22	4.39	5.07
22.5	4.63	3.99	4.00	3.72	3.57	3.65	3.92	4.06	4.69
23.5	5.54	4.52	4.30	4.01	3.92	3.94	4.12	4.36	4.95
Ax. Avg.	4.54	3.95	3.82	3.66	3.58	3.65	3.77	3.90	4.48

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.18. Power Density Data (kW/cm^3) in Fuel Plate 22 in 3 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Positions X1, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.66	1.40	1.34	1.42	1.68	1.41	1.22	1.39	1.55
1.5	2.08	1.79	1.74	1.77	1.88	1.79	1.64	1.74	2.13
2.5	3.12	2.82	2.58	2.51	2.51	2.53	2.65	2.73	3.07
3.5	3.93	3.33	3.15	3.06	2.98	3.12	3.15	3.42	3.78
4.5	4.42	3.87	3.75	3.54	3.39	3.49	3.60	3.89	4.27
5.5	5.09	4.19	4.01	3.92	3.75	3.89	4.15	4.20	4.77
6.5	5.62	4.67	4.38	4.21	4.08	4.19	4.49	4.54	5.53
7.5	5.89	4.90	4.73	4.56	4.32	4.53	4.73	5.01	5.71
8.5	6.06	5.32	5.04	4.71	4.51	4.80	4.84	5.23	5.95
9.5	6.20	5.55	5.12	4.89	4.67	4.98	5.20	5.26	6.10
10.5	6.32	5.60	5.48	4.98	4.77	5.08	5.23	5.73	6.33
11.5	**6.65**	5.76	5.42	5.10	4.84	5.03	5.30	5.59	6.39
12.5	6.36	5.51	5.41	5.04	4.79	5.05	5.15	5.62	6.35
13.5	6.42	5.52	5.36	5.11	4.90	5.11	5.17	5.44	6.36
14.5	6.21	5.36	5.32	4.95	4.74	4.91	5.19	5.37	6.17
15.5	6.19	5.23	4.89	4.83	4.64	4.78	4.87	5.35	5.88
16.5	6.03	5.13	4.93	4.66	4.45	4.55	4.76	5.06	5.82
17.5	5.44	5.01	4.66	4.45	4.21	4.37	4.53	4.76	5.38
18.5	5.34	4.60	4.32	4.20	3.93	4.12	4.33	4.56	5.31
19.5	4.93	4.30	4.08	3.94	3.78	3.89	4.02	4.32	4.92
20.5	4.43	3.77	3.59	3.51	3.37	3.47	3.71	4.05	4.30
21.5	4.13	3.50	3.39	3.21	3.03	3.16	3.22	3.55	3.97
22.5	3.63	3.13	2.99	2.87	2.70	2.72	2.97	3.08	3.66
23.5	3.89	3.35	3.24	3.02	2.87	3.07	3.28	3.44	3.91
Ax. Avg.	5.00	4.32	4.12	3.94	3.78	3.92	4.06	4.31	4.90

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.19. Power Density Data (kW/cm^3) in Fuel Plate 22 in 80 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Positions X7, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.39	1.34	1.21	1.28	1.47	1.65	1.49	1.46	1.56
1.5	1.97	1.72	1.85	1.72	1.80	1.95	1.83	1.81	2.11
2.5	3.02	2.69	2.66	2.54	2.48	2.58	2.61	2.70	3.13
3.5	3.81	3.48	3.23	3.16	3.10	3.13	3.16	3.36	3.77
4.5	4.31	3.94	3.53	3.56	3.41	3.55	3.39	3.76	4.20
5.5	4.90	4.36	4.23	4.04	3.82	3.87	4.03	4.18	4.77
6.5	5.36	4.61	4.21	4.31	4.03	4.12	4.28	4.50	5.22
7.5	5.65	5.05	4.66	4.55	4.29	4.39	4.46	4.59	5.59
8.5	5.71	5.08	4.97	4.74	4.54	4.68	4.71	5.04	5.71
9.5	5.98	5.17	5.10	4.93	4.68	4.86	4.88	5.18	5.93
10.5	6.12	5.63	5.21	5.06	4.82	4.83	4.91	5.24	5.90
11.5	**6.25**	5.59	5.44	5.16	4.85	4.86	5.00	5.19	6.08
12.5	6.15	5.37	5.39	5.10	4.76	4.77	5.14	5.29	5.93
13.5	6.13	5.68	5.18	5.02	4.66	4.74	5.04	5.16	6.09
14.5	6.13	5.26	5.18	4.89	4.56	4.67	4.91	5.19	5.97
15.5	5.98	5.19	4.72	4.70	4.40	4.39	4.60	4.87	5.60
16.5	5.64	4.88	4.55	4.53	4.21	4.30	4.56	4.74	5.24
17.5	5.30	4.70	4.46	4.21	3.88	4.05	4.21	4.36	5.21
18.5	5.11	4.28	4.15	3.99	3.75	3.79	4.02	4.29	4.81
19.5	4.43	4.16	3.91	3.66	3.47	3.54	3.71	3.96	4.59
20.5	4.13	3.60	3.67	3.44	3.17	3.21	3.41	3.62	4.14
21.5	3.56	3.30	3.07	2.99	2.85	2.98	3.02	3.23	3.72
22.5	3.28	2.98	2.94	2.64	2.58	2.63	2.78	2.83	3.46
23.5	3.68	3.11	3.05	2.93	2.82	2.88	2.99	3.12	3.59
Ax. Avg.	4.75	4.22	4.02	3.88	3.68	3.77	3.88	4.07	4.68

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.20. Power Density Data (kW/cm^3) in Fuel Plate 22 in 99 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Positions X6, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.57	1.35	1.24	1.18	1.12	1.17	1.29	1.27	1.49
1.5	1.96	1.89	1.80	1.61	1.55	1.62	1.61	1.74	1.95
2.5	3.07	2.44	2.55	2.44	2.38	2.48	2.60	2.67	3.07
3.5	3.53	3.11	3.09	3.01	3.00	3.12	3.26	3.37	3.75
4.5	4.03	3.71	3.36	3.47	3.43	3.54	3.63	3.81	4.20
5.5	4.38	3.90	3.89	3.80	3.75	3.88	4.02	4.39	4.99
6.5	4.80	4.37	4.28	4.08	4.18	4.26	4.40	4.57	5.32
7.5	5.01	4.56	4.39	4.44	4.42	4.48	4.61	4.91	5.51
8.5	5.33	4.88	4.65	4.65	4.52	4.84	4.94	5.00	5.76
9.5	5.31	4.90	4.89	4.79	4.81	4.99	4.95	5.33	5.97
10.5	5.35	4.92	4.78	4.83	4.81	4.94	5.32	5.15	5.88
11.5	5.73	5.16	4.99	4.99	4.82	5.07	5.11	5.47	6.15
12.5	5.69	5.14	4.99	4.96	4.93	5.10	5.41	5.32	6.17
13.5	5.79	5.11	4.86	4.88	4.89	4.96	5.15	5.43	6.09
14.5	5.61	5.05	4.82	4.91	4.80	4.96	5.19	5.44	**6.21**
15.5	5.49	5.07	4.56	4.77	4.57	4.79	4.98	5.06	5.86
16.5	5.18	4.82	4.60	4.52	4.53	4.67	4.69	5.00	5.70
17.5	5.06	4.50	4.44	4.33	4.27	4.30	4.39	4.51	5.24
18.5	4.75	4.19	4.13	4.07	4.00	4.13	4.07	4.25	4.84
19.5	4.33	3.94	3.70	3.74	3.77	3.69	3.79	3.94	4.54
20.5	4.05	3.59	3.47	3.43	3.31	3.42	3.37	3.70	4.05
21.5	3.55	3.09	3.07	3.01	2.94	3.07	3.05	3.35	3.65
22.5	3.18	2.82	2.75	2.71	2.63	2.73	2.71	2.84	3.48
23.5	3.57	2.98	2.87	2.87	2.81	2.86	2.87	3.07	3.64
Ax. Avg.	4.43	3.98	3.84	3.81	3.76	3.88	3.97	4.15	4.73

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

Table 3.21. Power Density Data (kW/cm^3) in Fuel Plate 22 in 173 MWd Burnup Element at Eq. Xe Conditions in Reference Mixed Burnup Core: Core 8A, Positions X8, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.51	1.32	1.25	1.19	1.13	1.17	1.24	1.30	1.41
1.5	2.05	1.70	1.78	1.71	1.61	1.60	1.70	1.70	2.04
2.5	2.99	2.67	2.57	2.53	2.44	2.55	2.63	2.81	3.06
3.5	3.80	3.30	3.20	3.12	3.07	3.13	3.17	3.37	3.76
4.5	4.13	3.67	3.65	3.47	3.40	3.49	3.59	3.69	4.27
5.5	4.73	4.10	3.96	3.92	3.86	3.92	3.91	4.22	4.67
6.5	4.80	4.39	4.12	4.18	4.03	4.14	4.36	4.44	4.87
7.5	5.38	4.68	4.52	4.35	4.33	4.45	4.38	4.69	5.18
8.5	5.35	4.79	4.59	4.50	4.52	4.50	4.78	5.10	5.51
9.5	5.59	4.95	4.86	4.68	4.71	4.75	4.87	5.10	5.81
10.5	5.66	5.11	4.89	4.87	4.70	4.84	4.72	5.03	5.61
11.5	5.50	5.06	4.81	4.81	4.72	4.93	5.00	5.14	**5.83**
12.5	5.63	4.90	4.81	4.80	4.74	4.85	5.02	5.06	5.65
13.5	5.43	4.92	4.65	4.69	4.64	4.83	4.91	5.08	5.71
14.5	5.32	4.71	4.56	4.60	4.49	4.83	4.99	5.17	5.68
15.5	5.28	4.66	4.46	4.60	4.47	4.62	4.72	4.90	5.39
16.5	5.13	4.46	4.46	4.41	4.31	4.54	4.46	4.74	5.32
17.5	5.00	4.40	4.24	4.12	4.15	4.29	4.47	4.48	5.06
18.5	4.63	4.23	4.09	4.02	3.98	3.94	3.96	4.36	4.84
19.5	4.39	3.94	3.77	3.63	3.62	3.66	3.79	3.94	4.41
20.5	3.76	3.70	3.44	3.41	3.33	3.46	3.40	3.54	3.98
21.5	3.57	3.22	3.12	2.99	3.00	3.04	3.23	3.24	3.49
22.5	3.26	2.93	2.67	2.67	2.68	2.79	2.80	2.86	3.32
23.5	3.65	3.18	3.04	2.90	2.79	2.97	3.02	3.04	3.56
Ax. Avg.	4.44	3.96	3.81	3.76	3.70	3.80	3.88	4.04	4.52

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL.

3.3.3 Heat Flux

The local plate surface heat flux is not a design parameter for irradiation experiments because it can be derived from the specified fuel plate geometry and power density, both of which are design parameters. Nonetheless, heat flux is often reported in the safety basis analysis, and so is provided in this report to aid in checking the DDE-MURR experiment design.

Although the local plate surface heat flux is affected by coolant flow conditions on each side of the fuel plate, a simple estimate of the heat flux can be calculated by assuming that all heat deposited in the fuel core from fission, neutron capture, and gamma heating is conducted evenly from the two radial surfaces of the fuel plate. The estimate can be further simplified by neglecting lateral heat conduction that will be higher near the edge of the fuel core (heat conducting along the cladding towards the side plate). Thus, the heat flux can be simply estimated by multiplying the power density by the fuel core thickness and dividing by two. The local heat flux calculated in this way is not a target test value.

The heat flux profile data provided in Tables 3.22 to 3.25, and the corresponding heat flux contour plots in Figures 3.6 and 3.7, are for illustrative purposes to show the evolution of the heat flux profile in plate 22 of a MURR LEU fuel element over its anticipated lifetime. Plate 22 was selected for illustration because it is the plate with the maximum fuel temperature in a prototypic core (see Section 3.3.4). The heat flux data were extracted from the MCNP calculation for Core 7A for elements at four different burnup state points. This core has a mixture of fuel elements at burnups that are expected to be typical for the MURR prototypic "pseudo-equilibrium" operating cycle, as well as experiments in the flux trap and irradiation materials in the graphite reflector that are typical for MURR operations. It should be noted that the burnup indicated in these tables and figures is the average burnup for the entire element, not the plate burnup. It should also be noted that the data presented in these tables are for a core under xenon-free conditions.

The data show that the maximum local heat flux in plate 22 decreases by about 10% over its lifetime. It is observed that maximum local heat flux increases about 3% from an element burnup of 77 to 96 MWd (compare Tables 3.22 and 3.25). This is because the element is repositioned in the neutronics analysis from core position 7 to core position 6, which is typical for the MURR fuel management. As can be inferred from the control blade positions indicated in Figure 2.1, the axial power profile of a fuel element in core position 6 is more strongly influenced by the axial positioning of the control blades, resulting in a larger axial power peaking factor. Once the element is repositioned to core position 8 near the end of its life, the maximum local heat flux reduces significantly.

Table 3.22. Heat Flux Data (W/cm^2) for Fuel Plate 22 in 0 MWd Burnup Element in Reference Mixed Burnup Core: Core 7A, Position X1, No Xe, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	19.72	19.06	16.66	18.98	22.92	19.92	16.64	18.46	20.66
1.5	19.47	16.61	17.31	19.04	22.51	18.77	18.17	17.70	19.08
2.5	22.59	23.08	21.86	23.85	26.27	22.49	20.29	19.80	22.66
3.5	27.68	25.88	25.66	27.00	30.50	26.70	24.10	24.43	26.31
4.5	32.66	28.15	29.50	31.42	35.93	31.35	30.07	27.54	31.48
5.5	35.98	35.22	34.88	36.13	43.64	36.62	34.47	34.47	37.00
6.5	43.51	39.75	39.47	45.48	51.57	44.56	42.18	42.54	48.64
7.5	57.57	54.36	54.01	57.40	65.05	56.64	54.36	54.71	57.22
8.5	97.22	87.50	88.09	83.27	81.58	82.01	82.17	85.81	97.98
9.5	136.01	119.44	109.52	105.82	99.72	105.82	113.67	115.74	132.30
10.5	152.82	131.40	127.68	119.51	113.56	122.11	127.06	131.89	148.24
11.5	168.72	143.32	139.27	129.00	124.95	130.49	143.19	145.48	167.10
12.5	170.84	152.80	145.70	140.02	128.94	138.46	145.70	151.95	171.12
13.5	185.99	159.82	156.87	143.86	136.91	142.08	148.14	151.54	181.11
14.5	186.05	163.64	152.36	146.19	139.12	143.94	153.11	161.99	**187.86**
15.5	183.61	158.19	149.22	145.48	139.50	145.93	154.60	151.16	182.26
16.5	183.64	157.83	152.37	145.44	137.03	141.02	144.26	156.65	178.33
17.5	179.19	153.86	147.38	138.75	133.42	141.34	142.06	152.71	173.58
18.5	167.47	146.70	141.79	133.18	125.53	132.50	136.19	148.89	165.42
19.5	155.62	134.11	132.68	125.43	121.67	125.82	135.27	133.85	159.50
20.5	147.96	125.64	124.44	114.48	113.88	116.40	119.52	125.64	147.48
21.5	133.86	114.38	108.86	106.59	101.07	105.07	107.13	111.46	128.88
22.5	117.60	101.31	101.50	94.43	90.65	92.78	99.57	103.06	119.15
23.5	140.62	114.84	109.24	101.85	99.63	100.05	104.60	110.83	125.83
Ax. Avg.	115.22	100.31	96.96	93.04	91.03	92.66	95.72	99.06	113.69

HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.

Table 3.23. Heat Flux Data (W/cm^2) for Fuel Plate 22 in 77 MWd Burnup Element in Reference Mixed Burnup Core: Core 7A, Position X7, No Xe, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	19.14	16.97	18.23	18.05	21.81	23.98	21.00	18.75	21.44
1.5	18.76	16.92	16.23	16.11	20.42	22.35	20.90	18.95	19.84
2.5	22.03	18.50	19.74	19.85	25.68	26.59	21.61	24.04	25.37
3.5	24.70	23.38	21.65	23.03	28.68	31.59	27.50	26.04	26.64
4.5	27.74	27.16	25.55	27.48	34.46	38.43	32.33	32.65	32.13
5.5	38.09	30.29	31.80	32.30	39.83	44.34	38.09	37.45	38.05
6.5	44.15	40.27	37.19	37.90	47.64	52.24	43.40	40.45	44.42
7.5	56.13	52.56	50.20	51.69	59.82	63.74	57.98	55.38	62.64
8.5	93.61	84.57	79.06	80.13	79.14	82.43	80.38	83.25	94.92
9.5	127.58	114.03	106.88	107.31	100.69	101.87	105.49	110.51	122.88
10.5	144.76	130.73	122.93	119.45	112.14	115.37	118.13	124.49	138.40
11.5	155.85	142.12	135.46	130.09	124.60	123.43	126.30	134.67	155.46
12.5	169.43	151.29	141.60	136.28	127.55	129.87	130.82	138.46	159.06
13.5	172.72	151.67	142.47	137.59	130.21	131.74	136.06	150.84	169.24
14.5	170.12	155.67	145.70	142.47	129.28	132.93	137.84	141.63	167.74
15.5	170.76	149.80	144.49	138.90	130.38	133.17	142.67	145.89	162.66
16.5	**172.89**	149.51	141.81	134.66	127.37	130.94	134.24	149.10	169.18
17.5	169.22	144.53	139.19	131.99	122.38	126.38	133.32	141.86	164.02
18.5	155.57	138.71	136.92	128.23	116.48	122.36	125.04	132.83	151.61
19.5	153.30	132.02	122.83	121.38	112.19	112.68	120.29	128.88	144.71
20.5	137.04	117.22	114.66	111.54	103.08	105.76	109.65	119.67	132.92
21.5	127.71	108.70	101.07	98.63	95.17	98.33	100.66	108.19	124.05
22.5	111.82	100.28	93.90	90.40	85.96	88.09	92.61	100.55	113.39
23.5	122.21	106.71	101.34	101.84	93.94	96.98	100.43	102.76	127.18
Ax. Avg.	108.59	96.03	91.29	89.02	86.20	89.02	89.84	94.48	107.04

HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.

Table 3.24. Heat Flux Data (W/cm^2) for Fuel Plate 22 in 96 MWd Burnup Element in Reference Mixed Burnup Core: Core 7A, Position X6, No Xe, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	25.19	19.60	19.41	16.92	16.32	14.82	16.35	17.74	19.28
1.5	25.66	20.52	19.16	16.32	15.32	15.49	17.94	17.56	18.90
2.5	26.32	23.64	19.08	19.39	18.47	18.30	18.84	18.63	21.14
3.5	31.13	27.28	25.61	22.49	21.07	20.96	21.72	23.18	28.13
4.5	37.18	32.12	29.13	25.74	24.92	24.84	24.52	24.68	29.53
5.5	41.24	35.16	35.16	31.00	29.05	29.27	29.46	33.91	34.88
6.5	48.69	44.62	44.47	37.19	34.20	35.21	35.51	36.00	40.18
7.5	58.78	54.81	50.85	48.16	46.05	47.52	46.79	48.74	57.45
8.5	92.14	82.62	77.50	77.66	75.06	76.48	79.00	82.77	89.93
9.5	122.75	108.55	113.25	103.86	100.97	104.92	103.32	109.83	131.29
10.5	136.39	118.64	120.35	121.45	115.58	120.59	124.76	131.98	147.65
11.5	144.62	137.22	129.42	128.62	126.38	131.53	134.84	139.73	154.14
12.5	151.24	143.32	137.35	137.07	132.49	136.38	141.24	149.43	160.40
13.5	165.72	146.30	140.40	138.39	137.24	144.43	145.44	150.62	167.74
14.5	164.77	146.85	144.65	142.44	141.12	146.26	149.64	154.93	170.20
15.5	166.69	146.08	144.32	140.67	141.25	144.32	148.56	152.80	**176.49**
16.5	159.84	144.14	138.67	139.10	138.24	145.01	145.44	150.77	170.06
17.5	156.03	141.92	136.61	137.73	133.82	138.43	136.33	142.90	166.50
18.5	156.09	138.55	128.64	129.58	127.57	132.93	136.94	142.83	153.94
19.5	148.11	130.31	120.11	120.98	119.74	121.10	124.59	130.31	146.87
20.5	130.28	114.77	115.57	113.39	108.68	112.35	119.82	120.63	135.33
21.5	120.86	108.56	105.74	102.30	99.69	101.47	103.45	107.20	123.47
22.5	109.66	96.45	95.98	91.63	88.80	93.43	96.64	97.49	112.77
23.5	119.98	99.88	103.20	98.48	95.56	98.98	98.07	101.29	119.68
Ax. Avg.	105.79	94.28	91.44	89.16	86.97	89.80	91.63	95.28	107.34

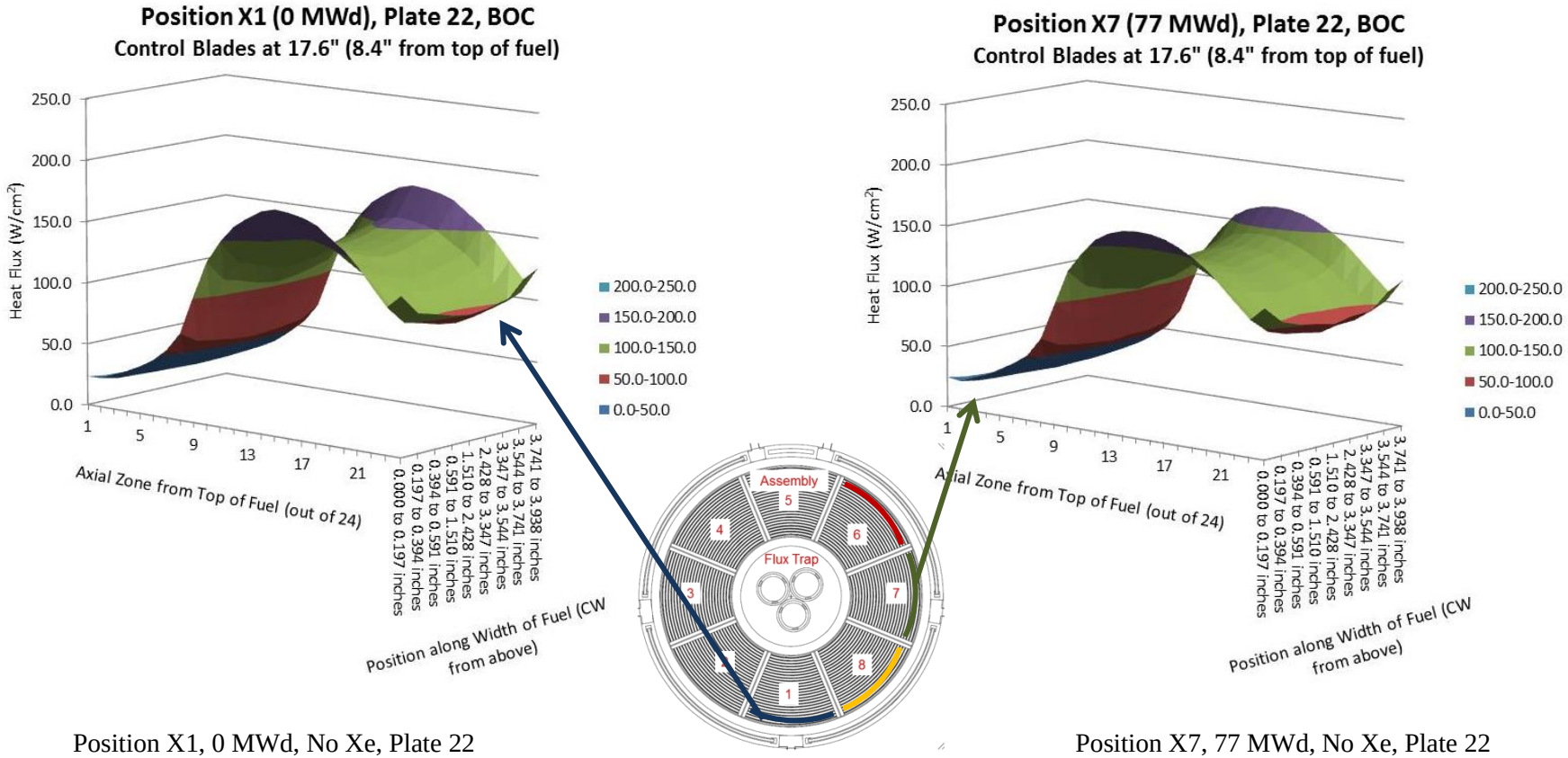
HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.

Table 3.25. Heat Flux Data (W/cm^2) in Fuel Plate 22 in 170 MWd Burnup Element in Reference Mixed Burnup Core: Core 7A, Position X8, No Xe, FT loaded with typical samples.

Fuel core width	3.938	inches	Fuel core thickness	20	mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.428 inches	2.428 to 3.347 inches	3.347 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	20.81	17.58	16.72	15.19	14.59	14.70	15.80	18.70	17.91
1.5	18.67	16.01	17.27	15.72	14.54	15.09	14.52	14.35	18.15
2.5	21.63	18.64	17.07	17.30	16.98	17.05	18.86	21.33	21.08
3.5	25.96	23.61	21.75	21.49	20.41	20.98	21.36	21.88	23.46
4.5	28.19	25.62	24.89	24.02	22.28	23.44	24.92	26.18	29.52
5.5	34.98	31.02	29.59	28.34	26.47	28.98	30.37	29.88	35.44
6.5	41.27	36.97	33.86	32.20	31.18	31.64	32.20	35.35	38.89
7.5	55.31	47.39	45.83	44.82	43.90	45.32	43.16	48.59	54.57
8.5	86.38	81.33	74.92	73.42	72.13	73.57	75.98	76.51	89.70
9.5	121.88	106.02	101.85	98.19	96.97	100.12	101.24	106.83	116.90
10.5	136.98	121.00	119.13	113.76	110.96	114.58	120.18	120.76	132.20
11.5	146.05	125.62	123.48	124.61	120.95	123.98	123.35	130.41	148.83
12.5	151.82	133.96	128.97	128.84	125.82	129.50	130.68	139.35	149.07
13.5	158.60	138.86	132.69	133.65	131.59	135.43	138.58	144.89	157.91
14.5	155.97	145.40	138.59	132.89	133.03	138.73	139.42	148.88	163.89
15.5	157.22	141.46	139.65	136.99	135.46	136.02	140.90	141.32	162.52
16.5	153.83	139.12	133.16	134.55	133.99	136.63	145.64	146.61	**165.20**
17.5	153.81	134.67	130.79	129.72	127.98	132.53	140.83	138.95	157.29
18.5	148.38	128.93	122.80	127.37	123.84	129.72	134.41	140.55	157.38
19.5	137.21	123.47	120.16	119.06	118.57	120.78	124.09	130.10	144.32
20.5	134.12	117.23	113.35	111.64	109.12	111.75	111.98	121.80	132.98
21.5	121.12	102.81	103.54	102.30	97.33	100.23	109.23	110.37	122.36
22.5	108.99	98.82	94.44	90.52	89.12	91.73	92.85	93.41	111.61
23.5	116.71	105.92	100.83	99.81	96.36	99.92	100.53	107.75	120.98
Ax. Avg.	101.46	90.04	86.88	85.65	83.89	86.35	88.81	92.24	103.04

HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.

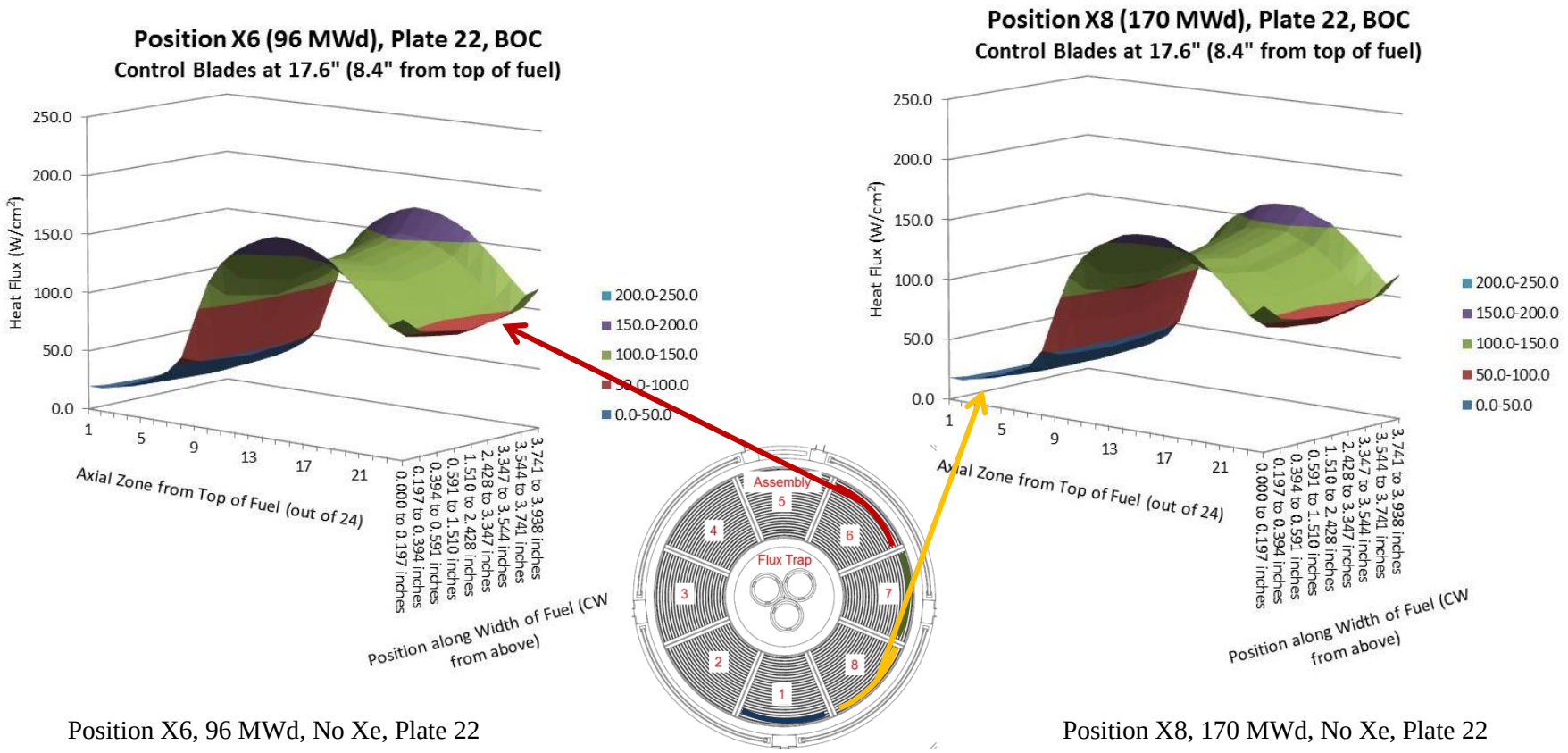


Position X1, 0 MWd, No Xe, Plate 22

Position X7, 77 MWd, No Xe, Plate 22

Figure 3.6. Evolution of Heat Flux Profile (W/cm^2) for LEU Fuel Plate 22, Element Burnup from 0 to 77 MWd: Core 7A, no Xe, FT loaded with typical samples.

HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.



Position X6, 96 MWd, No Xe, Plate 22

Position X8, 170 MWd, No Xe, Plate 22

Figure 3.7. Evolution of Heat Flux Profile (W/cm^2) for LEU Fuel Plate 22, Element Burnup from 96 to 170 MWd: Core 7A, no Xe, FT loaded with typical samples.

HEAT FLUX VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL. HEAT FLUX VALUES ALSO ASSUME THAT THE HEAT DEPOSITED IN THE FUEL CONDUCTS OUT EVENLY FROM THE TWO SURFACES OF THE FUEL PLATE WITHOUT ANY LATERAL OR AXIAL CONDUCTION IN THE CLADDING.

3.3.4 Steady-State Temperatures for LEU Fuel Plates

This section presents calculated temperature data for MURR fuel plates under prototypic conditions. Temperatures were calculated using version 4.2 of the PLTEMP/ANL code [10]. All eight elements in the MURR core are modeled. In the one-dimensional analysis, temperatures were evaluated for the hottest azimuthal stripe (highest power density) of each fuel plate in the core, which is located along the edge of the fuel foil near the element side plate. As discussed in Section 3.2, since lateral heat conduction is neglected in the analysis, an appropriately-sized stripe width was determined from a detailed three-dimensional CFD analysis [9].

Table 3.26 summarizes the LEU core operating parameters assumed in the analysis. The total core power of 11.57 MW represents the portion of the total reactor power of 12 MW following conversion that is deposited in the fuel elements and primary coolant. The balance of the reactor power (0.43 MW) is deposited in the reflectors and ex-core components and is removed by the pool coolant system. The nominal coolant inlet temperature for MURR is 120 ºF, but varies throughout the year in a normal operating band from 118 ºF to 125 ºF. An inlet coolant temperature of 122 ºF, which is slightly above the middle of this operating band, was selected as a prototypic value for the temperature analysis. It should be noted that the pressurizer pressure assumed in this analysis is at the upper range of the normal operating band for MURR, but this will have little effect on the predicted temperatures.

Table 3.26. Nominal MURR Core Operating Parameters with LEU Fuel.

Total Reactor Power	12 MW
Fraction of Power Deposited in Primary Coolant System	96.4%
Total Core Power	11.57 MW
Coolant Inlet Temperature	122 ºF (50 ºC)
Total Core Coolant Flow Rate	3800 gpm
Pressurizer Pressure	84 psia

The construction of the LEU fuel plates is described in Section 2, and consists of a U-10Mo fuel core, a thin (1 mil nominal) layer of zirconium, and aluminum AA6061 cladding. The zirconium acts as an interaction barrier between the fuel core and aluminum. Dimensions for each fuel plate in the element are given in Table 2.1. While the fuel element is in use, a thin layer of oxide gradually forms on the outer surface of the fuel plate cladding and thickens with hours of operation. The oxide layer growth rate and thermal treatment are described later in this section.

The thermal conductivity values of the LEU fuel plate materials assumed in the temperature calculations are summarized in Table 3.27. The U-10Mo thermal conductivity values are the same as used in the steady-state thermal-hydraulics analysis reported in Reference 2. The U-10Mo thermal conductivity decreases with fuel burnup. Two values are provided in Table 3.27, one for the fresh fuel and another for the fuel when it is near EOL. These values are consistent with experimentally measured values. For the discharged fuel, the thermal conductivity is conservatively based on a fuel burnup of 40×10^{20} fissions/cm^3. This is well above the predicted maximum LEU fuel burnup of 33.7×10^{20} fissions/cm^3 reported for MURR in Section 3.3.1. Between these two extremes, linear interpolation based on fuel element burnup is used in the PLTEMP/ANL model.

It should be noted that the MURR LEU accident analysis reported in References 4 and 11 was based on more recent measurements of the thermal conductivity of irradiated U-10Mo, and future measurements of prototypic material are expected as part of ongoing fuel qualification work by the Fuel Qualification Pillar. The values for the U-10Mo thermal conductivity assumed in this analysis are lower than the best-estimate

Table 3.27. Thermal Conductivity Values for LEU Fuel Plate Materials (W/m-C).

Material	Fresh Element (0 MWd)	Discharged Element (180 MWd)
Fuel core (U-10Mo)	16.2	11.3
Zirconium layer	19.6	19.6
Aluminum AA6061	166.1	166.1
Oxide layer	2.25	2.25

temperature- and burnup-dependent fit of the thermal conductivity reported in Reference 11. Therefore, the results reported here are conservative relative to results that would be obtained using the more recent data.

Values for the thermal conductivity of the zirconium layer and the aluminum AA6061 were derived from the same temperature dependent correlations used in the MURR accident analysis and reported in Section 2 of Reference 11. The thermal conductivity values for the zirconium and AA6061 used in the PLTEMP/ANL analysis were derived at 125 ^{o}C, which is representative for the temperatures of these materials under prototypic conditions. The more conservative values that were used in Reference 2 (150.0 and 19.0 W/m-C for the AA6061 and zirconium, respectively) result in a maximum fuel temperature that is only a few-tenths of a degree warmer. A representative value for thermal conductivity of the oxide layer, which was identified in Reference 2 and used in the accident analysis reported in Reference 11, was used in the present analysis.

When steady-state thermal-hydraulic safety calculations are performed, hot channel factors are applied to account for factors such as the statistical variations in manufacturing of the fuel element and the uncertainty of the method used for the neutronics calculation, which would affect the calculated heat flux. This ensures that the thermal-hydraulic safety margins are maintained under even the most extreme conditions. However, the temperatures calculated here under prototypic operating conditions serve as a nominal basis of comparison during design of the DDE-MURR experiment. As such, hot channel factors related to the fuel manufacturing and calculational uncertainty were not included in the temperature analysis performed here.

However, the impact of the coolant channel restriction that may occur with depletion of the fuel under normal operating conditions, as well as the increased thermal resistance across the cladding due to the growth of an oxide layer on the surface of the fuel plates were included in the temperature analysis. This methodology was presented as a part of prior design parameters activities [3], and is summarized briefly here.

The thicknesses of the coolant channels between the LEU fuel plates will become narrower over the life of the fuel element as a result of three phenomena. First, as the fuel undergoes fission, swelling of the monolithic U-10Mo fuel core from the production of gaseous and solid fission products will occur. The second phenomenon is the effect of irradiation-enhanced creep of the fuel core which will cause localized bulging of the fuel plate near the edges, which are constrained by the cladding at the edges next to the side plates. Third, oxide growth from the aluminum-water reaction will constrict the coolant channel. The amount of oxide growth on the fuel plate depends on the temperature at the water-plate surface, operating time, water pH level, and any protective coating placed on the outside surface of the fuel cladding.

The fuel swelling and fuel creep effects were assessed from experimental data reported in References 12 and 13. Based on correlations in the references, the maximum local increase in the fuel core thickness over the life of the LEU fuel from these two phenomena is predicted to be 4 mil. This value is currently under investigation.

An aluminum-water reaction on the surface of the aluminum cladding forms an oxide layer that increases with operating time and temperature. This causes both a restriction of the coolant channel, as well as increases the thermal resistance of the cladding, raising the ΔT from the plate surface to the fuel. A correlation of the oxide growth rate developed by Griess [14] was modified to take into account the specific operating conditions of the MURR. The "modified Griess correlation" parameters were empirically adjusted based on experimental measurements of the oxide layer thickness formed on the convex surface of plate 24 of several discharged MURR HEU fuel elements and steady-state analysis of the HEU fuel plate surface temperature calculated by PLTEMP/ANL.

Table 3.28 summarizes the oxide layer thickness predicted by the modified Griess correlation for LEU fuel plates at four different element burnups. The correlation is formulated based on hours of operation and plate surface temperature, which changes over the lifetime of the element. The oxide layer thickness was calculated based on the predicted fuel plate surface temperature on the concave surface of LEU fuel plate 23, which is the maximum for all fuel plates over the majority of the LEU element lifetime. The oxide thickness values reported in Table 3.28 were conservatively applied as a thermal resistance layer to all plates in the fuel element.

Table 3.28. Predicted Oxide Layer Thickness for LEU Fuel Plates.

LEU Element Burnup (MWd)	Hours of Operation	Oxide Layer Thickness[1] (mil)
0	0	0
77	1358	0.55
96	1662	0.63
180[2]	2880	0.93

[1] Calculated from modified Griess correlation [3] on concave surface of LEU fuel plate 23 at prototypic operating conditions.
[2] LEU EOL element discharge burnup.

While the predicted oxide layer thickness at the LEU discharge burnup is less than 1 mil, it was conservatively assumed for the purpose of estimating the coolant channel restriction that the oxide layer on the surface of the fuel plates grows to 2 mil at end-of-life (EOL). Thus, the total maximum channel restriction due to the combined effects of fuel swelling, irradiation-enhanced creep, and oxide growth for the LEU fuel in MURR was assumed to be 8 mil for channels that are heated by two fuel plates (2 mil for each fuel plate from fuel swelling and creep, plus 2 mil for each plate from oxide), and 4 mil for channels heated by only one plate. This effect was included in the PLTEMP/ANL model, with the assumption that the channel restriction increases linearly with burnup over the life of the fuel from 0 to 180 MWd.

Table 3.29 provides a summary of the maximum fuel and cladding surface temperatures for each fuel element under prototypic operating conditions in MURR for Cores 7A (no xenon) and 8A (equilibrium xenon). The plate surface is the interface between the coolant and oxide layer, if this layer exists, or the outer cladding surface for the case of fresh fuel. The temperatures were calculated by PLTEMP/ANL assuming the prototypic operating conditions listed in Table 3.28 and without any additional uncertainties. As described above, the effects of fuel burnup/ on the U-10Mo thermal conductivity, the thickness of the coolant channels, and the oxide as a thermal resistance layer were modeled in PLTEMP/ANL. Temperatures were calculated for the hottest azimuthal stripe of the LEU fuel plates. As discussed in Section 3.2, the hot stripe is one of the 0.5 cm azimuthal stripes along the edge of the fuel core that is adjacent to the unfueled portion of the plate that is swaged into the side plate. The local temperatures presented in this report are for a mesh size that is 0.5 x 2.54 cm.

Under xenon-free conditions, the power fraction for the EOL element in the X8 position is about 10% lower than the fresh element in the adjacent position X1, but the maximum fuel temperature in the element at EOL is about 14 °C greater than that in the fresh element. This is because the decreased thermal conductivity

Table 3.29. Fuel Conditions for Prototypic MURR Core with LEU Fuel .

Core Position	Element Burnup at BOC (MWd)	Core 7A: No Xe (BOC) Control blades at 8.4" from top of fuel			Core 8A: Eq. Xe (Day 2 of week) Control blades at 1.7" from top of fuel		
		Power (MW)	Maximum Temperature, °C (Plate)		Power (MW)	Maximum Temperature, °C (Plate)	
			Fuel	Plate Surface		Fuel	Plate Surface
X1	0	1.52	135.0 (23)	**115.2 (23)**	1.52	130.1 (23)	**112.1 (23)**
X5	0	1.52	130.0 (23)	112.0 (23)	1.47	126.0 (23)	108.8 (23)
X3	77	1.44	139.9 (23)	110.3 (23)	1.44	135.2 (23)	107.6 (23)
X7	77	1.44	140.4 (23)	110.4 (23)	1.45	136.9 (23)	108.7 (23)
X2	96	1.44	143.7 (23)	111.1 (23)	1.46	135.7 (23)	106.8 (23)
X6	96	1.44	145.0 (23)	112.0 (23)	1.44	138.3 (23)	108.5 (23)
X4	170	1.38	147.5 (22)	107.9 (23)	1.38	139.6 (22)	104.6 (23)
X8	171	1.39	**149.0 (22)**	108.7 (22)	1.41	**140.1 (22)**	104.9 (22)

of the U-10Mo fuel at EOL, the constriction of the coolant channels in the depleted elements from oxide formation and fuel swelling, and the increased thermal resistance due to oxide growth on the cladding surface result in higher maximum fuel temperatures in depleted elements than in the fresh fuel elements. It is also observed that for more than half of the lifetime of the fuel element the maximum fuel temperature occurs in plate 23. As the element approaches its end-of-life, the maximum fuel temperature occurs in fuel plate 22. This is due to fuel depletion effects, which reduces the heat flux in plate 23 relative to plate 22. Furthermore, there is an 8-mil restriction of the coolant channels on both sides of plate 22 due to irradiation and oxide-growth effects; the coolant channel on the outboard side of plate 23 is constricted only 4 mil at EOL. The maximum plate surface temperature at the clad-water interface occurs in the fresh fuel element because of the higher heat flux relative to burned elements. Under equilibrium xenon conditions, the control blades are nearly fully withdrawn, which decreases the axial power peaking. Consequently, the maximum fuel temperature is lower in all elements at equilibrium xenon conditions. The maximum fuel temperature still occurs in the EOL element in position X8.

Figure 3.8 plots the maximum fuel temperature by axial position for all plates in the EOL element under xenon-free conditions in the prototypic Core 7A. The axial power distributions in the outermost plates are strongly affected by the control blade position. It can be seen that there is a corresponding effect on the maximum fuel temperature profile.

Lastly, the maximum local temperatures reported here are based on conditions for the design of irradiation experiments that are relevant to nominal steady-state conditions in MURR. Temperatures due to conditions that occur during off-nominal or transitory conditions, such as found in an analysis of limiting safety system setting (LSSS) or transient and accident scenarios, are not reported here but have been calculated elsewhere and compared to a fuel temperature safety limit. [4,11]

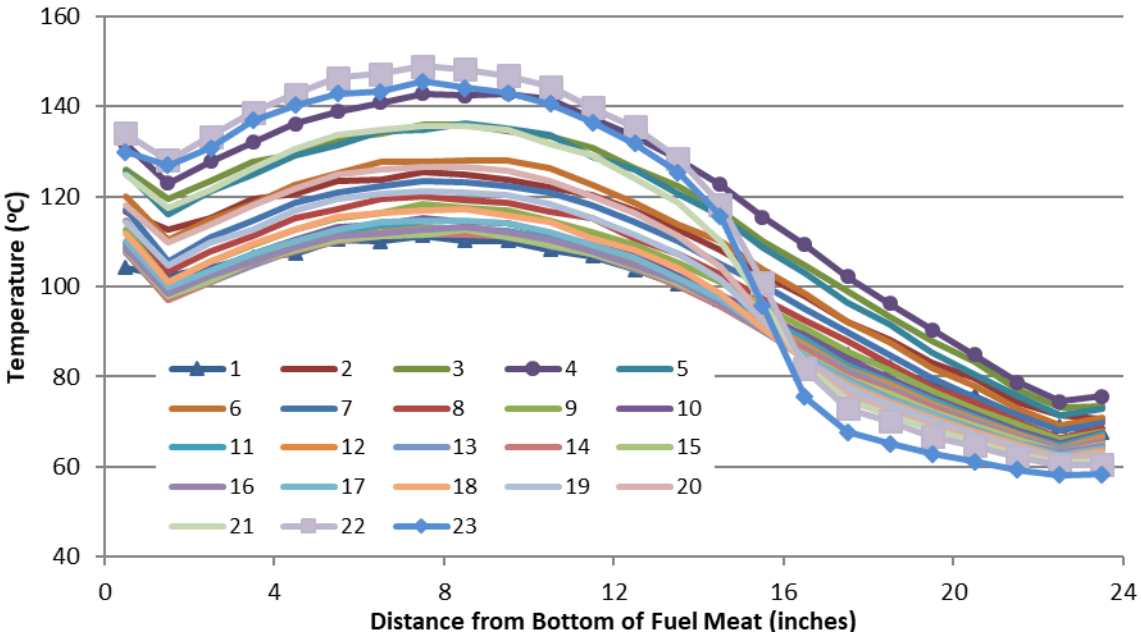


Figure 3.8. Axial Fuel Temperature Profile by Plate for EOL LEU Element in Core 7A.

4.0 SUMMARY OF MURR LEU IRRADIATION PARAMETERS

Irradiation experiment conceptual design parameters for the LEU fuel element under nominal steady-state operating conditions in MURR were previously reported in Reference 3. Data for key fuel plates under conditions that are expected to yield the maximum fission rate density and cumulative fission density were provided, but core states that are not prototypic for MURR were included in identifying the maximum irradiation parameters in Reference 3. Thus, the information in this report updates and replaces the maximum fission rate density of 5.09×10^{14} fissions/cm^3-s reported in Reference 3 as an irradiation experiment design parameter. The maximum cumulative fission density of 3.4×10^{21} fissions/cm^3 for plate 1 is the same as previously reported, but plate-specific data for all plates under prototypic conditions are provided here to supplement the previous data.

The preceding sections provide plate performance data for a variety of core states that could exist during steady-state operations of the MURR. The plates presented were selected from LEU elements under the conditions that are expected to yield the highest plate fission density and power density. Data for heat flux, and fuel and cladding temperatures are also provided. Data for prototypic core configurations are discussed in detail. Limited data for non-prototypic core configurations are also provided.

It should be noted that this data represents, within the local plate shapes specific to MURR, maximum local performance parameters expected for the MURR LEU fuel based on nominal steady-state conditions without engineering hot channel uncertainty factors. Safety analyses have accounted for such uncertainties, including manufacturing tolerances and other uncertainties in reactor geometry as described References 2, 4, and 11.

The DDE-MURR is intended to test LEU fuel element performance under prototypic conditions (planned operations) to observe how the element behaves under conditions comparable to what will be experienced in MURR. Including irradiation of MURR's prototypic element in a test reactor, fuel qualification plans are to irradiate approximately at least a half-dozen full-size USHPRR U-10Mo elements for MURR, MITR, NBSR and ATR (which, in typical 2-pump operational mode, will achieve a fission density and power density similar to the prototypic maximum values for MURR) prior to conversion of MURR to the new LEU U-10Mo fuel. Other experiments being conducted by the Fuel Qualification Pillar will be conducted at a plate level and will be bounding and beyond the prototypic values to augment data demonstrating adequate fuel performance.

The DDE-MURR experiment will be placed in an irradiation vehicle which will support the element in an experimental location in a test reactor. The irradiation vehicle and experimental campaign of the DDE-MURR should be designed so that the element operates at conditions comparable to those which are expected for typical operations in MURR for those design parameters which are expected to impact fuel performance. At this time this includes the known effects of fission density and the potential impacts of power density in the specific geometry of the MURR fuel element. Temperatures are regime appropriate and have not impacted fuel performance at the temperatures experienced by MURR fuel. As such, the purpose of this report is to collect and present best estimate design parameter data for fission density and power density, along with auxiliary information, under nominal conditions for prototypic operations in MURR. The set of target test values for the DDE-MURR, as well as the maxima of selected auxiliary data are summarized for all plates in the LEU element in Tables 4.1 to 4.3.

While the set of irradiation parameters presented here provide data on select plates of interest to fuel irradiation experiments, it should be noted that further data may be useful among the wide variety of individual plate irradiation conditions that would be present in MURR LEU cores. Thus, further cooperative work should continue between the Reactor Conversion, including MURR, and the Fuel Fabrication and Fuel Qualification Pillars to ensure that appropriate data is available to plan irradiations which include

maximum local conditions, as well as anticipated gradients from within-plate distributions of irradiation parameters relevant to fuel performance.

Table 4.1. Summary of DDE-MURR Target Test Values for Plates 1 Through 8.

	Plate 1	Plate 2	Plate 3	Plate 4	Plate 5	Plate 6	Plate 7	Plate 8
Design Parameter								
Local EOL Fission Density (total fissions/cm^3 from all isotopes)	3.37E+21	2.79E+21	2.25E+21	1.85E+21	1.62E+21	1.48E+21	1.35E+21	1.27E+21
Maximum Local Power Density (kW/cm^3)								
Fresh Element, No Xe	14.40	10.61	8.34	6.70	5.89	5.31	4.95	4.75
Fresh Element, Eq. Xe	12.78	9.39	7.26	5.96	5.25	4.63	4.34	4.05
EOL Element, Eq. Xe	8.55	7.48	6.17	5.20	4.65	4.28	3.95	3.87
Auxiliary Data								
Maximum Local Heat Flux (W/cm^2)								
Fresh Element, No Xe	164.6	161.7	169.5	170.1	149.6	134.8	125.8	120.8
Fresh Element, Eq. Xe	146.1	143.2	147.4	151.4	133.2	117.7	110.1	102.9
EOL Element, Eq. Xe	97.7	114.0	125.3	132.1	118.0	108.8	100.3	98.3
Maximum Fuel Temperature (^{o}C)								
Fresh Element, No Xe	113.0	117.3	121.8	124.5	116.3	110.6	106.8	103.6
Fresh Element, Eq. Xe	106.4	109.7	113.5	116.1	108.9	104.0	99.5	97.6
EOL Element, No Xe	109.1	122.8	133.1	140.7	133.3	125.5	121.0	117.6
EOL Element, Eq. Xe	102.5	114.7	123.9	130.8	123.1	116.8	112.0	109.3
Maximum Plate Surface Temperature (^{o}C)								
Fresh Element, No Xe	101.1	103.4	105.3	105.8	100.2	96.1	93.1	90.6
Fresh Element, Eq. Xe	96.0	97.5	99.1	99.8	94.7	91.3	88.0	86.4
EOL Element, No Xe	89.4	96.4	101.1	103.3	99.5	95.7	92.8	91.0
EOL Element, Eq. Xe	84.9	91.6	95.7	97.7	93.8	90.2	87.8	85.9

Table 4.2. Summary of DDE-MURR Target Test Values for Plates 9 Through 16.

	Plate 9	Plate 10	Plate 11	Plate 12	Plate 13	Plate 14	Plate 15	Plate 16
Design Parameter								
Local EOL Fission Density (total fissions/cm^3 from all isotopes)	1.22E+21	1.17E+21	1.14E+21	1.13E+21	1.13E+21	1.13E+21	1.14E+21	1.16E+21
Maximum Local Power Density (kW/cm^3)								
Fresh Element, No Xe	4.52	4.35	4.26	4.23	4.14	4.16	4.21	4.27
Fresh Element, Eq. Xe	3.93	3.84	3.73	3.63	3.68	3.54	3.61	3.78
EOL Element, Eq. Xe	3.68	3.54	3.42	3.43	3.36	3.41	3.50	3.56
Auxiliary Data								
Maximum Local Heat Flux (W/cm^2)								
Fresh Element, No Xe	114.7	110.5	108.3	107.4	105.1	105.7	106.8	108.6
Fresh Element, Eq. Xe	99.8	97.6	94.8	92.2	93.6	90.0	91.8	96.0
EOL Element, Eq. Xe	93.4	89.9	86.7	87.2	85.2	86.7	88.9	90.3
Maximum Fuel Temperature (^{o}C)								
Fresh Element, No Xe	101.4	100.3	98.7	98.5	97.9	97.4	97.4	98.2
Fresh Element, Eq. Xe	95.0	94.1	92.9	92.4	91.9	92.4	92.7	93.1
EOL Element, No Xe	116.0	113.0	111.6	110.9	109.7	109.6	110.5	111.0
EOL Element, Eq. Xe	106.9	105.1	103.7	103.6	103.0	103.1	103.7	104.9
Maximum Plate Surface Temperature (^{o}C)								
Fresh Element, No Xe	89.2	88.3	87.1	86.9	86.4	86.2	86.0	86.6
Fresh Element, Eq. Xe	84.4	83.8	82.8	82.5	82.1	82.3	82.7	82.8
EOL Element, No Xe	89.7	87.9	87.2	86.6	86.1	85.8	86.0	86.2
EOL Element, Eq. Xe	84.7	83.5	82.6	82.6	82.2	82.0	82.4	83.3

Table 4.3. Summary of DDE-MURR Target Test Values for Plates 17 Through 23 and the Element Maximum.

	Plate 17	Plate 18	Plate 19	Plate 20	Plate 21	Plate 22	Plate 23	Element
Design Parameter								
Local EOL Fission Density (total fissions/cm^3 from all isotopes)	1.20E+21	1.26E+21	1.35E+21	1.48E+21	1.70E+21	2.07E+21	2.59E+21	**3.37E+21**
Maximum Local Power Density (kW/cm^3)								
Fresh Element, No Xe	4.30	4.54	4.87	5.25	6.01	7.40	9.69	**14.40**
Fresh Element, Eq. Xe	3.79	4.07	4.26	4.74	5.27	6.65	8.88	**12.78**
EOL Element, Eq. Xe	3.58	3.83	4.02	4.38	4.84	5.83	6.96	**8.50**
Auxiliary Data								
Maximum Local Heat Flux (W/cm^2)								
Fresh Element, No Xe	109.1	115.4	123.8	133.2	152.7	187.9	209.3	**209.3**
Fresh Element, Eq. Xe	96.1	103.4	108.1	120.4	133.9	169.0	191.8	**191.8**
EOL Element, Eq. Xe	90.9	97.3	102.2	111.2	122.9	148.2	150.2	**150.2**
Maximum Fuel Temperature (^{o}C)								
Fresh Element, No Xe	99.1	101.0	103.6	108.3	115.6	127.3	131.9	**131.9**
Fresh Element, Eq. Xe	94.4	96.7	99.0	104.4	111.0	123.0	127.1	**127.1**
EOL Element, No Xe	112.5	114.8	118.9	124.1	132.9	145.8	142.7	**145.8**
EOL Element, Eq. Xe	106.7	108.5	112.2	117.9	125.7	137.2	134.7	**137.2**
Maximum Plate Surface Temperature (^{o}C)								
Fresh Element, No Xe	87.2	88.8	90.5	94.0	99.1	107.4	111.5	**111.5**
Fresh Element, Eq. Xe	83.9	85.5	87.4	91.2	96.1	104.4	108.5	**108.5**
EOL Element, No Xe	87.5	88.7	91.0	93.9	98.6	105.2	104.6	**105.2**
EOL Element, Eq. Xe	84.4	85.5	87.7	91.1	95.7	101.6	101.4	**101.6**

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REFERENCES

1. Stillman, J. A., et al, *Technical Basis in Support of the Conversion of the University of Missouri Research Reactor (MURR) Core from Highly-Enriched to Low-Enriched Uranium – Core Neutron Physics*, ANL/RERTR/TM-12-30, Argonne National Laboratory, September 2012.

2. Feldman, E. E., et al., *Technical Basis in Support of the Conversion of the University of Missouri Research Reactor (MURR) Core from Highly-Enriched to Low-Enriched Uranium – Steady-State Thermal-Hydraulic Analysis*, ANL/RERTR/TM-12-37, Argonne National Laboratory, 2012.

3. Stillman, J. A., et al, *Irradiation Experiment Conceptual Design Parameters for MURR LEU U-Mo Fuel Conversion*, Argonne National Laboratory, ANL/RERTR/TM-13-1 Rev. 1, June 2013.

4. *Low-Enriched Uranium Conversion Preliminary Safety Analysis Report for the University of Missouri Research Reactor*, University of Missouri Research Reactor, August 2017.

5. Glagolenko, I., *Mini-plate (MP-1) Irradiation Experiment Execution Plan*, Idaho National Laboratory, PLN-4891, February 11, 2016.

6. Letter Request to USNRC, "Application for Unique Purpose Exemption from Conversion from HEU Fuel, Facility License No. R-103," University of Missouri Research Reactor, September 1986; and supplemented by Letter Response to USNRC Request for Additional Information Supporting the Unique Purpose Exemption Request, February 1987.

7. *University of Missouri at Columbia Test Research Training Reactor 4 MURR U-10Mo LEU Fuel Element Assembly and Details*, Drawing 2852, University of Missouri Research Reactor (MURR), June 5, 2018.

8. Peters, Nickie and Kutikkad, Kiratadas, *Spatial Distribution of the Effective Fission Energy Deposition Within the MURR Core: HEU vs. LEU Fuel Comparison*, University of Missouri, 2012.

9. Tzanos, C. and Stillman, J., *Effect of Lateral Conduction on the Azimuthal Distribution of Heat Flux in the Hot Plate of a Research Reactor*, ANS Summer Meeting, June 2012.

10. Olson, Arne P., and Kalimullah, M., *A User's Guide to the PLTEMP/ANL Code*, ANL/RERTR/TM-11-22 Version 4.2, Rev. 1, Argonne National Laboratory, July 7, 2015.

11. Stillman, J. A., et al, *Accident Analyses for Conversion of the University of Missouri Research Reactor (MURR) from Highly-Enriched to Low-Enriched Uranium*, ANL/GTRI/TM-14/5, Revision 1, Argonne National Laboratory, February 2017.

12. Kim, Y. S. and Hofman, G. L., *Fission Product Induced Swelling of U-Mo Alloy Fuel*, Journal of Nuclear Materials 419 (2011) 291-301.

13. Hofman, G. L, et al, *Fission Induced Swelling and Creep of Uranium-Molybdenum Alloy Fuel*, 13th International Topical Meeting on Research Reactor Fuel Management (RRFM09), Vienna, Austria, March 22-25, 2009.

14. J. C. Griess, H. C. Savage, and J. L. English, *Effect of Heat Flux on the Corrosion of Aluminum by Water. Part IV. Tests Relative to the Advanced Test Reactor and Correlation with Previous Results*, ORNL-3541, Oak Ridge National Laboratory, February 1964.

APPENDIX A - Plate Specific Fission Density Data in MURR LEU Element

Table A.1. Fission Density Data (fissions/cm^3) in Fuel Plate 1 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 1.690 inches Fuel core thickness 9 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	1.67E+21	1.63E+21	1.59E+21	1.63E+21	1.50E+21	1.62E+21	1.62E+21	1.62E+21	1.70E+21
1.5	1.73E+21	1.66E+21	1.64E+21	1.62E+21	1.56E+21	1.65E+21	1.62E+21	1.65E+21	1.70E+21
2.5	1.92E+21	1.84E+21	1.84E+21	1.86E+21	1.77E+21	1.85E+21	1.84E+21	1.85E+21	1.92E+21
3.5	2.20E+21	2.14E+21	2.14E+21	2.13E+21	2.04E+21	2.13E+21	2.14E+21	2.16E+21	2.22E+21
4.5	2.41E+21	2.36E+21	2.33E+21	2.31E+21	2.23E+21	2.33E+21	2.34E+21	2.35E+21	2.43E+21
5.5	2.64E+21	2.56E+21	2.55E+21	2.55E+21	2.40E+21	2.55E+21	2.52E+21	2.56E+21	2.65E+21
6.5	2.78E+21	2.64E+21	2.63E+21	2.64E+21	2.51E+21	2.67E+21	2.65E+21	2.68E+21	2.74E+21
7.5	2.89E+21	2.80E+21	2.77E+21	2.79E+21	2.62E+21	2.75E+21	2.77E+21	2.82E+21	2.87E+21
8.5	3.00E+21	2.91E+21	2.87E+21	2.86E+21	2.77E+21	2.90E+21	2.86E+21	2.91E+21	2.95E+21
9.5	3.17E+21	3.07E+21	3.02E+21	3.02E+21	2.90E+21	3.05E+21	3.04E+21	3.07E+21	3.16E+21
10.5	3.24E+21	3.16E+21	3.11E+21	3.12E+21	3.00E+21	3.14E+21	3.10E+21	3.14E+21	3.23E+21
11.5	3.34E+21	3.27E+21	3.20E+21	3.22E+21	3.05E+21	3.20E+21	3.17E+21	3.26E+21	3.32E+21
12.5	3.37E+21	3.26E+21	3.21E+21	3.23E+21	3.05E+21	3.25E+21	3.24E+21	3.25E+21	3.35E+21
13.5	3.33E+21	3.20E+21	3.17E+21	3.18E+21	3.09E+21	3.23E+21	3.19E+21	3.25E+21	3.33E+21
14.5	3.26E+21	3.19E+21	3.13E+21	3.14E+21	3.00E+21	3.18E+21	3.15E+21	3.20E+21	3.25E+21
15.5	3.09E+21	3.03E+21	2.99E+21	3.03E+21	2.88E+21	3.03E+21	2.95E+21	3.03E+21	3.12E+21
16.5	2.99E+21	2.88E+21	2.83E+21	2.87E+21	2.77E+21	2.90E+21	2.86E+21	2.90E+21	2.98E+21
17.5	2.76E+21	2.70E+21	2.64E+21	2.68E+21	2.56E+21	2.68E+21	2.69E+21	2.69E+21	2.76E+21
18.5	2.62E+21	2.53E+21	2.50E+21	2.51E+21	2.38E+21	2.51E+21	2.51E+21	2.54E+21	2.64E+21
19.5	2.43E+21	2.35E+21	2.31E+21	2.34E+21	2.24E+21	2.35E+21	2.34E+21	2.35E+21	2.43E+21
20.5	2.29E+21	2.23E+21	2.18E+21	2.21E+21	2.11E+21	2.18E+21	2.18E+21	2.24E+21	2.28E+21
21.5	2.07E+21	2.03E+21	1.99E+21	1.98E+21	1.90E+21	2.02E+21	1.99E+21	2.03E+21	2.08E+21
22.5	1.93E+21	1.87E+21	1.83E+21	1.86E+21	1.76E+21	1.85E+21	1.87E+21	1.87E+21	1.92E+21
23.5	2.02E+21	1.93E+21	1.92E+21	1.93E+21	1.84E+21	1.90E+21	1.92E+21	1.93E+21	2.01E+21
Ax. Avg.	2.63E+21	2.55E+21	2.52E+21	2.53E+21	2.41E+21	2.54E+21	2.52E+21	2.56E+21	2.63E+21

Table A.2. Fission Density Data (fissions/cm^3) in Fuel Plate 2 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 1.797 inches Fuel core thickness 12 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	1.40E+21	1.25E+21	1.22E+21	1.24E+21	1.19E+21	1.24E+21	1.25E+21	1.28E+21	1.38E+21
1.5	1.36E+21	1.25E+21	1.21E+21	1.18E+21	1.14E+21	1.20E+21	1.20E+21	1.24E+21	1.36E+21
2.5	1.51E+21	1.42E+21	1.37E+21	1.38E+21	1.30E+21	1.38E+21	1.36E+21	1.43E+21	1.52E+21
3.5	1.77E+21	1.65E+21	1.61E+21	1.60E+21	1.55E+21	1.59E+21	1.62E+21	1.65E+21	1.77E+21
4.5	1.96E+21	1.82E+21	1.77E+21	1.77E+21	1.70E+21	1.77E+21	1.78E+21	1.81E+21	1.93E+21
5.5	2.14E+21	1.99E+21	1.93E+21	1.95E+21	1.86E+21	1.94E+21	1.92E+21	2.00E+21	2.16E+21
6.5	2.27E+21	2.09E+21	2.04E+21	2.06E+21	1.95E+21	2.06E+21	2.06E+21	2.10E+21	2.28E+21
7.5	2.40E+21	2.21E+21	2.15E+21	2.16E+21	2.06E+21	2.15E+21	2.15E+21	2.21E+21	2.39E+21
8.5	2.46E+21	2.32E+21	2.26E+21	2.25E+21	2.15E+21	2.25E+21	2.25E+21	2.31E+21	2.51E+21
9.5	2.66E+21	2.45E+21	2.37E+21	2.36E+21	2.26E+21	2.37E+21	2.40E+21	2.42E+21	2.60E+21
10.5	2.67E+21	2.52E+21	2.42E+21	2.43E+21	2.32E+21	2.45E+21	2.46E+21	2.53E+21	2.73E+21
11.5	2.79E+21	2.57E+21	2.51E+21	2.50E+21	2.37E+21	2.52E+21	2.50E+21	2.56E+21	2.76E+21
12.5	2.77E+21	2.57E+21	2.51E+21	2.51E+21	2.41E+21	2.52E+21	2.52E+21	2.59E+21	2.77E+21
13.5	2.75E+21	2.58E+21	2.51E+21	2.49E+21	2.36E+21	2.48E+21	2.49E+21	2.54E+21	2.76E+21
14.5	2.71E+21	2.50E+21	2.44E+21	2.41E+21	2.32E+21	2.44E+21	2.44E+21	2.52E+21	2.70E+21
15.5	2.56E+21	2.41E+21	2.33E+21	2.34E+21	2.22E+21	2.33E+21	2.34E+21	2.40E+21	2.56E+21
16.5	2.47E+21	2.29E+21	2.20E+21	2.21E+21	2.12E+21	2.21E+21	2.23E+21	2.30E+21	2.48E+21
17.5	2.28E+21	2.14E+21	2.07E+21	2.05E+21	1.97E+21	2.07E+21	2.07E+21	2.13E+21	2.28E+21
18.5	2.17E+21	2.02E+21	1.95E+21	1.96E+21	1.83E+21	1.94E+21	1.94E+21	1.99E+21	2.17E+21
19.5	2.00E+21	1.87E+21	1.81E+21	1.79E+21	1.71E+21	1.80E+21	1.82E+21	1.86E+21	1.97E+21
20.5	1.85E+21	1.74E+21	1.68E+21	1.66E+21	1.59E+21	1.69E+21	1.66E+21	1.75E+21	1.86E+21
21.5	1.69E+21	1.55E+21	1.51E+21	1.51E+21	1.44E+21	1.52E+21	1.53E+21	1.57E+21	1.70E+21
22.5	1.52E+21	1.41E+21	1.37E+21	1.38E+21	1.31E+21	1.40E+21	1.39E+21	1.44E+21	1.56E+21
23.5	1.67E+21	1.52E+21	1.49E+21	1.48E+21	1.42E+21	1.47E+21	1.48E+21	1.53E+21	1.68E+21
Ax. Avg.	2.16E+21	2.01E+21	1.95E+21	1.95E+21	1.86E+21	1.95E+21	1.95E+21	2.01E+21	2.16E+21

Table A.3. Fission Density Data (fissions/cm^3) in Fuel Plate 3 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 1.905 inches Fuel core thickness 16 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	1.14E+21	9.85E+20	9.38E+20	9.26E+20	8.92E+20	9.44E+20	9.50E+20	9.74E+20	1.15E+21
1.5	1.09E+21	9.27E+20	8.84E+20	8.74E+20	8.37E+20	8.77E+20	8.68E+20	9.34E+20	1.08E+21
2.5	1.22E+21	1.09E+21	1.02E+21	1.03E+21	9.75E+20	1.01E+21	1.03E+21	1.08E+21	1.23E+21
3.5	1.40E+21	1.24E+21	1.21E+21	1.18E+21	1.13E+21	1.18E+21	1.20E+21	1.25E+21	1.42E+21
4.5	1.57E+21	1.39E+21	1.34E+21	1.33E+21	1.27E+21	1.32E+21	1.32E+21	1.41E+21	1.56E+21
5.5	1.72E+21	1.53E+21	1.46E+21	1.45E+21	1.39E+21	1.45E+21	1.47E+21	1.54E+21	1.72E+21
6.5	1.82E+21	1.63E+21	1.55E+21	1.55E+21	1.47E+21	1.57E+21	1.57E+21	1.62E+21	1.82E+21
7.5	1.94E+21	1.71E+21	1.65E+21	1.61E+21	1.54E+21	1.63E+21	1.63E+21	1.71E+21	1.93E+21
8.5	2.01E+21	1.79E+21	1.74E+21	1.71E+21	1.61E+21	1.70E+21	1.69E+21	1.77E+21	1.99E+21
9.5	2.12E+21	1.87E+21	1.78E+21	1.78E+21	1.70E+21	1.79E+21	1.79E+21	1.87E+21	2.14E+21
10.5	2.18E+21	1.93E+21	1.85E+21	1.85E+21	1.76E+21	1.83E+21	1.85E+21	1.93E+21	2.20E+21
11.5	2.20E+21	1.95E+21	1.88E+21	1.88E+21	1.79E+21	1.87E+21	1.89E+21	1.98E+21	2.22E+21
12.5	2.25E+21	1.96E+21	1.89E+21	1.91E+21	1.81E+21	1.90E+21	1.91E+21	1.99E+21	2.23E+21
13.5	2.22E+21	1.96E+21	1.88E+21	1.85E+21	1.79E+21	1.87E+21	1.89E+21	1.95E+21	2.20E+21
14.5	2.18E+21	1.90E+21	1.82E+21	1.83E+21	1.75E+21	1.83E+21	1.84E+21	1.91E+21	2.18E+21
15.5	2.08E+21	1.84E+21	1.76E+21	1.74E+21	1.66E+21	1.77E+21	1.78E+21	1.86E+21	2.09E+21
16.5	1.99E+21	1.76E+21	1.69E+21	1.67E+21	1.59E+21	1.67E+21	1.68E+21	1.77E+21	1.98E+21
17.5	1.84E+21	1.66E+21	1.58E+21	1.56E+21	1.46E+21	1.56E+21	1.58E+21	1.67E+21	1.84E+21
18.5	1.75E+21	1.53E+21	1.47E+21	1.46E+21	1.39E+21	1.47E+21	1.47E+21	1.54E+21	1.76E+21
19.5	1.62E+21	1.43E+21	1.38E+21	1.36E+21	1.31E+21	1.37E+21	1.36E+21	1.44E+21	1.59E+21
20.5	1.49E+21	1.30E+21	1.27E+21	1.24E+21	1.20E+21	1.25E+21	1.28E+21	1.32E+21	1.49E+21
21.5	1.32E+21	1.17E+21	1.13E+21	1.14E+21	1.07E+21	1.11E+21	1.11E+21	1.19E+21	1.35E+21
22.5	1.21E+21	1.05E+21	1.02E+21	9.99E+20	9.55E+20	1.01E+21	1.02E+21	1.08E+21	1.23E+21
23.5	1.38E+21	1.18E+21	1.15E+21	1.13E+21	1.07E+21	1.13E+21	1.13E+21	1.19E+21	1.38E+21
Ax. Avg.	1.74E+21	1.53E+21	1.47E+21	1.46E+21	1.39E+21	1.46E+21	1.47E+21	1.54E+21	1.74E+21

Table A.4. Fission Density Data (fissions/cm^3) in Fuel Plate 4 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.012 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	9.30E+20	7.85E+20	7.39E+20	7.31E+20	7.05E+20	7.29E+20	7.50E+20	7.85E+20	9.48E+20
1.5	8.55E+20	7.24E+20	6.75E+20	6.60E+20	6.34E+20	6.58E+20	6.76E+20	7.21E+20	8.81E+20
2.5	9.88E+20	8.35E+20	7.85E+20	7.75E+20	7.45E+20	7.78E+20	7.81E+20	8.40E+20	9.95E+20
3.5	1.16E+21	9.82E+20	9.24E+20	9.16E+20	8.58E+20	9.05E+20	9.32E+20	9.86E+20	1.14E+21
4.5	1.28E+21	1.08E+21	1.03E+21	1.02E+21	9.64E+20	1.02E+21	1.03E+21	1.08E+21	1.28E+21
5.5	1.41E+21	1.19E+21	1.13E+21	1.10E+21	1.07E+21	1.11E+21	1.14E+21	1.21E+21	1.40E+21
6.5	1.50E+21	1.30E+21	1.20E+21	1.19E+21	1.14E+21	1.20E+21	1.21E+21	1.27E+21	1.49E+21
7.5	1.59E+21	1.37E+21	1.30E+21	1.26E+21	1.19E+21	1.25E+21	1.27E+21	1.33E+21	1.59E+21
8.5	1.67E+21	1.44E+21	1.33E+21	1.32E+21	1.27E+21	1.32E+21	1.34E+21	1.43E+21	1.66E+21
9.5	1.74E+21	1.49E+21	1.40E+21	1.37E+21	1.32E+21	1.38E+21	1.38E+21	1.47E+21	1.74E+21
10.5	1.80E+21	1.51E+21	1.45E+21	1.40E+21	1.35E+21	1.40E+21	1.43E+21	1.53E+21	1.78E+21
11.5	1.83E+21	1.54E+21	1.46E+21	1.44E+21	1.36E+21	1.43E+21	1.44E+21	1.54E+21	1.82E+21
12.5	1.84E+21	1.56E+21	1.45E+21	1.43E+21	1.38E+21	1.43E+21	1.47E+21	1.56E+21	1.85E+21
13.5	1.83E+21	1.56E+21	1.45E+21	1.43E+21	1.37E+21	1.43E+21	1.47E+21	1.55E+21	1.81E+21
14.5	1.77E+21	1.50E+21	1.43E+21	1.39E+21	1.34E+21	1.40E+21	1.42E+21	1.51E+21	1.78E+21
15.5	1.73E+21	1.44E+21	1.38E+21	1.36E+21	1.28E+21	1.35E+21	1.39E+21	1.47E+21	1.74E+21
16.5	1.63E+21	1.40E+21	1.31E+21	1.31E+21	1.25E+21	1.28E+21	1.31E+21	1.39E+21	1.61E+21
17.5	1.54E+21	1.31E+21	1.24E+21	1.22E+21	1.16E+21	1.21E+21	1.22E+21	1.30E+21	1.53E+21
18.5	1.43E+21	1.21E+21	1.15E+21	1.15E+21	1.08E+21	1.14E+21	1.16E+21	1.23E+21	1.42E+21
19.5	1.31E+21	1.12E+21	1.08E+21	1.05E+21	1.02E+21	1.05E+21	1.05E+21	1.12E+21	1.29E+21
20.5	1.21E+21	1.03E+21	9.89E+20	9.63E+20	9.17E+20	9.44E+20	9.74E+20	1.02E+21	1.23E+21
21.5	1.09E+21	9.33E+20	8.69E+20	8.56E+20	8.21E+20	8.50E+20	8.78E+20	9.37E+20	1.10E+21
22.5	9.91E+20	8.13E+20	7.75E+20	7.57E+20	7.29E+20	7.47E+20	7.85E+20	8.43E+20	9.92E+20
23.5	1.14E+21	9.46E+20	8.96E+20	8.94E+20	8.41E+20	8.82E+20	8.89E+20	9.62E+20	1.13E+21
Ax. Avg.	1.43E+21	1.21E+21	1.14E+21	1.12E+21	1.07E+21	1.12E+21	1.14E+21	1.21E+21	1.43E+21

Table A.5. Fission Density Data (fissions/cm^3) in Fuel Plate 5 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.120 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	8.39E+20	6.75E+20	6.54E+20	6.31E+20	6.06E+20	6.28E+20	6.30E+20	6.85E+20	8.35E+20
1.5	7.53E+20	6.07E+20	5.65E+20	5.44E+20	5.29E+20	5.53E+20	5.81E+20	6.19E+20	7.59E+20
2.5	8.53E+20	7.09E+20	6.53E+20	6.43E+20	6.15E+20	6.55E+20	6.69E+20	7.22E+20	8.74E+20
3.5	9.88E+20	8.45E+20	7.57E+20	7.59E+20	7.14E+20	7.58E+20	7.66E+20	8.31E+20	1.00E+21
4.5	1.12E+21	9.22E+20	8.75E+20	8.46E+20	8.12E+20	8.53E+20	8.80E+20	9.28E+20	1.12E+21
5.5	1.22E+21	1.02E+21	9.59E+20	9.32E+20	8.92E+20	9.31E+20	9.54E+20	1.02E+21	1.23E+21
6.5	1.31E+21	1.10E+21	1.04E+21	9.89E+20	9.50E+20	1.01E+21	1.04E+21	1.10E+21	1.31E+21
7.5	1.41E+21	1.17E+21	1.09E+21	1.06E+21	1.00E+21	1.05E+21	1.09E+21	1.15E+21	1.41E+21
8.5	1.45E+21	1.21E+21	1.14E+21	1.11E+21	1.06E+21	1.12E+21	1.15E+21	1.22E+21	1.47E+21
9.5	1.53E+21	1.28E+21	1.19E+21	1.17E+21	1.11E+21	1.17E+21	1.17E+21	1.27E+21	1.51E+21
10.5	1.58E+21	1.31E+21	1.21E+21	1.19E+21	1.12E+21	1.18E+21	1.21E+21	1.31E+21	1.58E+21
11.5	1.61E+21	1.33E+21	1.23E+21	1.20E+21	1.15E+21	1.20E+21	1.23E+21	1.31E+21	1.57E+21
12.5	1.62E+21	1.34E+21	1.23E+21	1.19E+21	1.15E+21	1.20E+21	1.24E+21	1.33E+21	1.60E+21
13.5	1.60E+21	1.31E+21	1.20E+21	1.20E+21	1.15E+21	1.20E+21	1.25E+21	1.34E+21	1.60E+21
14.5	1.57E+21	1.29E+21	1.21E+21	1.16E+21	1.12E+21	1.17E+21	1.20E+21	1.29E+21	1.56E+21
15.5	1.49E+21	1.24E+21	1.16E+21	1.13E+21	1.07E+21	1.13E+21	1.16E+21	1.25E+21	1.50E+21
16.5	1.43E+21	1.20E+21	1.12E+21	1.09E+21	1.05E+21	1.09E+21	1.12E+21	1.19E+21	1.43E+21
17.5	1.36E+21	1.14E+21	1.06E+21	1.03E+21	9.75E+20	1.03E+21	1.06E+21	1.13E+21	1.35E+21
18.5	1.26E+21	1.06E+21	9.79E+20	9.65E+20	9.20E+20	9.59E+20	9.99E+20	1.05E+21	1.24E+21
19.5	1.15E+21	9.73E+20	9.09E+20	8.78E+20	8.56E+20	9.01E+20	9.05E+20	9.55E+20	1.16E+21
20.5	1.06E+21	8.76E+20	8.21E+20	8.08E+20	7.74E+20	8.01E+20	8.23E+20	8.82E+20	1.06E+21
21.5	9.51E+20	7.88E+20	7.28E+20	7.17E+20	6.86E+20	7.12E+20	7.29E+20	7.92E+20	9.48E+20
22.5	8.57E+20	6.95E+20	6.51E+20	6.29E+20	5.99E+20	6.30E+20	6.54E+20	7.01E+20	8.54E+20
23.5	1.03E+21	8.29E+20	7.72E+20	7.72E+20	7.23E+20	7.59E+20	7.79E+20	8.33E+20	1.02E+21
Ax. Avg.	1.25E+21	1.04E+21	9.67E+20	9.43E+20	9.02E+20	9.46E+20	9.70E+20	1.04E+21	1.25E+21

Table A.6. Fission Density Data (fissions/cm^3) in Fuel Plate 6 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.227 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	7.87E+20	6.49E+20	5.98E+20	5.81E+20	5.59E+20	5.82E+20	5.90E+20	6.46E+20	7.86E+20
1.5	7.07E+20	5.58E+20	5.20E+20	4.92E+20	4.71E+20	5.02E+20	5.19E+20	5.64E+20	6.91E+20
2.5	8.01E+20	6.49E+20	6.00E+20	5.93E+20	5.64E+20	5.87E+20	6.12E+20	6.43E+20	7.90E+20
3.5	9.11E+20	7.59E+20	6.99E+20	6.83E+20	6.44E+20	6.86E+20	7.03E+20	7.63E+20	9.35E+20
4.5	1.05E+21	8.59E+20	7.97E+20	7.68E+20	7.29E+20	7.72E+20	7.84E+20	8.61E+20	1.04E+21
5.5	1.13E+21	9.44E+20	8.73E+20	8.49E+20	8.17E+20	8.49E+20	8.72E+20	9.29E+20	1.15E+21
6.5	1.22E+21	1.01E+21	9.38E+20	9.14E+20	8.71E+20	9.14E+20	9.64E+20	1.01E+21	1.22E+21
7.5	1.29E+21	1.09E+21	1.01E+21	9.67E+20	9.29E+20	9.62E+20	1.00E+21	1.08E+21	1.29E+21
8.5	1.36E+21	1.11E+21	1.05E+21	1.02E+21	9.70E+20	1.01E+21	1.05E+21	1.13E+21	1.36E+21
9.5	1.42E+21	1.15E+21	1.08E+21	1.06E+21	1.00E+21	1.06E+21	1.09E+21	1.18E+21	1.42E+21
10.5	1.44E+21	1.19E+21	1.10E+21	1.08E+21	1.03E+21	1.09E+21	1.10E+21	1.19E+21	1.45E+21
11.5	1.47E+21	1.21E+21	1.13E+21	1.09E+21	1.05E+21	1.09E+21	1.12E+21	1.21E+21	1.46E+21
12.5	1.47E+21	1.21E+21	1.14E+21	1.09E+21	1.05E+21	1.10E+21	1.12E+21	1.23E+21	1.48E+21
13.5	1.47E+21	1.21E+21	1.12E+21	1.09E+21	1.04E+21	1.10E+21	1.12E+21	1.21E+21	1.46E+21
14.5	1.43E+21	1.20E+21	1.10E+21	1.06E+21	1.01E+21	1.08E+21	1.09E+21	1.17E+21	1.42E+21
15.5	1.38E+21	1.17E+21	1.05E+21	1.03E+21	9.78E+20	1.03E+21	1.06E+21	1.13E+21	1.38E+21
16.5	1.32E+21	1.11E+21	1.03E+21	1.00E+21	9.50E+20	9.86E+20	1.04E+21	1.11E+21	1.32E+21
17.5	1.24E+21	1.04E+21	9.75E+20	9.45E+20	9.07E+20	9.38E+20	9.79E+20	1.04E+21	1.24E+21
18.5	1.17E+21	9.78E+20	9.08E+20	8.77E+20	8.38E+20	8.82E+20	9.12E+20	9.78E+20	1.19E+21
19.5	1.07E+21	8.89E+20	8.35E+20	8.12E+20	7.83E+20	8.06E+20	8.27E+20	8.89E+20	1.09E+21
20.5	9.89E+20	8.14E+20	7.63E+20	7.35E+20	6.98E+20	7.34E+20	7.63E+20	8.23E+20	9.82E+20
21.5	8.87E+20	7.38E+20	6.65E+20	6.53E+20	6.26E+20	6.49E+20	6.70E+20	7.41E+20	8.85E+20
22.5	7.97E+20	6.40E+20	5.89E+20	5.74E+20	5.43E+20	5.69E+20	5.83E+20	6.43E+20	7.92E+20
23.5	9.74E+20	7.77E+20	7.25E+20	7.04E+20	6.65E+20	7.02E+20	7.30E+20	7.70E+20	9.69E+20
Ax. Avg.	1.16E+21	9.57E+20	8.87E+20	8.60E+20	8.22E+20	8.62E+20	8.87E+20	9.57E+20	1.16E+21

Table A.7. Fission Density Data (fissions/cm^3) in Fuel Plate 7 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.334 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	7.23E+20	5.94E+20	5.48E+20	5.35E+20	5.16E+20	5.39E+20	5.58E+20	5.90E+20	7.30E+20
1.5	6.26E+20	5.15E+20	4.72E+20	4.45E+20	4.26E+20	4.54E+20	4.64E+20	5.06E+20	6.28E+20
2.5	7.16E+20	5.92E+20	5.54E+20	5.26E+20	5.06E+20	5.27E+20	5.50E+20	6.10E+20	7.17E+20
3.5	8.21E+20	6.88E+20	6.40E+20	6.14E+20	5.85E+20	6.19E+20	6.45E+20	6.97E+20	8.38E+20
4.5	9.33E+20	7.79E+20	7.18E+20	7.00E+20	6.74E+20	6.91E+20	7.10E+20	7.77E+20	9.35E+20
5.5	1.02E+21	8.74E+20	8.15E+20	7.64E+20	7.38E+20	7.68E+20	7.90E+20	8.53E+20	1.02E+21
6.5	1.09E+21	9.27E+20	8.65E+20	8.34E+20	7.85E+20	8.30E+20	8.45E+20	9.20E+20	1.11E+21
7.5	1.17E+21	9.82E+20	9.27E+20	8.76E+20	8.35E+20	8.73E+20	9.22E+20	9.91E+20	1.17E+21
8.5	1.23E+21	1.03E+21	9.45E+20	9.14E+20	8.84E+20	9.28E+20	9.59E+20	1.02E+21	1.24E+21
9.5	1.28E+21	1.04E+21	9.84E+20	9.52E+20	9.09E+20	9.57E+20	9.96E+20	1.07E+21	1.28E+21
10.5	1.32E+21	1.10E+21	1.01E+21	9.81E+20	9.30E+20	9.81E+20	1.02E+21	1.09E+21	1.31E+21
11.5	1.33E+21	1.10E+21	1.02E+21	9.89E+20	9.46E+20	9.94E+20	1.03E+21	1.10E+21	1.33E+21
12.5	1.33E+21	1.11E+21	1.04E+21	9.97E+20	9.44E+20	9.87E+20	1.02E+21	1.11E+21	1.35E+21
13.5	1.32E+21	1.10E+21	1.02E+21	9.81E+20	9.34E+20	9.82E+20	1.01E+21	1.10E+21	1.32E+21
14.5	1.29E+21	1.07E+21	9.88E+20	9.56E+20	9.19E+20	9.62E+20	9.99E+20	1.07E+21	1.28E+21
15.5	1.26E+21	1.05E+21	9.61E+20	9.30E+20	9.00E+20	9.32E+20	9.65E+20	1.03E+21	1.24E+21
16.5	1.20E+21	1.01E+21	9.43E+20	9.15E+20	8.70E+20	8.99E+20	9.31E+20	1.03E+21	1.20E+21
17.5	1.14E+21	9.63E+20	8.90E+20	8.61E+20	8.04E+20	8.56E+20	8.86E+20	9.53E+20	1.13E+21
18.5	1.06E+21	8.89E+20	8.20E+20	8.03E+20	7.72E+20	8.05E+20	8.46E+20	8.92E+20	1.06E+21
19.5	9.71E+20	8.30E+20	7.57E+20	7.39E+20	7.08E+20	7.39E+20	7.59E+20	8.28E+20	9.74E+20
20.5	9.01E+20	7.44E+20	6.99E+20	6.73E+20	6.35E+20	6.69E+20	6.90E+20	7.39E+20	8.82E+20
21.5	8.05E+20	6.61E+20	6.11E+20	5.88E+20	5.55E+20	5.79E+20	6.14E+20	6.61E+20	7.95E+20
22.5	7.18E+20	5.84E+20	5.27E+20	5.09E+20	4.90E+20	5.11E+20	5.32E+20	5.89E+20	7.01E+20
23.5	8.96E+20	7.17E+20	6.49E+20	6.49E+20	6.20E+20	6.45E+20	6.70E+20	7.23E+20	8.91E+20
Ax. Avg.	1.05E+21	8.73E+20	8.08E+20	7.80E+20	7.45E+20	7.80E+20	8.09E+20	8.72E+20	1.05E+21

Table A.8. Fission Density Data (fissions/cm^3) in Fuel Plate 8 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.440 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	7.03E+20	5.72E+20	5.21E+20	5.17E+20	4.95E+20	5.17E+20	5.22E+20	5.66E+20	7.01E+20
1.5	5.85E+20	4.83E+20	4.46E+20	4.25E+20	4.06E+20	4.20E+20	4.52E+20	4.81E+20	5.97E+20
2.5	6.83E+20	5.80E+20	5.29E+20	5.08E+20	4.86E+20	5.09E+20	5.27E+20	5.82E+20	6.72E+20
3.5	7.93E+20	6.66E+20	6.04E+20	6.01E+20	5.69E+20	5.97E+20	6.22E+20	6.75E+20	7.93E+20
4.5	8.96E+20	7.46E+20	6.86E+20	6.64E+20	6.32E+20	6.62E+20	6.82E+20	7.51E+20	8.87E+20
5.5	9.74E+20	8.18E+20	7.67E+20	7.39E+20	7.01E+20	7.33E+20	7.67E+20	8.07E+20	9.82E+20
6.5	1.05E+21	8.75E+20	8.30E+20	7.94E+20	7.59E+20	7.97E+20	8.20E+20	8.89E+20	1.07E+21
7.5	1.13E+21	9.17E+20	8.84E+20	8.41E+20	7.99E+20	8.36E+20	8.86E+20	9.33E+20	1.12E+21
8.5	1.17E+21	9.61E+20	8.98E+20	8.85E+20	8.46E+20	8.86E+20	9.11E+20	9.70E+20	1.18E+21
9.5	1.23E+21	9.98E+20	9.44E+20	9.21E+20	8.77E+20	9.16E+20	9.53E+20	1.02E+21	1.21E+21
10.5	1.26E+21	1.03E+21	9.82E+20	9.35E+20	8.90E+20	9.39E+20	9.68E+20	1.04E+21	1.24E+21
11.5	1.26E+21	1.06E+21	9.81E+20	9.53E+20	9.02E+20	9.51E+20	9.78E+20	1.04E+21	1.25E+21
12.5	1.27E+21	1.04E+21	9.75E+20	9.55E+20	9.12E+20	9.55E+20	9.82E+20	1.06E+21	1.27E+21
13.5	1.26E+21	1.05E+21	9.70E+20	9.38E+20	8.94E+20	9.41E+20	9.81E+20	1.07E+21	1.25E+21
14.5	1.23E+21	1.03E+21	9.68E+20	9.22E+20	8.92E+20	9.23E+20	9.58E+20	1.03E+21	1.24E+21
15.5	1.18E+21	1.02E+21	9.38E+20	9.02E+20	8.59E+20	8.98E+20	9.33E+20	9.94E+20	1.17E+21
16.5	1.15E+21	9.54E+20	9.03E+20	8.74E+20	8.19E+20	8.70E+20	9.04E+20	9.74E+20	1.16E+21
17.5	1.07E+21	9.18E+20	8.50E+20	8.30E+20	7.83E+20	8.21E+20	8.55E+20	9.12E+20	1.07E+21
18.5	1.01E+21	8.56E+20	8.06E+20	7.76E+20	7.32E+20	7.72E+20	8.05E+20	8.60E+20	1.01E+21
19.5	9.34E+20	7.92E+20	7.29E+20	7.05E+20	6.77E+20	7.08E+20	7.22E+20	7.76E+20	9.52E+20
20.5	8.51E+20	7.18E+20	6.61E+20	6.38E+20	6.01E+20	6.42E+20	6.56E+20	7.07E+20	8.42E+20
21.5	7.59E+20	6.33E+20	5.82E+20	5.65E+20	5.39E+20	5.63E+20	5.82E+20	6.47E+20	7.53E+20
22.5	6.82E+20	5.45E+20	5.02E+20	4.85E+20	4.71E+20	4.92E+20	5.13E+20	5.61E+20	6.75E+20
23.5	8.66E+20	6.89E+20	6.59E+20	6.22E+20	6.00E+20	6.28E+20	6.33E+20	6.95E+20	8.81E+20
Ax. Avg.	1.00E+21	8.31E+20	7.76E+20	7.50E+20	7.14E+20	7.49E+20	7.76E+20	8.35E+20	9.99E+20

Table A.9. Fission Density Data (fissions/cm^3) in Fuel Plate 9 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.547 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	6.60E+20	5.48E+20	5.03E+20	4.95E+20	4.72E+20	4.87E+20	5.10E+20	5.41E+20	6.65E+20
1.5	5.58E+20	4.66E+20	4.29E+20	4.09E+20	3.90E+20	4.09E+20	4.20E+20	4.56E+20	5.60E+20
2.5	6.51E+20	5.48E+20	5.05E+20	4.88E+20	4.68E+20	4.88E+20	4.99E+20	5.47E+20	6.56E+20
3.5	7.43E+20	6.25E+20	5.86E+20	5.73E+20	5.43E+20	5.71E+20	6.02E+20	6.29E+20	7.62E+20
4.5	8.50E+20	7.17E+20	6.59E+20	6.41E+20	6.11E+20	6.33E+20	6.49E+20	7.06E+20	8.33E+20
5.5	9.31E+20	7.77E+20	7.35E+20	7.05E+20	6.73E+20	7.10E+20	7.29E+20	7.81E+20	9.28E+20
6.5	1.01E+21	8.39E+20	7.89E+20	7.67E+20	7.31E+20	7.62E+20	7.95E+20	8.42E+20	1.00E+21
7.5	1.06E+21	9.05E+20	8.47E+20	8.06E+20	7.66E+20	7.96E+20	8.33E+20	9.02E+20	1.07E+21
8.5	1.11E+21	9.36E+20	8.60E+20	8.40E+20	8.17E+20	8.61E+20	8.79E+20	9.30E+20	1.10E+21
9.5	1.15E+21	9.59E+20	9.04E+20	8.74E+20	8.40E+20	8.87E+20	9.11E+20	9.81E+20	1.15E+21
10.5	1.17E+21	1.00E+21	9.22E+20	8.91E+20	8.55E+20	8.92E+20	9.22E+20	9.96E+20	1.18E+21
11.5	1.22E+21	1.01E+21	9.40E+20	9.05E+20	8.64E+20	9.06E+20	9.47E+20	1.01E+21	1.21E+21
12.5	1.19E+21	1.01E+21	9.43E+20	9.16E+20	8.67E+20	9.05E+20	9.35E+20	1.02E+21	1.21E+21
13.5	1.20E+21	9.98E+20	9.47E+20	9.00E+20	8.57E+20	9.01E+20	9.37E+20	1.01E+21	1.18E+21
14.5	1.17E+21	9.88E+20	9.29E+20	8.91E+20	8.55E+20	8.87E+20	9.16E+20	9.85E+20	1.18E+21
15.5	1.14E+21	9.64E+20	8.93E+20	8.70E+20	8.19E+20	8.65E+20	9.00E+20	9.58E+20	1.14E+21
16.5	1.08E+21	9.16E+20	8.59E+20	8.27E+20	7.94E+20	8.31E+20	8.61E+20	9.20E+20	1.09E+21
17.5	1.04E+21	8.77E+20	8.11E+20	7.92E+20	7.56E+20	7.89E+20	8.07E+20	8.67E+20	1.02E+21
18.5	9.69E+20	8.17E+20	7.62E+20	7.44E+20	7.07E+20	7.31E+20	7.76E+20	8.23E+20	9.66E+20
19.5	8.88E+20	7.69E+20	7.13E+20	6.79E+20	6.52E+20	6.78E+20	7.06E+20	7.64E+20	8.94E+20
20.5	8.07E+20	6.83E+20	6.32E+20	6.08E+20	5.83E+20	6.13E+20	6.33E+20	6.78E+20	8.07E+20
21.5	7.28E+20	6.08E+20	5.67E+20	5.38E+20	5.13E+20	5.43E+20	5.62E+20	6.05E+20	7.19E+20
22.5	6.46E+20	5.24E+20	4.75E+20	4.71E+20	4.54E+20	4.67E+20	4.87E+20	5.34E+20	6.55E+20
23.5	8.32E+20	6.80E+20	6.17E+20	5.91E+20	5.78E+20	5.99E+20	6.23E+20	6.58E+20	8.30E+20
Ax. Avg.	9.50E+20	7.99E+20	7.43E+20	7.18E+20	6.86E+20	7.17E+20	7.43E+20	7.97E+20	9.50E+20

Table A.10. Fission Density Data (fissions/cm^3) in Fuel Plate 10 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.654 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	6.35E+20	5.35E+20	4.88E+20	4.72E+20	4.61E+20	4.76E+20	4.93E+20	5.27E+20	6.40E+20
1.5	5.36E+20	4.48E+20	4.15E+20	3.94E+20	3.84E+20	3.90E+20	4.14E+20	4.47E+20	5.32E+20
2.5	6.24E+20	5.23E+20	4.94E+20	4.74E+20	4.60E+20	4.68E+20	4.92E+20	5.22E+20	6.23E+20
3.5	7.31E+20	6.19E+20	5.84E+20	5.54E+20	5.35E+20	5.52E+20	5.88E+20	6.12E+20	7.25E+20
4.5	8.16E+20	6.94E+20	6.42E+20	6.25E+20	6.00E+20	6.30E+20	6.43E+20	7.00E+20	8.27E+20
5.5	8.91E+20	7.54E+20	7.10E+20	6.84E+20	6.63E+20	6.86E+20	7.09E+20	7.70E+20	9.07E+20
6.5	9.69E+20	8.26E+20	7.63E+20	7.44E+20	7.15E+20	7.42E+20	7.78E+20	8.27E+20	9.74E+20
7.5	1.02E+21	8.90E+20	8.08E+20	7.83E+20	7.49E+20	7.82E+20	8.30E+20	8.76E+20	1.03E+21
8.5	1.06E+21	9.08E+20	8.52E+20	8.25E+20	7.91E+20	8.34E+20	8.66E+20	9.11E+20	1.08E+21
9.5	1.10E+21	9.42E+20	8.91E+20	8.48E+20	8.29E+20	8.60E+20	8.76E+20	9.41E+20	1.13E+21
10.5	1.13E+21	9.72E+20	9.04E+20	8.71E+20	8.27E+20	8.66E+20	8.96E+20	9.66E+20	1.14E+21
11.5	1.15E+21	9.86E+20	9.21E+20	8.91E+20	8.48E+20	8.74E+20	9.12E+20	9.69E+20	1.16E+21
12.5	1.17E+21	9.86E+20	9.12E+20	8.88E+20	8.51E+20	8.79E+20	9.17E+20	9.80E+20	1.17E+21
13.5	1.15E+21	9.85E+20	9.08E+20	8.77E+20	8.32E+20	8.78E+20	9.23E+20	9.75E+20	1.15E+21
14.5	1.13E+21	9.53E+20	9.07E+20	8.58E+20	8.27E+20	8.72E+20	8.87E+20	9.60E+20	1.13E+21
15.5	1.10E+21	9.39E+20	8.62E+20	8.34E+20	8.13E+20	8.40E+20	8.74E+20	9.27E+20	1.10E+21
16.5	1.04E+21	8.80E+20	8.32E+20	8.08E+20	7.66E+20	8.05E+20	8.43E+20	9.01E+20	1.05E+21
17.5	9.98E+20	8.50E+20	7.87E+20	7.68E+20	7.38E+20	7.61E+20	7.75E+20	8.42E+20	9.99E+20
18.5	9.25E+20	7.88E+20	7.50E+20	7.29E+20	6.88E+20	7.14E+20	7.39E+20	8.09E+20	9.33E+20
19.5	8.63E+20	7.50E+20	7.05E+20	6.70E+20	6.43E+20	6.63E+20	6.92E+20	7.36E+20	8.58E+20
20.5	7.80E+20	6.59E+20	6.21E+20	5.98E+20	5.71E+20	6.01E+20	6.15E+20	6.67E+20	7.98E+20
21.5	7.05E+20	5.91E+20	5.45E+20	5.28E+20	5.02E+20	5.30E+20	5.44E+20	5.91E+20	6.89E+20
22.5	6.31E+20	5.20E+20	4.76E+20	4.53E+20	4.33E+20	4.51E+20	4.73E+20	5.13E+20	6.18E+20
23.5	8.14E+20	6.63E+20	6.10E+20	5.88E+20	5.59E+20	5.86E+20	6.13E+20	6.60E+20	7.97E+20
Ax. Avg.	9.15E+20	7.78E+20	7.24E+20	6.99E+20	6.70E+20	6.97E+20	7.25E+20	7.76E+20	9.19E+20

Table A.11. Fission Density Data (fissions/cm^3) in Fuel Plate 11 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.761 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	6.16E+20	5.20E+20	4.82E+20	4.67E+20	4.53E+20	4.69E+20	4.71E+20	5.10E+20	6.22E+20
1.5	5.26E+20	4.44E+20	4.14E+20	3.87E+20	3.73E+20	3.90E+20	4.03E+20	4.27E+20	5.26E+20
2.5	6.15E+20	5.14E+20	4.91E+20	4.71E+20	4.52E+20	4.72E+20	4.82E+20	5.21E+20	6.14E+20
3.5	7.21E+20	6.11E+20	5.78E+20	5.47E+20	5.29E+20	5.42E+20	5.76E+20	6.16E+20	7.06E+20
4.5	7.90E+20	6.88E+20	6.29E+20	6.13E+20	5.89E+20	6.16E+20	6.27E+20	6.96E+20	8.21E+20
5.5	8.88E+20	7.61E+20	6.97E+20	6.80E+20	6.49E+20	6.82E+20	7.06E+20	7.54E+20	8.88E+20
6.5	9.37E+20	8.11E+20	7.63E+20	7.30E+20	7.05E+20	7.29E+20	7.71E+20	8.23E+20	9.62E+20
7.5	1.01E+21	8.68E+20	8.12E+20	7.82E+20	7.36E+20	7.83E+20	8.09E+20	8.80E+20	1.01E+21
8.5	1.06E+21	9.16E+20	8.48E+20	8.14E+20	7.87E+20	8.24E+20	8.60E+20	9.01E+20	1.07E+21
9.5	1.09E+21	9.22E+20	8.78E+20	8.42E+20	8.08E+20	8.47E+20	8.71E+20	9.29E+20	1.10E+21
10.5	1.12E+21	9.53E+20	8.87E+20	8.60E+20	8.25E+20	8.70E+20	8.88E+20	9.43E+20	1.12E+21
11.5	1.13E+21	9.84E+20	8.98E+20	8.78E+20	8.40E+20	8.69E+20	9.06E+20	9.68E+20	1.14E+21
12.5	1.13E+21	9.79E+20	9.13E+20	8.75E+20	8.40E+20	8.61E+20	9.07E+20	9.64E+20	1.14E+21
13.5	1.13E+21	9.69E+20	9.03E+20	8.71E+20	8.31E+20	8.70E+20	9.02E+20	9.62E+20	1.11E+21
14.5	1.10E+21	9.43E+20	8.80E+20	8.60E+20	8.24E+20	8.52E+20	8.80E+20	9.42E+20	1.11E+21
15.5	1.08E+21	9.22E+20	8.49E+20	8.21E+20	8.01E+20	8.22E+20	8.52E+20	9.13E+20	1.08E+21
16.5	1.03E+21	8.89E+20	8.23E+20	7.94E+20	7.66E+20	7.86E+20	8.15E+20	8.88E+20	1.03E+21
17.5	9.80E+20	8.36E+20	7.80E+20	7.60E+20	7.20E+20	7.58E+20	7.81E+20	8.35E+20	9.81E+20
18.5	9.13E+20	8.00E+20	7.38E+20	7.24E+20	6.87E+20	7.09E+20	7.49E+20	7.94E+20	9.22E+20
19.5	8.39E+20	7.23E+20	6.86E+20	6.59E+20	6.24E+20	6.55E+20	6.79E+20	7.25E+20	8.49E+20
20.5	7.76E+20	6.55E+20	6.04E+20	5.94E+20	5.66E+20	5.93E+20	6.15E+20	6.48E+20	7.74E+20
21.5	6.87E+20	5.78E+20	5.37E+20	5.18E+20	4.95E+20	5.14E+20	5.36E+20	5.78E+20	6.83E+20
22.5	6.17E+20	5.07E+20	4.76E+20	4.51E+20	4.23E+20	4.54E+20	4.70E+20	5.13E+20	6.05E+20
23.5	7.90E+20	6.50E+20	5.98E+20	5.80E+20	5.55E+20	5.79E+20	6.01E+20	6.51E+20	8.06E+20
Ax. Avg.	9.00E+20	7.68E+20	7.15E+20	6.91E+20	6.62E+20	6.89E+20	7.15E+20	7.66E+20	9.03E+20

Table A.12. Fission Density Data (fissions/cm^3) in Fuel Plate 12 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.868 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	5.95E+20	5.07E+20	4.65E+20	4.56E+20	4.40E+20	4.54E+20	4.54E+20	4.88E+20	5.98E+20
1.5	5.15E+20	4.28E+20	3.97E+20	3.77E+20	3.70E+20	3.86E+20	4.01E+20	4.28E+20	5.00E+20
2.5	6.01E+20	5.03E+20	4.74E+20	4.55E+20	4.39E+20	4.57E+20	4.73E+20	5.03E+20	5.89E+20
3.5	7.01E+20	5.92E+20	5.54E+20	5.33E+20	5.21E+20	5.41E+20	5.51E+20	5.88E+20	6.89E+20
4.5	7.86E+20	6.63E+20	6.26E+20	6.06E+20	5.82E+20	5.98E+20	6.35E+20	6.67E+20	7.82E+20
5.5	8.69E+20	7.47E+20	6.88E+20	6.65E+20	6.40E+20	6.58E+20	6.92E+20	7.41E+20	8.64E+20
6.5	9.30E+20	8.02E+20	7.58E+20	7.16E+20	6.93E+20	7.19E+20	7.56E+20	7.99E+20	9.34E+20
7.5	9.99E+20	8.55E+20	7.89E+20	7.61E+20	7.27E+20	7.62E+20	8.03E+20	8.59E+20	9.83E+20
8.5	1.03E+21	8.74E+20	8.31E+20	7.97E+20	7.62E+20	8.05E+20	8.27E+20	8.96E+20	1.05E+21
9.5	1.07E+21	9.34E+20	8.56E+20	8.20E+20	7.98E+20	8.29E+20	8.66E+20	9.05E+20	1.06E+21
10.5	1.09E+21	9.36E+20	8.74E+20	8.41E+20	8.13E+20	8.43E+20	8.76E+20	9.33E+20	1.08E+21
11.5	1.11E+21	9.45E+20	8.78E+20	8.51E+20	8.23E+20	8.61E+20	8.83E+20	9.53E+20	1.12E+21
12.5	1.13E+21	9.54E+20	8.95E+20	8.55E+20	8.24E+20	8.43E+20	8.87E+20	9.44E+20	1.12E+21
13.5	1.11E+21	9.38E+20	8.75E+20	8.54E+20	8.16E+20	8.43E+20	8.78E+20	9.41E+20	1.10E+21
14.5	1.09E+21	9.30E+20	8.67E+20	8.37E+20	8.08E+20	8.31E+20	8.57E+20	9.26E+20	1.09E+21
15.5	1.06E+21	8.94E+20	8.37E+20	8.04E+20	7.79E+20	8.05E+20	8.35E+20	9.09E+20	1.04E+21
16.5	1.00E+21	8.63E+20	8.12E+20	7.78E+20	7.50E+20	7.72E+20	8.06E+20	8.53E+20	1.00E+21
17.5	9.63E+20	8.31E+20	7.75E+20	7.38E+20	7.14E+20	7.39E+20	7.59E+20	8.15E+20	9.60E+20
18.5	8.93E+20	7.74E+20	7.20E+20	7.00E+20	6.76E+20	6.95E+20	7.34E+20	7.78E+20	8.89E+20
19.5	8.35E+20	7.06E+20	6.66E+20	6.44E+20	6.18E+20	6.32E+20	6.72E+20	7.18E+20	8.27E+20
20.5	7.58E+20	6.45E+20	6.05E+20	5.79E+20	5.61E+20	5.79E+20	6.08E+20	6.44E+20	7.49E+20
21.5	6.72E+20	5.70E+20	5.30E+20	5.07E+20	4.93E+20	5.11E+20	5.25E+20	5.71E+20	6.82E+20
22.5	5.97E+20	5.11E+20	4.55E+20	4.41E+20	4.17E+20	4.39E+20	4.63E+20	5.00E+20	5.91E+20
23.5	7.91E+20	6.27E+20	5.94E+20	5.70E+20	5.48E+20	5.73E+20	5.87E+20	6.59E+20	7.59E+20
Ax. Avg.	8.83E+20	7.51E+20	7.01E+20	6.74E+20	6.51E+20	6.74E+20	7.01E+20	7.51E+20	8.78E+20

Table A.13. Fission Density Data (fissions/cm^3) in Fuel Plate 13 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 2.974 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	5.92E+20	5.04E+20	4.78E+20	4.52E+20	4.40E+20	4.52E+20	4.65E+20	4.99E+20	5.97E+20
1.5	5.18E+20	4.34E+20	4.05E+20	3.83E+20	3.70E+20	3.85E+20	3.98E+20	4.23E+20	5.05E+20
2.5	6.10E+20	5.14E+20	4.84E+20	4.66E+20	4.47E+20	4.61E+20	4.84E+20	5.16E+20	6.01E+20
3.5	7.05E+20	6.04E+20	5.73E+20	5.41E+20	5.25E+20	5.39E+20	5.71E+20	6.01E+20	7.10E+20
4.5	7.89E+20	6.82E+20	6.29E+20	6.11E+20	5.89E+20	6.14E+20	6.39E+20	6.74E+20	7.96E+20
5.5	8.76E+20	7.64E+20	6.96E+20	6.74E+20	6.50E+20	6.69E+20	7.00E+20	7.42E+20	8.74E+20
6.5	9.49E+20	7.97E+20	7.61E+20	7.32E+20	6.92E+20	7.20E+20	7.55E+20	8.26E+20	9.56E+20
7.5	1.01E+21	8.71E+20	8.00E+20	7.68E+20	7.41E+20	7.72E+20	8.05E+20	8.64E+20	1.01E+21
8.5	1.05E+21	8.94E+20	8.40E+20	7.97E+20	7.83E+20	8.10E+20	8.46E+20	8.98E+20	1.06E+21
9.5	1.08E+21	9.33E+20	8.61E+20	8.30E+20	8.08E+20	8.37E+20	8.70E+20	9.23E+20	1.08E+21
10.5	1.09E+21	9.43E+20	8.87E+20	8.54E+20	8.25E+20	8.52E+20	8.84E+20	9.67E+20	1.08E+21
11.5	1.12E+21	9.61E+20	9.00E+20	8.63E+20	8.36E+20	8.65E+20	9.05E+20	9.70E+20	1.12E+21
12.5	1.13E+21	9.61E+20	9.08E+20	8.59E+20	8.41E+20	8.64E+20	9.05E+20	9.59E+20	1.12E+21
13.5	1.12E+21	9.59E+20	8.92E+20	8.55E+20	8.18E+20	8.52E+20	8.94E+20	9.53E+20	1.12E+21
14.5	1.09E+21	9.35E+20	8.77E+20	8.44E+20	8.14E+20	8.40E+20	8.74E+20	9.30E+20	1.10E+21
15.5	1.06E+21	9.08E+20	8.55E+20	8.16E+20	7.89E+20	8.15E+20	8.77E+20	9.15E+20	1.07E+21
16.5	1.03E+21	8.73E+20	8.14E+20	7.86E+20	7.58E+20	7.82E+20	8.12E+20	8.84E+20	1.04E+21
17.5	9.66E+20	8.47E+20	7.88E+20	7.44E+20	7.16E+20	7.45E+20	7.73E+20	8.26E+20	9.67E+20
18.5	9.05E+20	7.78E+20	7.30E+20	7.09E+20	6.74E+20	6.92E+20	7.33E+20	7.92E+20	9.04E+20
19.5	8.48E+20	7.34E+20	6.71E+20	6.54E+20	6.21E+20	6.47E+20	6.70E+20	7.34E+20	8.44E+20
20.5	7.72E+20	6.59E+20	6.02E+20	5.79E+20	5.69E+20	5.88E+20	5.99E+20	6.57E+20	7.74E+20
21.5	6.75E+20	5.79E+20	5.42E+20	5.16E+20	5.00E+20	5.15E+20	5.37E+20	5.82E+20	6.78E+20
22.5	6.08E+20	5.09E+20	4.60E+20	4.50E+20	4.27E+20	4.47E+20	4.69E+20	5.15E+20	6.08E+20
23.5	7.98E+20	6.55E+20	5.95E+20	5.80E+20	5.52E+20	5.75E+20	5.98E+20	6.49E+20	7.88E+20
Ax. Avg.	8.92E+20	7.62E+20	7.10E+20	6.82E+20	6.58E+20	6.81E+20	7.11E+20	7.62E+20	8.92E+20

Table A.14. Fission Density Data (fissions/cm^3) in Fuel Plate 14 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.081 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	5.75E+20	4.89E+20	4.60E+20	4.39E+20	4.28E+20	4.44E+20	4.47E+20	4.93E+20	5.71E+20
1.5	5.11E+20	4.20E+20	3.90E+20	3.81E+20	3.65E+20	3.78E+20	3.95E+20	4.31E+20	4.98E+20
2.5	6.01E+20	5.05E+20	4.84E+20	4.64E+20	4.45E+20	4.57E+20	4.75E+20	5.02E+20	6.00E+20
3.5	7.17E+20	6.01E+20	5.61E+20	5.40E+20	5.21E+20	5.41E+20	5.66E+20	5.93E+20	6.97E+20
4.5	7.93E+20	6.67E+20	6.20E+20	6.07E+20	5.81E+20	6.09E+20	6.35E+20	6.80E+20	7.93E+20
5.5	8.84E+20	7.51E+20	7.08E+20	6.74E+20	6.49E+20	6.65E+20	6.94E+20	7.54E+20	8.79E+20
6.5	9.38E+20	8.14E+20	7.57E+20	7.21E+20	6.94E+20	7.25E+20	7.64E+20	8.19E+20	9.45E+20
7.5	1.00E+21	8.68E+20	7.86E+20	7.67E+20	7.33E+20	7.68E+20	7.93E+20	8.61E+20	1.02E+21
8.5	1.05E+21	9.15E+20	8.30E+20	7.95E+20	7.75E+20	7.98E+20	8.37E+20	8.72E+20	1.06E+21
9.5	1.08E+21	9.29E+20	8.51E+20	8.23E+20	8.04E+20	8.31E+20	8.70E+20	9.15E+20	1.07E+21
10.5	1.11E+21	9.43E+20	8.68E+20	8.50E+20	8.21E+20	8.50E+20	8.92E+20	9.46E+20	1.11E+21
11.5	1.12E+21	9.55E+20	8.93E+20	8.63E+20	8.22E+20	8.63E+20	9.01E+20	9.77E+20	1.13E+21
12.5	1.13E+21	9.54E+20	9.04E+20	8.70E+20	8.26E+20	8.63E+20	8.94E+20	9.76E+20	1.13E+21
13.5	1.12E+21	9.55E+20	9.03E+20	8.51E+20	8.24E+20	8.48E+20	8.76E+20	9.56E+20	1.12E+21
14.5	1.11E+21	9.38E+20	8.83E+20	8.39E+20	8.10E+20	8.34E+20	8.67E+20	9.33E+20	1.11E+21
15.5	1.06E+21	9.06E+20	8.35E+20	8.12E+20	7.89E+20	8.14E+20	8.49E+20	9.13E+20	1.07E+21
16.5	1.03E+21	8.75E+20	8.09E+20	7.81E+20	7.53E+20	7.91E+20	8.13E+20	8.71E+20	1.04E+21
17.5	9.76E+20	8.31E+20	7.76E+20	7.45E+20	7.17E+20	7.40E+20	7.77E+20	8.18E+20	9.71E+20
18.5	9.15E+20	7.83E+20	7.24E+20	6.95E+20	6.71E+20	6.99E+20	7.24E+20	7.73E+20	9.22E+20
19.5	8.57E+20	7.25E+20	6.67E+20	6.48E+20	6.21E+20	6.40E+20	6.66E+20	7.15E+20	8.52E+20
20.5	7.75E+20	6.49E+20	6.02E+20	5.83E+20	5.58E+20	5.81E+20	5.95E+20	6.54E+20	7.67E+20
21.5	6.83E+20	5.73E+20	5.37E+20	5.10E+20	4.93E+20	5.15E+20	5.43E+20	5.76E+20	6.80E+20
22.5	6.06E+20	5.06E+20	4.62E+20	4.42E+20	4.17E+20	4.42E+20	4.73E+20	5.09E+20	6.03E+20
23.5	7.93E+20	6.41E+20	6.04E+20	5.71E+20	5.48E+20	5.67E+20	5.96E+20	6.45E+20	7.83E+20
Ax. Avg.	8.93E+20	7.58E+20	7.05E+20	6.78E+20	6.53E+20	6.78E+20	7.06E+20	7.58E+20	8.92E+20

Table A.15. Fission Density Data (fissions/cm^3) in Fuel Plate 15 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.188 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	5.70E+20	4.83E+20	4.50E+20	4.28E+20	4.20E+20	4.32E+20	4.45E+20	4.73E+20	5.60E+20
1.5	4.95E+20	4.24E+20	3.85E+20	3.74E+20	3.61E+20	3.77E+20	3.94E+20	4.26E+20	4.99E+20
2.5	5.98E+20	5.15E+20	4.63E+20	4.56E+20	4.39E+20	4.55E+20	4.71E+20	5.09E+20	5.95E+20
3.5	7.02E+20	6.00E+20	5.65E+20	5.37E+20	5.13E+20	5.41E+20	5.68E+20	5.95E+20	7.06E+20
4.5	7.94E+20	6.71E+20	6.20E+20	6.01E+20	5.86E+20	6.09E+20	6.32E+20	6.74E+20	7.94E+20
5.5	8.81E+20	7.31E+20	6.89E+20	6.66E+20	6.38E+20	6.68E+20	6.85E+20	7.48E+20	8.81E+20
6.5	9.51E+20	8.00E+20	7.48E+20	7.11E+20	6.97E+20	7.16E+20	7.45E+20	8.10E+20	9.43E+20
7.5	1.00E+21	8.51E+20	7.92E+20	7.59E+20	7.31E+20	7.62E+20	7.96E+20	8.60E+20	1.02E+21
8.5	1.05E+21	8.87E+20	8.26E+20	7.92E+20	7.64E+20	7.92E+20	8.35E+20	8.82E+20	1.07E+21
9.5	1.07E+21	9.22E+20	8.65E+20	8.29E+20	7.92E+20	8.22E+20	8.64E+20	9.18E+20	1.09E+21
10.5	1.10E+21	9.39E+20	8.71E+20	8.39E+20	8.07E+20	8.41E+20	8.66E+20	9.45E+20	1.12E+21
11.5	1.12E+21	9.59E+20	8.93E+20	8.56E+20	8.16E+20	8.39E+20	8.90E+20	9.45E+20	1.13E+21
12.5	1.14E+21	9.52E+20	8.92E+20	8.49E+20	8.23E+20	8.47E+20	8.90E+20	9.54E+20	1.13E+21
13.5	1.12E+21	9.38E+20	8.96E+20	8.52E+20	8.18E+20	8.47E+20	8.87E+20	9.53E+20	1.09E+21
14.5	1.11E+21	9.34E+20	8.80E+20	8.38E+20	8.01E+20	8.25E+20	8.69E+20	9.25E+20	1.10E+21
15.5	1.05E+21	9.01E+20	8.42E+20	8.11E+20	7.80E+20	8.08E+20	8.40E+20	9.08E+20	1.06E+21
16.5	1.03E+21	8.63E+20	8.12E+20	7.74E+20	7.48E+20	7.72E+20	8.09E+20	8.79E+20	1.02E+21
17.5	9.62E+20	8.38E+20	7.73E+20	7.38E+20	7.13E+20	7.40E+20	7.59E+20	8.15E+20	9.71E+20
18.5	9.11E+20	7.80E+20	7.23E+20	7.06E+20	6.69E+20	6.89E+20	7.27E+20	7.74E+20	9.12E+20
19.5	8.35E+20	7.19E+20	6.65E+20	6.41E+20	6.11E+20	6.34E+20	6.60E+20	7.22E+20	8.40E+20
20.5	7.63E+20	6.44E+20	6.07E+20	5.79E+20	5.60E+20	5.77E+20	6.17E+20	6.59E+20	7.67E+20
21.5	6.82E+20	5.74E+20	5.21E+20	5.13E+20	4.91E+20	5.10E+20	5.36E+20	5.76E+20	6.77E+20
22.5	6.16E+20	5.04E+20	4.71E+20	4.35E+20	4.21E+20	4.34E+20	4.67E+20	5.08E+20	6.11E+20
23.5	7.90E+20	6.39E+20	5.91E+20	5.64E+20	5.41E+20	5.72E+20	5.94E+20	6.34E+20	7.89E+20
Ax. Avg.	8.89E+20	7.53E+20	7.02E+20	6.73E+20	6.47E+20	6.71E+20	7.02E+20	7.54E+20	8.91E+20

Table A.16. Fission Density Data (fissions/cm^3) in Fuel Plate 16 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.295 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	5.47E+20	4.64E+20	4.38E+20	4.21E+20	4.09E+20	4.27E+20	4.35E+20	4.56E+20	5.38E+20
1.5	4.93E+20	4.18E+20	3.97E+20	3.74E+20	3.59E+20	3.78E+20	3.92E+20	4.22E+20	4.91E+20
2.5	6.09E+20	5.05E+20	4.70E+20	4.57E+20	4.41E+20	4.56E+20	4.74E+20	5.09E+20	6.12E+20
3.5	7.03E+20	5.98E+20	5.71E+20	5.37E+20	5.22E+20	5.40E+20	5.55E+20	6.02E+20	7.27E+20
4.5	8.05E+20	6.90E+20	6.38E+20	6.06E+20	5.88E+20	6.10E+20	6.38E+20	6.79E+20	8.06E+20
5.5	8.74E+20	7.54E+20	6.97E+20	6.72E+20	6.46E+20	6.73E+20	7.04E+20	7.40E+20	8.89E+20
6.5	9.69E+20	8.05E+20	7.57E+20	7.27E+20	6.99E+20	7.23E+20	7.63E+20	8.22E+20	9.60E+20
7.5	1.02E+21	8.50E+20	8.07E+20	7.69E+20	7.37E+20	7.70E+20	7.91E+20	8.53E+20	1.01E+21
8.5	1.08E+21	8.90E+20	8.33E+20	7.95E+20	7.67E+20	8.01E+20	8.43E+20	9.03E+20	1.07E+21
9.5	1.09E+21	9.18E+20	8.69E+20	8.30E+20	8.02E+20	8.30E+20	8.66E+20	9.30E+20	1.11E+21
10.5	1.12E+21	9.42E+20	8.89E+20	8.47E+20	8.17E+20	8.49E+20	8.77E+20	9.52E+20	1.14E+21
11.5	1.12E+21	9.72E+20	8.99E+20	8.57E+20	8.21E+20	8.52E+20	9.02E+20	9.84E+20	1.15E+21
12.5	1.16E+21	9.67E+20	9.05E+20	8.48E+20	8.28E+20	8.61E+20	9.07E+20	9.76E+20	1.16E+21
13.5	1.15E+21	9.62E+20	8.93E+20	8.49E+20	8.13E+20	8.54E+20	8.95E+20	9.62E+20	1.13E+21
14.5	1.12E+21	9.28E+20	8.73E+20	8.43E+20	8.07E+20	8.38E+20	8.81E+20	9.31E+20	1.11E+21
15.5	1.08E+21	9.10E+20	8.47E+20	8.14E+20	7.86E+20	8.04E+20	8.47E+20	9.13E+20	1.08E+21
16.5	1.04E+21	8.85E+20	8.22E+20	7.83E+20	7.57E+20	7.75E+20	8.22E+20	8.74E+20	1.04E+21
17.5	9.82E+20	8.31E+20	7.79E+20	7.41E+20	7.17E+20	7.36E+20	7.70E+20	8.37E+20	9.94E+20
18.5	9.46E+20	7.82E+20	7.38E+20	7.08E+20	6.72E+20	7.01E+20	7.26E+20	7.69E+20	9.33E+20
19.5	8.66E+20	7.22E+20	6.85E+20	6.34E+20	6.11E+20	6.39E+20	6.74E+20	7.21E+20	8.64E+20
20.5	7.72E+20	6.55E+20	6.08E+20	5.83E+20	5.65E+20	5.85E+20	6.17E+20	6.57E+20	7.83E+20
21.5	6.92E+20	5.80E+20	5.34E+20	5.08E+20	4.94E+20	5.12E+20	5.40E+20	5.81E+20	6.95E+20
22.5	6.22E+20	5.15E+20	4.67E+20	4.43E+20	4.30E+20	4.40E+20	4.67E+20	5.05E+20	6.15E+20
23.5	7.98E+20	6.44E+20	6.10E+20	5.70E+20	5.57E+20	5.62E+20	6.06E+20	6.52E+20	7.70E+20
Ax. Avg.	9.02E+20	7.58E+20	7.09E+20	6.76E+20	6.52E+20	6.76E+20	7.08E+20	7.60E+20	9.03E+20

Table A.17. Fission Density Data (fissions/cm^3) in Fuel Plate 17 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.402 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	5.40E+20	4.63E+20	4.33E+20	4.16E+20	4.03E+20	4.13E+20	4.33E+20	4.50E+20	5.45E+20
1.5	5.14E+20	4.16E+20	3.88E+20	3.80E+20	3.65E+20	3.76E+20	3.91E+20	4.14E+20	5.10E+20
2.5	6.25E+20	5.27E+20	4.94E+20	4.66E+20	4.51E+20	4.72E+20	4.92E+20	5.26E+20	6.29E+20
3.5	7.36E+20	6.32E+20	5.79E+20	5.59E+20	5.35E+20	5.51E+20	5.79E+20	6.19E+20	7.48E+20
4.5	8.25E+20	7.07E+20	6.55E+20	6.24E+20	6.02E+20	6.19E+20	6.52E+20	6.89E+20	8.30E+20
5.5	9.37E+20	7.70E+20	7.25E+20	6.92E+20	6.71E+20	6.93E+20	7.22E+20	7.73E+20	9.26E+20
6.5	1.00E+21	8.38E+20	7.87E+20	7.49E+20	7.20E+20	7.40E+20	7.71E+20	8.52E+20	1.00E+21
7.5	1.08E+21	8.92E+20	8.25E+20	7.91E+20	7.61E+20	7.91E+20	8.31E+20	9.00E+20	1.06E+21
8.5	1.11E+21	9.47E+20	8.71E+20	8.25E+20	7.90E+20	8.26E+20	8.71E+20	9.43E+20	1.11E+21
9.5	1.16E+21	9.59E+20	9.04E+20	8.63E+20	8.29E+20	8.50E+20	8.97E+20	9.68E+20	1.15E+21
10.5	1.17E+21	1.00E+21	9.16E+20	8.69E+20	8.46E+20	8.71E+20	9.16E+20	1.00E+21	1.19E+21
11.5	1.20E+21	9.91E+20	9.27E+20	8.83E+20	8.42E+20	8.87E+20	9.41E+20	1.00E+21	1.18E+21
12.5	1.20E+21	9.91E+20	9.33E+20	8.85E+20	8.59E+20	8.92E+20	9.38E+20	1.00E+21	1.19E+21
13.5	1.19E+21	9.89E+20	9.22E+20	8.79E+20	8.47E+20	8.71E+20	9.11E+20	1.00E+21	1.17E+21
14.5	1.16E+21	9.76E+20	9.12E+20	8.65E+20	8.26E+20	8.62E+20	8.98E+20	9.61E+20	1.15E+21
15.5	1.12E+21	9.37E+20	8.65E+20	8.34E+20	8.01E+20	8.29E+20	8.69E+20	9.46E+20	1.15E+21
16.5	1.08E+21	9.03E+20	8.48E+20	8.02E+20	7.82E+20	8.06E+20	8.44E+20	8.97E+20	1.08E+21
17.5	1.02E+21	8.51E+20	7.98E+20	7.59E+20	7.36E+20	7.59E+20	7.95E+20	8.67E+20	1.03E+21
18.5	9.64E+20	7.96E+20	7.55E+20	7.22E+20	6.94E+20	7.16E+20	7.48E+20	8.07E+20	9.73E+20
19.5	8.95E+20	7.53E+20	6.98E+20	6.59E+20	6.40E+20	6.61E+20	6.81E+20	7.46E+20	8.75E+20
20.5	8.07E+20	6.83E+20	6.28E+20	6.03E+20	5.80E+20	5.93E+20	6.22E+20	6.74E+20	8.06E+20
21.5	7.24E+20	6.01E+20	5.58E+20	5.25E+20	5.12E+20	5.26E+20	5.63E+20	6.09E+20	7.09E+20
22.5	6.46E+20	5.22E+20	4.80E+20	4.58E+20	4.41E+20	4.57E+20	4.82E+20	5.17E+20	6.40E+20
23.5	8.03E+20	6.60E+20	6.16E+20	5.80E+20	5.64E+20	5.86E+20	6.12E+20	6.61E+20	8.01E+20
Ax. Avg.	9.38E+20	7.84E+20	7.30E+20	6.95E+20	6.71E+20	6.94E+20	7.28E+20	7.85E+20	9.36E+20

Table A.18. Fission Density Data (fissions/cm^3) in Fuel Plate 18 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.508 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	5.29E+20	4.44E+20	4.19E+20	4.07E+20	3.91E+20	4.03E+20	4.09E+20	4.37E+20	5.07E+20
1.5	5.03E+20	4.26E+20	3.90E+20	3.77E+20	3.67E+20	3.79E+20	4.00E+20	4.16E+20	5.10E+20
2.5	6.42E+20	5.34E+20	4.99E+20	4.75E+20	4.58E+20	4.74E+20	4.94E+20	5.40E+20	6.49E+20
3.5	7.65E+20	6.27E+20	5.86E+20	5.65E+20	5.41E+20	5.62E+20	5.93E+20	6.36E+20	7.64E+20
4.5	8.65E+20	7.32E+20	6.71E+20	6.33E+20	6.12E+20	6.37E+20	6.66E+20	7.21E+20	8.66E+20
5.5	9.47E+20	7.78E+20	7.42E+20	7.03E+20	6.84E+20	7.04E+20	7.36E+20	8.02E+20	9.59E+20
6.5	1.04E+21	8.60E+20	8.03E+20	7.62E+20	7.33E+20	7.61E+20	8.00E+20	8.63E+20	1.04E+21
7.5	1.11E+21	9.00E+20	8.41E+20	8.08E+20	7.80E+20	8.08E+20	8.64E+20	9.20E+20	1.09E+21
8.5	1.16E+21	9.60E+20	8.91E+20	8.41E+20	8.12E+20	8.42E+20	8.78E+20	9.67E+20	1.16E+21
9.5	1.19E+21	9.87E+20	9.18E+20	8.82E+20	8.47E+20	8.72E+20	9.14E+20	9.95E+20	1.18E+21
10.5	1.22E+21	1.02E+21	9.38E+20	8.90E+20	8.65E+20	8.90E+20	9.48E+20	1.00E+21	1.22E+21
11.5	1.22E+21	1.02E+21	9.44E+20	9.08E+20	8.72E+20	9.11E+20	9.55E+20	1.02E+21	1.26E+21
12.5	1.24E+21	1.02E+21	9.58E+20	9.10E+20	8.78E+20	9.16E+20	9.53E+20	1.04E+21	1.24E+21
13.5	1.23E+21	1.02E+21	9.45E+20	8.87E+20	8.62E+20	9.00E+20	9.46E+20	1.01E+21	1.23E+21
14.5	1.20E+21	9.85E+20	9.34E+20	8.79E+20	8.53E+20	8.79E+20	9.19E+20	9.99E+20	1.21E+21
15.5	1.16E+21	9.67E+20	8.96E+20	8.48E+20	8.24E+20	8.52E+20	8.82E+20	9.54E+20	1.16E+21
16.5	1.12E+21	9.26E+20	8.76E+20	8.20E+20	7.97E+20	8.25E+20	8.69E+20	9.17E+20	1.12E+21
17.5	1.05E+21	8.96E+20	8.29E+20	7.85E+20	7.53E+20	7.80E+20	8.14E+20	8.94E+20	1.07E+21
18.5	1.00E+21	8.29E+20	7.66E+20	7.39E+20	7.14E+20	7.33E+20	7.70E+20	8.42E+20	1.02E+21
19.5	9.29E+20	7.73E+20	7.13E+20	6.81E+20	6.53E+20	6.75E+20	7.08E+20	7.59E+20	9.19E+20
20.5	8.39E+20	6.88E+20	6.39E+20	6.20E+20	5.96E+20	6.09E+20	6.41E+20	6.93E+20	8.47E+20
21.5	7.53E+20	6.04E+20	5.61E+20	5.41E+20	5.25E+20	5.39E+20	5.63E+20	6.15E+20	7.50E+20
22.5	6.83E+20	5.46E+20	5.06E+20	4.61E+20	4.50E+20	4.69E+20	4.98E+20	5.34E+20	6.84E+20
23.5	8.17E+20	6.62E+20	6.15E+20	5.95E+20	5.71E+20	5.94E+20	6.19E+20	6.71E+20	8.22E+20
Ax. Avg.	9.67E+20	8.00E+20	7.45E+20	7.09E+20	6.85E+20	7.09E+20	7.43E+20	8.02E+20	9.70E+20

Table A.19. Fission Density Data (fissions/cm^3) in Fuel Plate 19 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.615 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	5.29E+20	4.48E+20	4.24E+20	4.10E+20	3.96E+20	4.07E+20	4.20E+20	4.43E+20	5.19E+20
1.5	5.49E+20	4.51E+20	4.24E+20	4.03E+20	3.94E+20	4.00E+20	4.14E+20	4.47E+20	5.30E+20
2.5	6.87E+20	5.75E+20	5.39E+20	5.14E+20	4.96E+20	5.11E+20	5.31E+20	5.79E+20	6.94E+20
3.5	8.25E+20	6.94E+20	6.45E+20	6.15E+20	5.91E+20	6.10E+20	6.48E+20	6.80E+20	8.34E+20
4.5	9.51E+20	7.79E+20	7.33E+20	6.87E+20	6.64E+20	7.01E+20	7.34E+20	7.92E+20	9.54E+20
5.5	1.05E+21	8.65E+20	8.02E+20	7.73E+20	7.48E+20	7.71E+20	8.24E+20	8.62E+20	1.06E+21
6.5	1.14E+21	9.43E+20	8.66E+20	8.33E+20	7.98E+20	8.36E+20	8.63E+20	9.52E+20	1.14E+21
7.5	1.21E+21	9.87E+20	9.16E+20	8.77E+20	8.53E+20	8.89E+20	9.41E+20	1.01E+21	1.21E+21
8.5	1.27E+21	1.07E+21	9.78E+20	9.17E+20	8.88E+20	9.24E+20	9.71E+20	1.05E+21	1.26E+21
9.5	1.31E+21	1.08E+21	9.80E+20	9.53E+20	9.24E+20	9.53E+20	1.01E+21	1.09E+21	1.32E+21
10.5	1.33E+21	1.11E+21	1.02E+21	9.70E+20	9.43E+20	9.73E+20	1.02E+21	1.09E+21	1.33E+21
11.5	1.35E+21	1.11E+21	1.04E+21	9.95E+20	9.47E+20	9.94E+20	1.04E+21	1.12E+21	1.35E+21
12.5	1.34E+21	1.11E+21	1.04E+21	9.88E+20	9.55E+20	9.99E+20	1.03E+21	1.14E+21	1.35E+21
13.5	1.33E+21	1.11E+21	1.02E+21	9.76E+20	9.39E+20	9.85E+20	1.02E+21	1.11E+21	1.34E+21
14.5	1.32E+21	1.07E+21	1.00E+21	9.72E+20	9.28E+20	9.70E+20	1.00E+21	1.07E+21	1.30E+21
15.5	1.27E+21	1.05E+21	9.90E+20	9.30E+20	8.95E+20	9.28E+20	9.71E+20	1.06E+21	1.29E+21
16.5	1.23E+21	1.02E+21	9.37E+20	9.04E+20	8.74E+20	8.97E+20	9.46E+20	1.01E+21	1.24E+21
17.5	1.17E+21	9.72E+20	9.04E+20	8.52E+20	8.23E+20	8.51E+20	8.94E+20	9.55E+20	1.17E+21
18.5	1.11E+21	9.08E+20	8.32E+20	8.09E+20	7.76E+20	8.07E+20	8.50E+20	9.12E+20	1.10E+21
19.5	1.02E+21	8.38E+20	7.78E+20	7.44E+20	7.17E+20	7.38E+20	7.75E+20	8.44E+20	1.02E+21
20.5	9.15E+20	7.49E+20	7.00E+20	6.72E+20	6.45E+20	6.73E+20	7.03E+20	7.58E+20	9.35E+20
21.5	8.13E+20	6.60E+20	6.07E+20	5.92E+20	5.76E+20	5.98E+20	6.18E+20	6.70E+20	8.20E+20
22.5	7.36E+20	5.92E+20	5.44E+20	5.12E+20	4.92E+20	5.17E+20	5.47E+20	5.95E+20	7.41E+20
23.5	8.79E+20	7.12E+20	6.60E+20	6.34E+20	6.11E+20	6.35E+20	6.68E+20	7.10E+20	8.88E+20
Ax. Avg.	1.06E+21	8.71E+20	8.07E+20	7.72E+20	7.45E+20	7.74E+20	8.10E+20	8.73E+20	1.06E+21

Table A.20. Fission Density Data (fissions/cm^3) in Fuel Plate 20 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.723 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	5.17E+20	4.48E+20	4.19E+20	4.10E+20	4.02E+20	4.14E+20	4.15E+20	4.38E+20	5.04E+20
1.5	5.64E+20	4.78E+20	4.46E+20	4.26E+20	4.20E+20	4.22E+20	4.27E+20	4.68E+20	5.57E+20
2.5	7.55E+20	6.21E+20	5.83E+20	5.58E+20	5.44E+20	5.69E+20	5.95E+20	6.35E+20	7.63E+20
3.5	9.16E+20	7.60E+20	6.98E+20	6.74E+20	6.56E+20	6.79E+20	7.23E+20	7.65E+20	9.14E+20
4.5	1.04E+21	8.68E+20	8.03E+20	7.71E+20	7.48E+20	7.71E+20	8.13E+20	8.78E+20	1.04E+21
5.5	1.15E+21	9.54E+20	9.05E+20	8.47E+20	8.26E+20	8.53E+20	8.92E+20	9.61E+20	1.15E+21
6.5	1.23E+21	1.03E+21	9.71E+20	9.17E+20	8.83E+20	9.23E+20	9.70E+20	1.02E+21	1.24E+21
7.5	1.33E+21	1.08E+21	1.00E+21	9.84E+20	9.43E+20	9.72E+20	1.03E+21	1.11E+21	1.32E+21
8.5	1.37E+21	1.16E+21	1.08E+21	1.02E+21	9.93E+20	1.03E+21	1.07E+21	1.15E+21	1.37E+21
9.5	1.42E+21	1.18E+21	1.11E+21	1.06E+21	1.03E+21	1.06E+21	1.10E+21	1.20E+21	1.43E+21
10.5	1.48E+21	1.21E+21	1.13E+21	1.07E+21	1.05E+21	1.09E+21	1.12E+21	1.22E+21	1.47E+21
11.5	1.47E+21	1.22E+21	1.15E+21	1.10E+21	1.05E+21	1.10E+21	1.14E+21	1.22E+21	1.48E+21
12.5	1.48E+21	1.22E+21	1.16E+21	1.10E+21	1.07E+21	1.10E+21	1.14E+21	1.25E+21	1.48E+21
13.5	1.46E+21	1.21E+21	1.14E+21	1.09E+21	1.05E+21	1.09E+21	1.15E+21	1.20E+21	1.48E+21
14.5	1.43E+21	1.19E+21	1.11E+21	1.07E+21	1.02E+21	1.07E+21	1.12E+21	1.20E+21	1.44E+21
15.5	1.40E+21	1.17E+21	1.08E+21	1.04E+21	1.00E+21	1.03E+21	1.06E+21	1.15E+21	1.41E+21
16.5	1.36E+21	1.13E+21	1.06E+21	1.00E+21	9.65E+20	9.97E+20	1.05E+21	1.12E+21	1.35E+21
17.5	1.28E+21	1.08E+21	9.96E+20	9.45E+20	9.12E+20	9.49E+20	9.91E+20	1.05E+21	1.27E+21
18.5	1.22E+21	1.01E+21	9.20E+20	8.92E+20	8.68E+20	8.88E+20	9.26E+20	1.01E+21	1.20E+21
19.5	1.12E+21	9.19E+20	8.54E+20	8.24E+20	7.94E+20	8.20E+20	8.65E+20	9.16E+20	1.11E+21
20.5	1.00E+21	8.35E+20	7.74E+20	7.40E+20	7.26E+20	7.52E+20	7.79E+20	8.34E+20	9.95E+20
21.5	8.99E+20	7.36E+20	6.93E+20	6.65E+20	6.34E+20	6.63E+20	6.89E+20	7.39E+20	8.95E+20
22.5	8.20E+20	6.54E+20	6.05E+20	5.73E+20	5.56E+20	5.80E+20	6.02E+20	6.58E+20	8.03E+20
23.5	9.41E+20	7.68E+20	7.24E+20	6.87E+20	6.67E+20	6.88E+20	7.18E+20	7.67E+20	9.44E+20
Ax. Avg.	1.15E+21	9.55E+20	8.93E+20	8.53E+20	8.26E+20	8.54E+20	8.91E+20	9.57E+20	1.15E+21

Table A.21. Fission Density Data (fissions/cm^3) in Fuel Plate 21 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.830 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	5.31E+20	4.57E+20	4.22E+20	4.26E+20	4.21E+20	4.27E+20	4.24E+20	4.38E+20	5.14E+20
1.5	6.09E+20	5.29E+20	4.99E+20	4.75E+20	4.75E+20	4.80E+20	4.93E+20	5.15E+20	6.04E+20
2.5	8.62E+20	7.24E+20	6.83E+20	6.54E+20	6.41E+20	6.62E+20	6.88E+20	7.42E+20	8.65E+20
3.5	1.05E+21	8.82E+20	8.43E+20	7.97E+20	7.78E+20	8.07E+20	8.36E+20	8.91E+20	1.06E+21
4.5	1.18E+21	1.01E+21	9.56E+20	9.21E+20	8.90E+20	9.19E+20	9.36E+20	1.01E+21	1.19E+21
5.5	1.33E+21	1.11E+21	1.06E+21	1.01E+21	9.78E+20	1.01E+21	1.04E+21	1.12E+21	1.33E+21
6.5	1.44E+21	1.20E+21	1.14E+21	1.09E+21	1.05E+21	1.09E+21	1.13E+21	1.20E+21	1.42E+21
7.5	1.52E+21	1.28E+21	1.22E+21	1.15E+21	1.12E+21	1.17E+21	1.19E+21	1.27E+21	1.53E+21
8.5	1.57E+21	1.32E+21	1.27E+21	1.21E+21	1.17E+21	1.22E+21	1.27E+21	1.34E+21	1.59E+21
9.5	1.64E+21	1.39E+21	1.31E+21	1.27E+21	1.22E+21	1.26E+21	1.30E+21	1.39E+21	1.63E+21
10.5	1.65E+21	1.42E+21	1.33E+21	1.27E+21	1.25E+21	1.29E+21	1.30E+21	1.40E+21	1.66E+21
11.5	1.67E+21	1.44E+21	1.37E+21	1.31E+21	1.25E+21	1.31E+21	1.35E+21	1.41E+21	1.70E+21
12.5	1.69E+21	1.41E+21	1.34E+21	1.30E+21	1.26E+21	1.30E+21	1.34E+21	1.45E+21	1.70E+21
13.5	1.68E+21	1.43E+21	1.34E+21	1.28E+21	1.24E+21	1.29E+21	1.32E+21	1.41E+21	1.69E+21
14.5	1.65E+21	1.40E+21	1.31E+21	1.27E+21	1.23E+21	1.26E+21	1.30E+21	1.39E+21	1.66E+21
15.5	1.61E+21	1.37E+21	1.27E+21	1.23E+21	1.19E+21	1.23E+21	1.27E+21	1.34E+21	1.59E+21
16.5	1.53E+21	1.31E+21	1.23E+21	1.18E+21	1.14E+21	1.18E+21	1.22E+21	1.31E+21	1.53E+21
17.5	1.45E+21	1.23E+21	1.16E+21	1.13E+21	1.09E+21	1.11E+21	1.16E+21	1.23E+21	1.45E+21
18.5	1.39E+21	1.16E+21	1.08E+21	1.06E+21	1.02E+21	1.05E+21	1.10E+21	1.16E+21	1.38E+21
19.5	1.28E+21	1.08E+21	1.01E+21	9.80E+20	9.49E+20	9.73E+20	1.01E+21	1.08E+21	1.28E+21
20.5	1.15E+21	9.65E+20	9.04E+20	8.87E+20	8.54E+20	8.91E+20	9.20E+20	9.82E+20	1.16E+21
21.5	1.03E+21	8.60E+20	8.13E+20	7.97E+20	7.64E+20	7.86E+20	8.21E+20	8.68E+20	1.03E+21
22.5	9.30E+20	7.73E+20	7.22E+20	6.95E+20	6.68E+20	6.89E+20	7.00E+20	7.63E+20	9.41E+20
23.5	1.04E+21	8.79E+20	8.29E+20	7.92E+20	7.60E+20	7.90E+20	8.04E+20	8.59E+20	1.06E+21
Ax. Avg.	1.31E+21	1.11E+21	1.05E+21	1.01E+21	9.75E+20	1.01E+21	1.04E+21	1.11E+21	1.32E+21

Table A.22. Fission Density Data (fissions/cm^3) in Fuel Plate 22 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 3.938 inches Fuel core thickness 20 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	5.31E+20	4.81E+20	4.59E+20	4.62E+20	4.70E+20	4.62E+20	4.54E+20	4.76E+20	5.37E+20
1.5	6.97E+20	6.23E+20	6.12E+20	5.94E+20	5.83E+20	5.90E+20	5.88E+20	6.11E+20	7.08E+20
2.5	1.04E+21	9.00E+20	8.78E+20	8.46E+20	8.26E+20	8.61E+20	8.73E+20	9.31E+20	1.03E+21
3.5	1.27E+21	1.12E+21	1.08E+21	1.05E+21	1.02E+21	1.05E+21	1.08E+21	1.13E+21	1.28E+21
4.5	1.45E+21	1.27E+21	1.21E+21	1.18E+21	1.15E+21	1.19E+21	1.22E+21	1.28E+21	1.43E+21
5.5	1.63E+21	1.42E+21	1.36E+21	1.32E+21	1.27E+21	1.32E+21	1.36E+21	1.42E+21	1.61E+21
6.5	1.74E+21	1.52E+21	1.45E+21	1.41E+21	1.37E+21	1.42E+21	1.48E+21	1.52E+21	1.76E+21
7.5	1.84E+21	1.62E+21	1.55E+21	1.51E+21	1.46E+21	1.51E+21	1.54E+21	1.64E+21	1.85E+21
8.5	1.91E+21	1.71E+21	1.63E+21	1.57E+21	1.53E+21	1.59E+21	1.63E+21	1.71E+21	1.91E+21
9.5	1.97E+21	1.75E+21	1.68E+21	1.63E+21	1.58E+21	1.65E+21	1.70E+21	1.76E+21	2.01E+21
10.5	2.02E+21	1.80E+21	1.73E+21	1.67E+21	1.62E+21	1.68E+21	1.70E+21	1.78E+21	2.01E+21
11.5	2.04E+21	1.83E+21	1.75E+21	1.70E+21	1.64E+21	1.69E+21	1.73E+21	1.80E+21	2.07E+21
12.5	2.02E+21	1.79E+21	1.75E+21	1.69E+21	1.64E+21	1.69E+21	1.74E+21	1.80E+21	2.04E+21
13.5	2.03E+21	1.81E+21	1.71E+21	1.68E+21	1.63E+21	1.68E+21	1.72E+21	1.79E+21	2.04E+21
14.5	2.00E+21	1.74E+21	1.70E+21	1.64E+21	1.59E+21	1.65E+21	1.71E+21	1.77E+21	2.01E+21
15.5	1.96E+21	1.73E+21	1.61E+21	1.61E+21	1.55E+21	1.58E+21	1.63E+21	1.72E+21	1.94E+21
16.5	1.86E+21	1.64E+21	1.58E+21	1.54E+21	1.49E+21	1.53E+21	1.58E+21	1.65E+21	1.87E+21
17.5	1.78E+21	1.57E+21	1.51E+21	1.45E+21	1.41E+21	1.45E+21	1.49E+21	1.55E+21	1.78E+21
18.5	1.69E+21	1.46E+21	1.41E+21	1.38E+21	1.34E+21	1.36E+21	1.41E+21	1.47E+21	1.67E+21
19.5	1.56E+21	1.38E+21	1.30E+21	1.27E+21	1.24E+21	1.26E+21	1.30E+21	1.36E+21	1.55E+21
20.5	1.41E+21	1.25E+21	1.19E+21	1.17E+21	1.13E+21	1.16E+21	1.18E+21	1.25E+21	1.41E+21
21.5	1.24E+21	1.12E+21	1.06E+21	1.04E+21	1.01E+21	1.03E+21	1.07E+21	1.13E+21	1.25E+21
22.5	1.15E+21	1.00E+21	9.57E+20	9.24E+20	8.90E+20	9.20E+20	9.43E+20	9.73E+20	1.15E+21
23.5	1.24E+21	1.06E+21	1.02E+21	9.93E+20	9.58E+20	1.00E+21	1.02E+21	1.05E+21	1.22E+21
Ax. Avg.	1.59E+21	1.40E+21	1.34E+21	1.31E+21	1.27E+21	1.31E+21	1.34E+21	1.40E+21	1.59E+21

Table A.23. Fission Density Data (fissions/cm^3) in Fuel Plate 23 in Element Discharged from Reference Mixed Burnup Core: FT loaded with typical samples.

Fuel core width 4.048 inches Fuel core thickness 17 mil

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	5.82E+20	5.34E+20	5.28E+20	5.42E+20	5.58E+20	5.38E+20	5.20E+20	5.33E+20	5.81E+20
1.5	8.58E+20	8.02E+20	8.05E+20	7.93E+20	7.90E+20	7.93E+20	7.94E+20	7.99E+20	8.71E+20
2.5	1.31E+21	1.22E+21	1.20E+21	1.18E+21	1.16E+21	1.19E+21	1.19E+21	1.24E+21	1.32E+21
3.5	1.63E+21	1.53E+21	1.52E+21	1.49E+21	1.44E+21	1.49E+21	1.53E+21	1.55E+21	1.66E+21
4.5	1.85E+21	1.75E+21	1.70E+21	1.66E+21	1.61E+21	1.65E+21	1.67E+21	1.74E+21	1.86E+21
5.5	2.06E+21	1.94E+21	1.89E+21	1.84E+21	1.78E+21	1.84E+21	1.89E+21	1.93E+21	2.08E+21
6.5	2.18E+21	2.03E+21	2.00E+21	1.95E+21	1.90E+21	1.96E+21	2.00E+21	2.07E+21	2.20E+21
7.5	2.33E+21	2.18E+21	2.13E+21	2.09E+21	2.02E+21	2.09E+21	2.13E+21	2.18E+21	2.35E+21
8.5	2.43E+21	2.26E+21	2.22E+21	2.16E+21	2.08E+21	2.18E+21	2.20E+21	2.27E+21	2.45E+21
9.5	2.50E+21	2.36E+21	2.29E+21	2.24E+21	2.16E+21	2.25E+21	2.28E+21	2.35E+21	2.53E+21
10.5	2.58E+21	2.42E+21	2.32E+21	2.27E+21	2.21E+21	2.29E+21	2.34E+21	2.40E+21	2.58E+21
11.5	2.59E+21	2.42E+21	2.35E+21	2.31E+21	2.25E+21	2.32E+21	2.37E+21	2.40E+21	2.58E+21
12.5	2.56E+21	2.39E+21	2.34E+21	2.30E+21	2.25E+21	2.31E+21	2.37E+21	2.43E+21	2.55E+21
13.5	2.56E+21	2.37E+21	2.33E+21	2.28E+21	2.22E+21	2.29E+21	2.32E+21	2.38E+21	2.55E+21
14.5	2.47E+21	2.33E+21	2.28E+21	2.25E+21	2.17E+21	2.25E+21	2.31E+21	2.36E+21	2.50E+21
15.5	2.44E+21	2.29E+21	2.21E+21	2.17E+21	2.11E+21	2.17E+21	2.23E+21	2.27E+21	2.43E+21
16.5	2.31E+21	2.20E+21	2.13E+21	2.11E+21	2.04E+21	2.11E+21	2.15E+21	2.21E+21	2.32E+21
17.5	2.25E+21	2.09E+21	2.03E+21	2.00E+21	1.95E+21	1.99E+21	2.05E+21	2.10E+21	2.21E+21
18.5	2.11E+21	1.98E+21	1.94E+21	1.90E+21	1.86E+21	1.90E+21	1.92E+21	2.00E+21	2.11E+21
19.5	1.94E+21	1.83E+21	1.79E+21	1.76E+21	1.70E+21	1.76E+21	1.78E+21	1.83E+21	1.95E+21
20.5	1.79E+21	1.68E+21	1.64E+21	1.63E+21	1.58E+21	1.62E+21	1.67E+21	1.68E+21	1.79E+21
21.5	1.61E+21	1.51E+21	1.47E+21	1.46E+21	1.42E+21	1.45E+21	1.47E+21	1.52E+21	1.61E+21
22.5	1.50E+21	1.37E+21	1.34E+21	1.33E+21	1.28E+21	1.31E+21	1.34E+21	1.38E+21	1.48E+21
23.5	1.51E+21	1.42E+21	1.38E+21	1.35E+21	1.31E+21	1.36E+21	1.36E+21	1.42E+21	1.53E+21
Ax. Avg.	2.00E+21	1.87E+21	1.83E+21	1.80E+21	1.74E+21	1.80E+21	1.83E+21	1.88E+21	2.00E+21

APPENDIX B - Plate Specific Power Density Data in MURR LEU Element

Table B.1. Power Density Data (kW/cm^3) in Fuel Plate 1 in Prototypic Core.

Fuel core width: 1.690 inches / Fuel core thickness: 9 mil

Plate 1, Core Position X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	4.20	3.67	3.71	3.47	3.76	3.66	3.54	3.54	3.61
1.5	4.03	3.78	3.80	3.73	3.53	3.80	3.54	3.75	3.74
2.5	4.66	4.63	4.40	4.43	3.98	4.52	4.19	4.47	4.68
3.5	5.50	5.45	5.39	5.41	5.04	5.15	5.52	5.37	5.43
4.5	6.67	6.10	6.36	6.53	6.07	6.42	6.39	6.30	6.55
5.5	7.38	7.26	7.08	7.14	6.70	7.35	7.11	7.27	7.41
6.5	8.25	8.14	7.85	7.76	7.49	7.98	7.90	8.08	8.15
7.5	9.17	8.59	8.92	8.66	8.12	8.71	8.33	8.65	8.99
8.5	10.13	9.69	9.61	9.65	9.47	9.93	9.42	9.19	9.94
9.5	11.32	10.66	10.42	10.62	10.03	10.74	10.84	10.71	10.93
10.5	12.18	11.97	11.54	11.73	11.00	11.71	11.79	11.86	11.98
11.5	12.84	12.56	12.50	12.35	11.70	13.06	12.61	12.77	13.08
12.5	13.73	13.72	13.09	13.45	12.53	12.86	12.87	13.24	13.43
13.5	14.32	13.64	13.22	13.27	12.92	13.28	13.83	13.62	13.94
14.5	14.40	13.67	13.22	13.34	13.15	13.53	13.59	13.74	13.86
15.5	13.69	13.42	13.27	12.90	12.64	13.77	13.14	13.63	13.70
16.5	13.33	12.68	12.50	12.87	12.33	12.65	12.60	12.96	13.04
17.5	12.81	12.60	12.12	12.17	11.30	11.79	11.55	11.86	12.25
18.5	11.98	11.43	11.37	11.44	11.02	10.99	11.19	11.75	11.66
19.5	11.13	10.68	10.73	11.05	10.43	10.23	10.35	10.46	10.81
20.5	10.60	10.41	10.06	10.20	9.44	9.80	9.74	10.48	10.13
21.5	9.90	9.55	9.12	9.17	9.06	9.21	9.37	9.43	9.47
22.5	8.99	8.67	8.84	8.47	8.05	8.14	7.96	8.37	8.58
23.5	9.11	8.91	8.89	8.85	8.35	8.92	8.95	8.90	9.07
Ax. Avg.	10.02	9.66	9.50	9.53	9.09	9.51	9.43	9.60	9.77

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.1. Power Density Data (kW/cc) in Fuel Plate 1 in Prototypic Conditions (continued).

Plate 1, Core Position X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.72	5.41	5.43	5.70	4.94	5.37	5.35	5.33	5.59
1.5	5.78	5.49	5.48	5.46	5.19	5.57	5.32	5.52	5.52
2.5	6.27	6.24	6.47	6.25	6.15	6.34	6.16	6.38	6.52
3.5	7.45	7.11	7.13	6.88	6.98	7.16	7.16	7.45	7.56
4.5	8.53	8.16	7.86	8.05	7.75	7.96	8.34	8.35	8.86
5.5	9.28	9.02	9.06	8.68	8.24	8.60	8.72	9.02	9.62
6.5	10.34	9.44	9.57	9.52	9.08	9.49	9.55	9.91	9.75
7.5	10.62	10.23	9.99	9.98	9.48	9.89	9.97	9.98	10.09
8.5	11.20	10.69	10.39	10.53	9.99	10.51	10.42	10.41	10.16
9.5	11.73	11.28	11.23	11.14	10.46	11.16	11.14	11.13	11.54
10.5	12.19	11.32	11.31	11.54	11.08	11.40	11.27	11.77	11.79
11.5	12.78	12.19	11.66	11.59	11.23	11.75	11.55	11.98	12.39
12.5	12.47	12.04	11.85	12.14	11.30	11.56	11.60	11.72	12.06
13.5	12.47	12.04	11.61	11.67	11.17	11.93	11.86	12.12	12.25
14.5	12.27	11.82	11.61	11.38	10.65	11.37	11.49	11.84	12.07
15.5	11.35	11.14	10.81	11.24	10.29	10.92	10.65	11.13	11.65
16.5	10.59	10.28	10.22	10.10	9.87	10.13	10.00	10.35	10.94
17.5	10.10	9.81	9.44	9.94	9.01	9.50	9.38	9.53	9.60
18.5	9.20	8.78	8.94	8.65	8.53	8.76	8.81	8.80	8.83
19.5	8.79	8.52	8.38	8.27	7.51	8.32	8.14	8.12	8.31
20.5	7.96	8.04	7.88	7.72	7.34	7.39	7.67	7.68	7.51
21.5	7.31	7.06	6.95	6.99	6.63	7.13	6.61	6.74	7.13
22.5	6.86	6.43	6.23	6.64	5.84	6.24	6.42	6.67	6.58
23.5	7.19	6.75	6.71	7.06	6.32	6.56	6.46	6.58	7.00
Ax. Avg.	9.52	9.14	9.01	9.05	8.55	8.96	8.92	9.11	9.31

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.1. Power Density Data (kW/cc) in Fuel Plate 1 in Prototypic Conditions (continued).

Plate 1, Core Position X3, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.43	5.21	5.04	5.14	4.88	5.32	5.21	5.15	5.42
1.5	5.64	5.29	5.03	5.22	4.93	5.14	4.98	5.11	5.17
2.5	5.91	5.82	5.73	5.74	5.54	5.76	5.52	5.61	5.97
3.5	6.70	6.34	6.49	6.51	6.15	6.62	6.49	6.48	6.73
4.5	7.34	7.13	7.06	7.35	6.99	7.21	6.88	7.12	7.35
5.5	8.13	7.88	7.90	8.04	7.42	7.94	7.73	7.90	8.02
6.5	8.76	8.35	8.11	8.03	7.63	8.17	8.01	8.25	8.35
7.5	9.22	8.57	8.62	8.66	8.22	8.49	8.56	8.62	8.76
8.5	9.35	8.89	8.97	8.71	8.56	8.78	8.67	9.10	9.02
9.5	9.88	9.43	9.15	9.09	8.73	9.14	9.40	9.21	9.57
10.5	9.97	9.86	9.41	9.61	9.10	9.69	9.47	9.43	9.91
11.5	10.34	10.08	9.71	10.17	9.25	9.81	9.79	9.93	10.04
12.5	10.51	10.06	10.01	10.19	9.26	10.20	9.99	9.73	10.38
13.5	10.30	9.81	9.86	9.90	9.67	10.18	9.82	10.12	10.48
14.5	10.25	9.88	9.75	9.55	9.34	9.81	9.80	9.94	9.93
15.5	9.60	9.46	9.46	9.52	8.81	9.40	9.14	9.45	9.81
16.5	9.36	9.12	8.88	8.97	8.73	8.81	8.67	8.71	9.01
17.5	8.70	8.50	8.44	8.49	8.11	8.30	8.50	8.35	8.65
18.5	8.38	8.10	7.88	7.83	7.36	7.94	7.79	7.81	8.38
19.5	8.04	7.34	7.30	7.54	7.05	7.14	7.43	7.26	7.72
20.5	7.20	6.98	6.66	6.98	6.64	6.60	6.78	7.00	6.94
21.5	6.59	6.44	6.23	6.20	5.83	6.34	6.08	6.16	6.21
22.5	6.03	5.72	5.69	5.70	5.73	5.78	5.88	5.58	5.81
23.5	6.22	5.97	6.03	5.99	5.70	5.89	6.02	5.87	6.16
Ax. Avg.	8.25	7.93	7.81	7.88	7.49	7.85	7.77	7.83	8.07

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.1. Power Density Data (kW/cc) in Fuel Plate 1 in Prototypic Conditions (continued).

Plate 1, Core Position X2, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	5.10	5.06	5.02	5.23	4.77	4.83	4.96	4.98	5.08
1.5	5.40	5.13	5.24	4.99	4.99	5.13	4.87	5.05	5.36
2.5	6.11	5.69	5.62	5.74	5.67	5.76	5.47	5.49	5.89
3.5	6.74	6.66	6.70	6.75	6.20	6.33	6.56	6.58	6.73
4.5	7.33	7.13	6.97	6.77	6.56	6.86	7.08	6.96	7.36
5.5	7.83	7.51	7.62	7.72	7.56	7.58	7.69	7.79	7.91
6.5	8.36	8.00	7.83	7.94	7.56	8.40	8.09	8.30	8.56
7.5	9.03	8.71	8.55	8.71	7.96	8.37	8.46	8.83	8.90
8.5	9.01	8.85	8.99	8.87	8.53	8.85	8.61	8.78	8.86
9.5	9.65	9.19	9.24	9.23	9.00	9.41	9.14	9.26	9.41
10.5	9.47	9.45	9.23	9.46	9.07	9.55	9.31	9.34	9.81
11.5	9.77	9.69	9.53	9.45	9.16	9.18	9.47	9.57	9.73
12.5	10.01	9.43	9.54	9.38	9.15	9.59	9.77	9.78	10.17
13.5	9.79	9.29	9.34	9.56	9.11	9.82	9.60	9.56	9.95
14.5	9.56	9.48	9.49	9.53	9.07	9.52	9.45	9.72	9.72
15.5	9.26	9.33	9.08	8.81	8.54	9.30	9.00	9.41	9.34
16.5	9.14	8.66	8.88	8.79	8.27	8.79	8.81	9.00	9.03
17.5	8.53	8.29	8.14	8.20	8.03	8.36	8.25	8.28	8.42
18.5	8.02	8.15	7.90	8.03	7.40	7.69	7.85	7.94	8.18
19.5	7.47	7.20	7.07	7.39	7.05	7.29	7.08	7.48	7.67
20.5	6.88	6.84	6.39	6.76	6.35	6.84	6.67	6.88	6.98
21.5	6.26	6.24	6.01	6.17	5.80	6.03	5.96	6.17	6.40
22.5	5.96	5.78	5.68	5.55	5.35	5.61	5.74	5.54	6.07
23.5	6.01	5.86	5.64	5.75	5.38	5.70	5.76	5.91	5.98
Ax. Avg.	7.95	7.74	7.65	7.70	7.36	7.70	7.65	7.78	7.98

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.1. Power Density Data (kW/cc) in Fuel Plate 1 in Prototypic Conditions (continued).

Plate 1, Core Position X4, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.760 inches	0.760 to 0.929 inches	0.929 to 1.099 inches	1.099 to 1.296 inches	1.296 to 1.493 inches	1.493 to 1.690 inches
0.5	4.65	4.38	4.52	4.43	4.28	4.78	4.32	4.50	4.78
1.5	4.71	4.67	4.67	4.43	4.15	4.52	4.62	4.74	4.77
2.5	4.97	4.95	4.78	4.84	4.58	4.87	4.93	4.99	4.99
3.5	5.84	5.39	5.58	5.61	5.18	5.50	5.60	5.91	5.97
4.5	6.05	5.90	6.10	5.92	5.74	6.28	6.18	6.11	6.18
5.5	6.86	6.71	6.62	6.70	6.13	6.64	6.66	6.54	6.76
6.5	7.01	6.66	6.77	6.84	6.50	6.94	6.75	6.64	7.02
7.5	7.20	6.95	6.97	7.29	6.66	7.02	6.83	7.11	7.16
8.5	7.34	7.24	6.74	7.08	7.01	7.32	7.01	7.32	7.29
9.5	7.81	7.71	7.61	7.45	7.10	7.54	7.37	7.69	7.65
10.5	7.68	7.64	7.66	7.66	7.34	7.50	7.64	7.48	7.67
11.5	7.97	7.69	8.05	7.82	7.30	8.11	7.59	7.86	8.11
12.5	8.06	8.33	7.83	8.11	7.67	7.99	8.09	8.04	8.03
13.5	8.18	7.86	7.89	7.89	7.62	7.94	8.12	8.19	8.09
14.5	8.14	8.16	7.92	8.21	7.70	8.08	7.72	8.04	8.21
15.5	7.51	7.62	7.25	7.54	7.25	7.75	7.39	7.51	7.61
16.5	7.52	7.29	7.30	7.45	7.22	7.64	7.42	7.37	7.69
17.5	6.75	6.74	6.78	6.93	6.46	6.90	6.91	6.94	7.26
18.5	7.12	6.62	6.66	6.49	6.35	6.90	6.67	6.84	7.04
19.5	6.26	6.16	5.94	5.96	5.84	6.28	6.37	6.49	6.37
20.5	6.21	6.27	6.02	5.88	5.75	5.75	5.91	6.09	6.14
21.5	5.42	5.43	5.48	5.32	5.16	5.29	5.40	5.43	5.67
22.5	5.01	4.88	4.78	5.01	4.66	4.99	5.03	5.12	5.14
23.5	5.38	5.31	5.39	5.12	5.16	5.11	5.16	5.15	5.39
Ax. Avg.	6.65	6.52	6.48	6.50	6.20	6.57	6.49	6.59	6.70

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.2. Power Density Data (kW/cm^3) in Fuel Plate 2 in Prototypic Core.

Fuel core width: 1.797 inches / Fuel core thickness: 12 mil

Plate 2, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	3.10	2.70	2.57	2.65	2.49	2.66	2.71	2.73	2.96
1.5	2.94	2.62	2.59	2.60	2.51	2.61	2.57	2.62	2.85
2.5	3.39	3.25	3.17	3.12	2.99	3.00	3.05	3.17	3.43
3.5	4.21	3.81	3.65	3.88	3.41	3.56	3.60	3.71	3.98
4.5	4.64	4.40	4.37	4.31	4.19	4.21	4.34	4.52	4.78
5.5	5.50	5.06	4.85	4.81	4.63	4.76	4.81	4.92	5.47
6.5	6.12	5.59	5.60	5.43	5.23	5.54	5.53	5.75	6.11
7.5	6.87	6.20	6.08	6.03	5.96	6.12	6.23	6.33	6.85
8.5	7.58	6.95	6.85	6.82	6.68	6.79	6.99	7.11	7.56
9.5	8.37	7.76	7.60	7.56	7.32	7.42	7.66	7.74	8.57
10.5	9.12	8.51	8.16	8.08	7.64	8.26	8.19	8.27	8.99
11.5	9.67	8.94	8.76	8.75	8.28	8.79	8.61	8.97	9.82
12.5	10.35	9.57	9.19	9.21	8.68	9.17	9.10	9.36	10.11
13.5	10.48	9.73	9.40	9.34	8.84	9.40	9.49	9.84	10.38
14.5	10.60	9.55	9.34	9.28	8.98	9.30	9.45	9.75	10.32
15.5	10.61	9.52	9.14	9.11	8.73	9.30	9.24	9.48	10.31
16.5	10.04	9.38	8.91	8.87	8.44	9.07	8.89	9.17	9.89
17.5	9.81	8.98	8.52	8.67	8.21	8.46	8.72	8.85	9.50
18.5	9.15	8.32	7.89	8.09	7.72	7.97	7.99	8.53	8.97
19.5	8.50	7.76	7.75	7.71	7.11	7.50	7.52	7.82	8.47
20.5	8.10	7.24	7.03	6.97	6.66	7.07	7.13	7.28	7.95
21.5	7.20	6.72	6.69	6.56	6.19	6.45	6.45	6.60	7.16
22.5	6.74	6.11	5.88	5.72	5.56	5.81	5.82	6.04	6.53
23.5	7.26	6.54	6.26	6.39	6.01	6.24	6.17	6.57	7.19
Ax. Avg.	7.52	6.89	6.68	6.66	6.35	6.64	6.68	6.88	7.42

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.2. Power Density Data (kW/cc) in Fuel Plate 2 in Prototypic Conditions (continued).

Plate 2, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	4.45	4.02	3.90	3.90	3.76	3.99	4.10	4.09	4.41
1.5	4.48	3.90	3.76	3.67	3.57	3.83	3.77	4.12	4.45
2.5	4.95	4.65	4.39	4.41	4.13	4.32	4.35	4.62	5.00
3.5	5.76	5.34	5.12	5.04	4.88	4.96	5.03	5.25	5.78
4.5	6.46	5.84	5.69	5.66	5.27	5.56	5.69	5.72	6.22
5.5	6.85	6.35	6.18	6.18	5.93	6.09	6.18	6.48	6.99
6.5	7.52	6.92	6.86	6.77	6.38	6.73	6.58	6.89	7.73
7.5	8.20	7.31	7.20	7.23	6.79	7.16	7.00	7.34	7.90
8.5	8.37	7.79	7.48	7.44	7.26	7.58	7.42	7.57	8.25
9.5	9.13	8.23	7.78	7.81	7.26	7.79	8.05	7.98	8.62
10.5	9.00	8.49	8.02	7.97	7.84	8.17	8.16	8.33	9.18
11.5	9.33	8.52	8.29	8.36	7.84	8.31	8.20	8.49	9.24
12.5	9.39	8.43	8.25	8.21	7.84	8.09	8.09	8.53	9.23
13.5	9.29	8.46	8.29	8.20	7.71	8.13	8.17	8.30	9.18
14.5	9.07	8.11	7.94	7.82	7.57	7.95	7.90	8.27	9.06
15.5	8.32	7.82	7.66	7.58	7.37	7.69	7.67	7.95	8.63
16.5	8.12	7.46	7.03	7.19	7.02	7.23	7.26	7.60	8.17
17.5	7.62	7.10	6.83	6.74	6.51	6.75	6.70	6.97	7.52
18.5	7.12	6.51	6.19	6.41	6.03	6.31	6.25	6.37	7.05
19.5	6.60	6.07	5.91	5.86	5.53	5.79	5.86	6.00	6.50
20.5	6.07	5.65	5.39	5.33	5.16	5.43	5.37	5.69	6.09
21.5	5.63	4.95	4.82	4.87	4.64	4.71	4.77	5.05	5.52
22.5	4.82	4.50	4.37	4.44	4.24	4.50	4.41	4.61	5.05
23.5	5.48	4.96	4.86	4.66	4.51	4.62	4.63	5.01	5.38
Ax. Avg.	7.17	6.56	6.34	6.32	6.04	6.32	6.32	6.55	7.13

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.2. Power Density Data (kW/cc) in Fuel Plate 2 in Prototypic Conditions (continued).

Plate 2, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	4.15	3.69	3.72	3.67	3.51	3.70	3.76	3.83	4.19
1.5	3.98	3.74	3.54	3.63	3.46	3.58	3.66	3.62	4.10
2.5	4.52	4.22	4.17	4.12	3.95	4.15	4.03	4.27	4.60
3.5	5.37	4.94	4.76	4.82	4.72	4.75	4.87	4.91	5.21
4.5	5.86	5.49	5.42	5.40	5.19	5.45	5.42	5.56	5.87
5.5	6.48	5.96	5.84	5.92	5.58	5.85	5.92	5.98	6.56
6.5	6.82	6.39	6.06	6.11	5.85	6.14	6.19	6.23	6.80
7.5	7.12	6.66	6.47	6.42	6.28	6.37	6.51	6.69	7.45
8.5	7.37	6.93	6.69	6.86	6.41	6.77	6.85	7.02	7.61
9.5	8.09	7.37	7.14	7.03	6.79	7.15	7.13	7.43	8.07
10.5	8.16	7.73	7.36	7.31	7.01	7.31	7.48	7.65	8.31
11.5	8.44	7.75	7.49	7.59	7.20	7.56	7.61	7.71	8.46
12.5	8.35	7.85	7.68	7.62	7.41	7.74	7.70	7.85	8.60
13.5	8.49	7.95	7.71	7.76	7.19	7.47	7.60	7.82	8.59
14.5	8.25	7.57	7.38	7.29	7.13	7.51	7.44	7.55	8.11
15.5	7.93	7.37	7.09	7.30	6.57	7.05	7.08	7.25	7.84
16.5	7.59	7.03	6.99	6.88	6.44	6.69	6.69	6.92	7.56
17.5	6.84	6.23	6.34	6.28	5.87	6.23	6.30	6.36	7.06
18.5	6.51	6.06	5.87	5.82	5.50	5.86	5.94	6.00	6.58
19.5	5.90	5.65	5.50	5.45	5.20	5.44	5.53	5.71	5.98
20.5	5.51	5.18	5.05	5.02	4.72	5.12	5.02	5.33	5.69
21.5	5.04	4.62	4.48	4.50	4.30	4.58	4.72	4.57	5.05
22.5	4.65	4.25	4.19	4.16	3.91	4.23	4.20	4.26	4.75
23.5	5.09	4.56	4.44	4.42	4.34	4.44	4.42	4.50	5.02
Ax. Avg.	6.52	6.05	5.89	5.89	5.61	5.88	5.92	6.04	6.59

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.2. Power Density Data (kW/cc) in Fuel Plate 2 in Prototypic Conditions (continued).

Plate 2, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	4.13	3.72	3.53	3.74	3.52	3.61	3.57	3.77	4.07
1.5	3.94	3.74	3.68	3.50	3.33	3.58	3.47	3.56	3.98
2.5	4.44	4.21	4.04	4.02	3.92	4.17	4.14	4.31	4.48
3.5	5.24	4.98	4.90	4.87	4.62	4.74	4.87	4.95	5.25
4.5	5.83	5.46	5.27	5.35	5.12	5.21	5.25	5.34	5.80
5.5	6.41	6.06	5.75	5.85	5.67	5.89	5.78	5.95	6.39
6.5	6.66	6.14	5.94	6.08	5.85	6.19	6.20	6.20	6.78
7.5	7.04	6.47	6.24	6.32	5.94	6.43	6.36	6.50	6.89
8.5	7.20	6.87	6.76	6.65	6.31	6.54	6.54	6.83	7.43
9.5	7.79	7.24	7.10	6.91	6.85	7.01	7.10	7.13	7.61
10.5	7.91	7.33	7.20	7.38	6.84	7.45	7.29	7.53	8.09
11.5	8.34	7.77	7.56	7.42	6.94	7.38	7.35	7.59	8.17
12.5	8.09	7.57	7.39	7.36	7.29	7.61	7.60	7.81	8.22
13.5	7.97	7.61	7.43	7.32	7.10	7.43	7.42	7.51	8.12
14.5	7.89	7.54	7.30	7.20	6.81	7.18	7.28	7.66	8.17
15.5	7.64	7.18	6.92	6.84	6.64	6.92	7.02	7.14	7.54
16.5	7.26	6.83	6.38	6.41	6.13	6.53	6.53	6.84	7.31
17.5	6.65	6.39	6.00	5.98	5.78	6.13	6.18	6.34	6.64
18.5	6.47	6.02	5.81	5.86	5.35	5.71	5.67	5.86	6.48
19.5	5.97	5.52	5.20	5.19	5.05	5.35	5.33	5.42	5.80
20.5	5.48	5.09	4.88	4.86	4.61	4.94	4.95	5.19	5.48
21.5	4.93	4.56	4.54	4.47	4.21	4.60	4.54	4.70	5.04
22.5	4.56	4.20	4.05	3.98	3.81	4.07	4.09	4.28	4.61
23.5	4.90	4.41	4.36	4.52	4.25	4.28	4.50	4.56	5.07
Ax. Avg.	6.36	5.95	5.76	5.75	5.50	5.79	5.79	5.96	6.39

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.2. Power Density Data (kW/cc) in Fuel Plate 2 in Prototypic Conditions (continued).

Plate 2, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.796 inches	0.796 to 1.001 inches	1.001 to 1.207 inches	1.207 to 1.403 inches	1.403 to 1.600 inches	1.600 to 1.797 inches
0.5	4.03	3.57	3.54	3.54	3.46	3.66	3.62	3.64	3.94
1.5	3.96	3.55	3.57	3.38	3.32	3.47	3.46	3.61	3.83
2.5	4.23	3.93	3.85	4.00	3.63	3.92	3.84	3.95	4.18
3.5	4.90	4.59	4.52	4.44	4.31	4.62	4.63	4.64	5.02
4.5	5.34	5.05	4.89	4.84	4.79	4.95	4.96	5.15	5.27
5.5	5.99	5.50	5.37	5.46	5.18	5.36	5.19	5.63	5.99
6.5	6.25	5.70	5.63	5.80	5.36	5.71	5.68	5.90	6.08
7.5	6.44	6.07	5.98	5.97	5.69	5.91	5.98	6.03	6.43
8.5	6.68	6.28	6.16	6.09	5.82	6.17	6.14	6.24	6.78
9.5	6.97	6.64	6.42	6.55	6.16	6.44	6.49	6.49	6.96
10.5	6.91	6.74	6.42	6.51	6.21	6.39	6.54	6.88	7.12
11.5	7.32	6.78	6.79	6.63	6.46	6.96	6.81	6.92	7.22
12.5	7.48	6.99	6.75	7.01	6.36	6.77	6.86	6.88	7.18
13.5	7.28	6.94	6.72	6.65	6.28	6.77	6.72	6.81	7.16
14.5	7.30	6.76	6.68	6.64	6.34	6.69	6.57	6.74	7.09
15.5	6.82	6.52	6.34	6.41	6.05	6.30	6.26	6.46	6.72
16.5	6.63	6.17	5.97	6.08	5.95	6.08	6.25	6.23	6.70
17.5	6.32	5.93	5.70	5.65	5.46	5.68	5.64	5.94	6.16
18.5	5.99	5.68	5.57	5.40	5.16	5.47	5.47	5.67	5.93
19.5	5.55	5.21	5.12	5.03	4.76	5.02	5.11	5.16	5.38
20.5	5.15	4.93	4.84	4.76	4.57	4.76	4.64	4.76	5.10
21.5	4.68	4.48	4.23	4.35	4.11	4.29	4.34	4.49	4.77
22.5	4.21	3.98	3.81	3.97	3.78	3.97	4.00	4.12	4.36
23.5	4.56	4.31	4.25	4.08	3.93	4.27	4.19	4.30	4.68
Ax. Avg.	5.87	5.51	5.38	5.39	5.13	5.40	5.39	5.53	5.83

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.3. Power Density Data (kW/cm^3) in Fuel Plate 3 in Prototypic Core.

Fuel core width: 1.905 inches / Fuel core thickness: 16 mil

Plate 3, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	2.50	2.08	1.96	1.98	1.87	1.92	2.07	2.08	2.34
1.5	2.25	1.95	1.84	1.82	1.73	1.86	1.82	1.93	2.18
2.5	2.70	2.33	2.31	2.19	2.11	2.28	2.19	2.38	2.71
3.5	3.26	2.82	2.74	2.59	2.46	2.59	2.57	2.69	3.11
4.5	3.71	3.17	3.11	3.05	2.94	3.07	3.06	3.15	3.74
5.5	4.36	3.83	3.50	3.49	3.31	3.56	3.61	3.67	4.22
6.5	4.72	4.22	4.01	4.01	3.86	3.99	4.03	4.20	4.78
7.5	5.46	4.66	4.45	4.41	4.24	4.43	4.52	4.65	5.32
8.5	5.90	5.11	4.95	5.05	4.71	4.98	5.04	5.24	5.95
9.5	6.53	5.63	5.48	5.56	5.18	5.40	5.48	5.72	6.61
10.5	7.11	6.08	6.00	5.91	5.60	5.90	6.02	6.21	7.08
11.5	7.66	6.73	6.19	6.15	6.06	6.36	6.37	6.62	7.78
12.5	8.02	7.09	6.61	6.62	6.30	6.55	6.77	6.93	7.82
13.5	8.20	7.16	6.78	6.65	6.32	6.74	6.77	7.03	8.08
14.5	8.24	7.10	6.80	6.80	6.41	6.73	6.83	7.15	8.12
15.5	8.34	7.07	6.64	6.69	6.45	6.62	6.69	7.00	7.94
16.5	7.98	7.08	6.52	6.44	6.34	6.58	6.66	6.88	7.70
17.5	7.54	6.59	6.21	6.24	5.92	6.18	6.39	6.78	7.46
18.5	7.26	6.10	5.96	5.94	5.65	5.93	5.99	6.21	7.01
19.5	6.59	5.80	5.64	5.61	5.23	5.61	5.61	5.80	6.49
20.5	6.22	5.42	5.19	5.05	4.76	5.05	5.13	5.34	6.22
21.5	5.55	5.07	4.84	4.65	4.37	4.60	4.55	4.88	5.68
22.5	5.15	4.43	4.17	4.13	3.91	4.10	4.33	4.40	5.16
23.5	5.61	4.94	4.60	4.54	4.43	4.66	4.62	4.94	5.83
Ax. Avg.	5.87	5.10	4.85	4.82	4.59	4.82	4.88	5.08	5.81

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.3. Power Density Data (kW/cc) in Fuel Plate 3 in Prototypic Conditions (continued).

Plate 3, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	3.69	3.10	2.92	2.80	2.77	2.89	2.89	2.99	3.48
1.5	3.49	2.94	2.73	2.63	2.53	2.65	2.66	2.84	3.26
2.5	3.82	3.39	3.11	3.11	2.95	3.01	3.13	3.33	3.76
3.5	4.37	3.88	3.65	3.65	3.46	3.65	3.71	3.90	4.43
4.5	4.81	4.32	4.19	4.03	3.87	4.05	4.05	4.36	4.87
5.5	5.45	4.70	4.49	4.57	4.28	4.42	4.53	4.82	5.41
6.5	5.77	5.11	4.79	4.83	4.54	4.90	5.04	5.10	5.80
7.5	6.35	5.46	5.22	5.10	4.86	5.10	5.17	5.44	6.11
8.5	6.58	5.70	5.51	5.46	5.10	5.43	5.31	5.67	6.31
9.5	6.63	5.94	5.57	5.57	5.28	5.63	5.71	5.94	6.84
10.5	7.21	6.02	5.84	5.78	5.53	5.91	5.91	6.12	7.03
11.5	7.26	6.25	5.92	5.99	5.59	5.83	5.97	6.24	6.95
12.5	7.21	6.34	5.93	5.94	5.73	5.91	5.99	6.28	7.09
13.5	7.23	6.05	5.81	5.81	5.72	6.03	5.90	6.04	6.99
14.5	7.07	6.00	5.65	5.70	5.42	5.84	5.71	6.01	6.88
15.5	6.73	5.79	5.54	5.33	5.16	5.53	5.64	5.95	6.73
16.5	6.38	5.60	5.38	5.28	5.03	5.22	5.24	5.60	6.32
17.5	5.96	5.15	4.94	4.94	4.68	4.91	4.92	5.15	5.89
18.5	5.57	4.87	4.60	4.63	4.35	4.55	4.65	4.77	5.57
19.5	5.08	4.51	4.38	4.30	4.18	4.25	4.27	4.49	5.04
20.5	4.66	3.99	3.95	3.81	3.71	3.90	4.05	4.12	4.75
21.5	4.24	3.62	3.43	3.52	3.23	3.36	3.44	3.68	4.14
22.5	3.87	3.38	3.14	3.09	2.97	3.17	3.20	3.40	3.97
23.5	4.55	3.69	3.55	3.47	3.22	3.52	3.50	3.74	4.36
Ax. Avg.	5.58	4.83	4.59	4.55	4.34	4.57	4.61	4.83	5.50

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.3. Power Density Data (kW/cc) in Fuel Plate 3 in Prototypic Conditions (continued).

Plate 3, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	3.34	2.93	2.79	2.70	2.64	2.83	2.82	2.97	3.56
1.5	3.19	2.76	2.64	2.63	2.51	2.64	2.53	2.78	3.23
2.5	3.64	3.17	3.06	3.06	2.94	3.03	3.11	3.19	3.78
3.5	4.13	3.70	3.57	3.43	3.31	3.50	3.60	3.68	4.24
4.5	4.77	4.16	3.97	3.95	3.81	3.99	3.84	4.14	4.63
5.5	5.05	4.50	4.40	4.31	4.22	4.43	4.40	4.64	5.22
6.5	5.50	4.87	4.65	4.57	4.37	4.69	4.64	4.73	5.51
7.5	5.72	5.21	4.88	4.78	4.48	4.80	4.78	5.19	5.79
8.5	5.94	5.33	5.22	5.01	4.73	5.05	4.94	5.32	6.10
9.5	6.46	5.54	5.28	5.24	5.10	5.37	5.23	5.57	6.47
10.5	6.42	5.82	5.61	5.56	5.25	5.39	5.45	5.85	6.67
11.5	6.51	5.73	5.59	5.60	5.28	5.61	5.59	5.96	6.58
12.5	6.72	5.73	5.59	5.68	5.33	5.70	5.69	5.92	6.75
13.5	6.69	5.92	5.69	5.47	5.33	5.56	5.74	5.90	6.66
14.5	6.53	5.72	5.49	5.42	5.24	5.42	5.58	5.64	6.69
15.5	6.14	5.46	5.21	5.34	5.01	5.27	5.34	5.57	6.36
16.5	5.97	5.38	5.10	4.98	4.72	4.97	5.03	5.29	5.94
17.5	5.45	4.97	4.80	4.72	4.27	4.66	4.74	5.03	5.47
18.5	5.17	4.51	4.27	4.30	4.13	4.36	4.39	4.61	5.25
19.5	4.82	4.19	4.09	4.01	3.97	4.01	4.05	4.27	4.86
20.5	4.38	3.78	3.83	3.72	3.59	3.68	3.76	3.89	4.43
21.5	3.84	3.48	3.38	3.33	3.14	3.28	3.31	3.52	4.01
22.5	3.52	3.09	3.04	3.01	2.85	3.00	3.07	3.30	3.66
23.5	4.04	3.50	3.45	3.48	3.13	3.38	3.32	3.47	4.20
Ax. Avg.	5.16	4.56	4.40	4.34	4.14	4.36	4.37	4.60	5.25

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.3. Power Density Data (kW/cc) in Fuel Plate 3 in Prototypic Conditions (continued).

Plate 3, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	3.30	2.92	2.74	2.73	2.57	2.75	2.82	2.77	3.36
1.5	3.10	2.69	2.57	2.59	2.47	2.56	2.54	2.75	3.14
2.5	3.61	3.24	3.07	3.10	2.91	3.03	3.04	3.25	3.60
3.5	4.13	3.62	3.69	3.51	3.43	3.54	3.50	3.73	4.19
4.5	4.67	4.11	4.01	4.02	3.75	3.88	4.04	4.19	4.70
5.5	5.11	4.56	4.30	4.29	4.07	4.34	4.35	4.53	5.02
6.5	5.35	4.78	4.61	4.60	4.30	4.62	4.60	4.83	5.36
7.5	5.67	4.87	4.90	4.73	4.56	4.83	4.84	4.91	5.62
8.5	5.92	5.35	5.10	5.08	4.71	4.99	5.01	5.08	5.73
9.5	6.30	5.61	5.22	5.33	5.11	5.30	5.31	5.54	6.20
10.5	6.33	5.78	5.47	5.55	5.22	5.50	5.46	5.60	6.49
11.5	6.50	5.76	5.64	5.46	5.40	5.53	5.65	5.83	6.69
12.5	6.63	5.85	5.55	5.68	5.43	5.66	5.75	5.86	6.64
13.5	6.47	5.80	5.51	5.61	5.29	5.49	5.49	5.87	6.51
14.5	6.36	5.61	5.39	5.39	5.12	5.36	5.40	5.65	6.38
15.5	6.10	5.41	5.22	5.00	4.81	5.20	5.31	5.46	6.12
16.5	5.87	5.15	4.95	4.93	4.72	4.96	4.95	5.16	5.84
17.5	5.32	4.84	4.58	4.53	4.40	4.54	4.62	4.90	5.39
18.5	5.19	4.53	4.37	4.32	4.05	4.33	4.24	4.48	5.18
19.5	4.84	4.24	4.06	3.95	3.78	4.06	3.96	4.27	4.59
20.5	4.41	3.88	3.70	3.65	3.46	3.72	3.73	3.90	4.42
21.5	3.87	3.47	3.36	3.35	3.20	3.26	3.26	3.47	3.98
22.5	3.55	3.07	2.99	2.91	2.81	2.92	2.96	3.19	3.57
23.5	4.02	3.45	3.32	3.32	3.28	3.23	3.36	3.53	4.01
Ax. Avg.	5.11	4.52	4.35	4.32	4.12	4.32	4.34	4.53	5.12

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.3. Power Density Data (kW/cc) in Fuel Plate 3 in Prototypic Conditions (continued).

Plate 3, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.832 inches	0.832 to 1.073 inches	1.073 to 1.314 inches	1.314 to 1.511 inches	1.511 to 1.708 inches	1.708 to 1.905 inches
0.5	3.20	2.76	2.69	2.77	2.65	2.75	2.75	2.86	3.32
1.5	3.21	2.63	2.57	2.53	2.44	2.57	2.60	2.73	3.20
2.5	3.44	3.10	2.89	2.96	2.77	2.88	2.98	3.02	3.44
3.5	3.98	3.52	3.48	3.39	3.20	3.38	3.41	3.56	4.00
4.5	4.31	3.86	3.72	3.77	3.63	3.80	3.75	4.01	4.30
5.5	4.83	4.37	4.18	4.08	3.93	4.05	4.13	4.34	4.78
6.5	5.03	4.60	4.41	4.38	4.21	4.43	4.40	4.56	4.99
7.5	5.29	4.82	4.62	4.48	4.41	4.68	4.60	4.74	5.39
8.5	5.50	4.86	4.82	4.79	4.56	4.79	4.87	5.00	5.48
9.5	5.79	5.16	5.03	5.06	4.73	4.93	5.06	5.16	5.90
10.5	6.03	5.27	5.06	5.05	4.93	4.96	5.17	5.34	5.90
11.5	5.90	5.45	5.13	5.26	4.92	5.24	5.26	5.53	6.08
12.5	6.17	5.43	5.38	5.35	5.04	5.28	5.30	5.60	5.97
13.5	6.03	5.50	5.28	5.11	4.96	5.17	5.31	5.29	6.00
14.5	5.95	5.26	5.11	5.26	5.04	5.14	5.17	5.40	5.89
15.5	5.71	5.20	4.89	4.99	4.71	4.97	4.91	5.09	5.63
16.5	5.46	4.83	4.62	4.65	4.48	4.66	4.74	4.93	5.40
17.5	5.17	4.73	4.47	4.35	4.03	4.46	4.55	4.74	5.09
18.5	4.89	4.25	4.29	4.17	4.03	4.19	4.26	4.47	4.87
19.5	4.48	4.02	3.85	3.88	3.67	3.90	3.95	4.04	4.42
20.5	4.27	3.74	3.61	3.57	3.52	3.60	3.68	3.76	4.09
21.5	3.79	3.38	3.23	3.30	3.11	3.25	3.23	3.43	3.87
22.5	3.45	3.01	2.91	2.85	2.72	2.89	2.91	2.98	3.38
23.5	3.81	3.38	3.34	3.19	3.12	3.26	3.19	3.35	3.89
Ax. Avg.	4.82	4.30	4.15	4.13	3.95	4.14	4.17	4.33	4.80

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.4. Power Density Data (kW/cm^3) in Fuel Plate 4 in Prototypic Core.

Fuel core width: 2.012 inches / Fuel core thickness: 20 mil

Plate 4, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	1.94	1.70	1.52	1.47	1.44	1.47	1.53	1.60	1.90
1.5	1.86	1.50	1.42	1.44	1.31	1.38	1.40	1.50	1.77
2.5	2.14	1.80	1.69	1.72	1.58	1.71	1.68	1.84	2.17
3.5	2.58	2.17	2.05	1.99	1.89	1.98	2.02	2.11	2.60
4.5	2.99	2.46	2.37	2.28	2.25	2.30	2.31	2.49	2.84
5.5	3.48	2.93	2.75	2.75	2.54	2.68	2.81	2.86	3.46
6.5	3.87	3.25	3.13	3.03	2.85	3.01	3.08	3.32	3.76
7.5	4.38	3.71	3.49	3.34	3.21	3.41	3.50	3.62	4.34
8.5	4.87	4.03	3.84	3.89	3.60	3.70	3.89	4.15	4.78
9.5	5.39	4.47	4.29	4.16	4.01	4.19	4.25	4.54	5.28
10.5	5.64	4.89	4.58	4.51	4.34	4.49	4.55	4.94	5.73
11.5	6.26	5.20	4.92	4.77	4.52	4.78	4.87	5.21	6.30
12.5	6.47	5.42	5.03	5.00	4.85	4.97	5.17	5.30	6.21
13.5	6.55	5.51	5.14	5.15	4.90	5.11	5.16	5.45	6.63
14.5	6.68	5.66	5.20	5.08	4.90	5.17	5.28	5.53	6.66
15.5	6.70	5.48	5.20	5.04	4.98	5.13	5.30	5.47	6.58
16.5	6.43	5.44	5.21	5.09	4.77	5.00	5.19	5.35	6.42
17.5	6.20	5.22	4.98	4.74	4.56	4.82	4.96	5.19	6.04
18.5	5.95	5.00	4.74	4.63	4.38	4.57	4.60	4.81	5.91
19.5	5.35	4.59	4.46	4.37	4.21	4.26	4.32	4.51	5.46
20.5	5.03	4.22	3.94	4.01	3.73	3.96	3.99	4.27	4.99
21.5	4.51	3.93	3.55	3.58	3.41	3.50	3.67	3.69	4.48
22.5	4.20	3.45	3.21	3.22	3.01	3.09	3.20	3.39	3.97
23.5	4.63	3.97	3.74	3.72	3.47	3.69	3.71	3.96	4.77
Ax. Avg.	4.75	4.00	3.77	3.71	3.53	3.68	3.77	3.96	4.71

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.4. Power Density Data (kW/cc) in Fuel Plate 4 in Prototypic Conditions (continued).

Plate 4, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	2.94	2.42	2.29	2.24	2.17	2.23	2.29	2.42	2.88
1.5	2.62	2.22	2.08	2.03	1.94	1.99	2.07	2.23	2.71
2.5	3.16	2.53	2.45	2.40	2.33	2.38	2.40	2.60	3.04
3.5	3.55	3.05	2.89	2.81	2.69	2.71	2.73	3.13	3.51
4.5	4.02	3.37	3.06	3.17	2.92	3.13	3.18	3.33	4.01
5.5	4.38	3.69	3.41	3.36	3.26	3.45	3.52	3.72	4.37
6.5	4.80	3.97	3.73	3.66	3.51	3.75	3.75	3.98	4.71
7.5	5.10	4.28	4.08	3.85	3.66	3.89	3.97	4.12	5.04
8.5	5.27	4.48	4.11	4.08	3.84	4.06	4.21	4.50	5.26
9.5	5.48	4.72	4.29	4.21	4.10	4.31	4.34	4.62	5.52
10.5	5.87	4.83	4.47	4.27	4.19	4.49	4.44	4.78	5.63
11.5	5.90	4.84	4.64	4.50	4.24	4.40	4.38	4.85	5.75
12.5	5.96	4.96	4.41	4.49	4.31	4.31	4.53	4.85	5.74
13.5	5.95	4.95	4.43	4.46	4.23	4.44	4.53	4.86	5.70
14.5	5.66	4.69	4.40	4.34	4.15	4.49	4.41	4.67	5.66
15.5	5.44	4.53	4.28	4.15	4.01	4.18	4.29	4.64	5.50
16.5	5.11	4.40	4.07	4.08	3.87	3.97	4.03	4.23	5.10
17.5	4.89	4.06	3.91	3.79	3.66	3.73	3.73	4.15	4.84
18.5	4.51	3.80	3.64	3.59	3.37	3.54	3.63	3.78	4.49
19.5	4.01	3.50	3.40	3.25	3.19	3.26	3.29	3.46	4.07
20.5	3.80	3.17	3.08	2.99	2.79	2.93	3.06	3.17	3.83
21.5	3.40	2.89	2.68	2.63	2.53	2.63	2.71	2.88	3.49
22.5	3.06	2.55	2.33	2.31	2.24	2.29	2.36	2.57	3.17
23.5	3.71	2.93	2.76	2.74	2.57	2.68	2.71	2.90	3.59
Ax. Avg.	4.52	3.79	3.54	3.47	3.33	3.47	3.52	3.77	4.48

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.4. Power Density Data (kW/cc) in Fuel Plate 4 in Prototypic Conditions (continued).

Plate 4, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	2.81	2.33	2.21	2.20	2.12	2.22	2.24	2.32	2.91
1.5	2.60	2.18	2.00	1.98	1.89	1.98	2.05	2.13	2.61
2.5	2.91	2.54	2.36	2.33	2.25	2.32	2.37	2.47	3.01
3.5	3.46	2.98	2.64	2.73	2.53	2.78	2.83	3.02	3.42
4.5	3.95	3.22	3.11	3.05	2.89	3.08	3.07	3.24	3.85
5.5	4.27	3.64	3.34	3.29	3.17	3.34	3.42	3.69	4.23
6.5	4.49	3.95	3.53	3.56	3.42	3.56	3.61	3.82	4.52
7.5	4.72	4.12	3.91	3.83	3.52	3.79	3.84	4.00	4.77
8.5	4.98	4.41	3.97	4.00	3.91	3.98	4.10	4.34	5.07
9.5	5.31	4.40	4.19	4.00	3.91	4.15	4.18	4.39	5.22
10.5	5.37	4.56	4.37	4.31	4.05	4.12	4.43	4.64	5.54
11.5	5.52	4.66	4.40	4.36	4.12	4.37	4.34	4.65	5.51
12.5	5.54	4.63	4.34	4.20	4.16	4.30	4.46	4.72	5.76
13.5	5.67	4.84	4.48	4.34	4.12	4.26	4.40	4.64	5.48
14.5	5.33	4.49	4.17	4.13	3.99	4.15	4.24	4.56	5.32
15.5	5.16	4.29	4.23	4.14	3.83	4.00	4.18	4.48	5.26
16.5	4.93	4.16	3.98	3.98	3.80	3.84	4.00	4.27	4.93
17.5	4.67	3.92	3.70	3.65	3.49	3.68	3.78	3.94	4.57
18.5	4.38	3.65	3.43	3.42	3.24	3.39	3.34	3.63	4.30
19.5	3.98	3.43	3.21	3.15	3.14	3.20	3.18	3.36	3.87
20.5	3.69	3.09	2.94	2.88	2.76	2.77	2.86	2.99	3.72
21.5	3.28	2.77	2.58	2.63	2.48	2.51	2.74	2.79	3.29
22.5	2.92	2.42	2.32	2.27	2.14	2.20	2.37	2.61	3.01
23.5	3.38	2.75	2.66	2.71	2.47	2.62	2.69	2.97	3.39
Ax. Avg.	4.31	3.64	3.42	3.38	3.22	3.36	3.45	3.65	4.31

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.4. Power Density Data (kW/cc) in Fuel Plate 4 in Prototypic Conditions (continued).

Plate 4, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	2.75	2.32	2.20	2.20	2.06	2.15	2.23	2.34	2.79
1.5	2.51	2.18	2.06	2.04	1.94	2.01	1.99	2.11	2.61
2.5	2.96	2.50	2.37	2.34	2.21	2.32	2.38	2.59	3.02
3.5	3.42	2.95	2.87	2.79	2.62	2.73	2.87	2.89	3.44
4.5	3.80	3.27	3.21	3.04	2.94	3.03	3.15	3.23	3.89
5.5	4.20	3.51	3.49	3.34	3.25	3.36	3.47	3.52	4.26
6.5	4.46	3.87	3.65	3.63	3.49	3.60	3.67	3.78	4.51
7.5	4.70	4.11	3.86	3.74	3.61	3.66	3.78	3.95	4.76
8.5	5.02	4.27	4.04	3.88	3.80	3.95	3.97	4.20	4.85
9.5	5.18	4.49	4.29	4.20	3.98	4.19	4.04	4.33	5.16
10.5	5.40	4.54	4.36	4.21	4.04	4.16	4.21	4.63	5.35
11.5	5.34	4.59	4.36	4.32	4.02	4.29	4.36	4.59	5.43
12.5	5.53	4.70	4.41	4.27	4.16	4.36	4.42	4.67	5.51
13.5	5.28	4.56	4.39	4.25	4.13	4.31	4.46	4.67	5.46
14.5	5.24	4.49	4.37	4.22	4.09	4.20	4.30	4.51	5.36
15.5	5.22	4.40	4.16	4.05	3.91	4.08	4.17	4.39	5.17
16.5	4.88	4.21	3.92	3.82	3.71	3.85	3.93	4.15	4.77
17.5	4.54	3.92	3.62	3.72	3.46	3.58	3.61	3.82	4.53
18.5	4.28	3.59	3.46	3.45	3.20	3.46	3.48	3.63	4.26
19.5	3.89	3.28	3.24	3.15	2.99	3.08	3.08	3.37	3.76
20.5	3.58	3.14	2.90	2.86	2.75	2.86	2.97	3.09	3.66
21.5	3.32	2.79	2.59	2.52	2.44	2.54	2.52	2.82	3.24
22.5	2.99	2.46	2.35	2.23	2.20	2.22	2.37	2.43	2.87
23.5	3.31	2.90	2.66	2.65	2.60	2.62	2.68	2.89	3.41
Ax. Avg.	4.24	3.63	3.45	3.37	3.23	3.36	3.42	3.61	4.25

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.4. Power Density Data (kW/cc) in Fuel Plate 4 in Prototypic Conditions (continued).

Plate 4, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.868 inches	0.868 to 1.145 inches	1.145 to 1.422 inches	1.422 to 1.619 inches	1.619 to 1.815 inches	1.815 to 2.012 inches
0.5	2.69	2.38	2.20	2.13	2.13	2.17	2.27	2.36	2.83
1.5	2.55	2.12	1.96	1.88	1.84	1.92	2.03	2.24	2.67
2.5	2.86	2.46	2.25	2.24	2.17	2.34	2.22	2.43	2.88
3.5	3.49	2.80	2.72	2.69	2.47	2.65	2.75	2.82	3.33
4.5	3.62	3.14	2.94	2.95	2.82	2.98	2.98	3.14	3.69
5.5	4.05	3.50	3.30	3.17	3.15	3.23	3.23	3.57	4.03
6.5	4.33	3.79	3.51	3.48	3.30	3.54	3.56	3.72	4.20
7.5	4.64	3.98	3.78	3.68	3.46	3.70	3.65	3.98	4.59
8.5	4.78	4.08	3.92	3.87	3.71	3.81	3.87	4.13	4.76
9.5	4.93	4.28	4.08	3.99	3.84	4.00	4.07	4.30	4.99
10.5	5.05	4.27	4.17	4.07	3.95	4.09	4.13	4.34	4.89
11.5	5.20	4.44	4.15	4.15	4.03	4.18	4.25	4.44	5.17
12.5	5.14	4.48	4.22	4.22	3.98	4.22	4.30	4.54	5.19
13.5	5.08	4.43	4.16	4.10	3.99	4.15	4.26	4.49	5.18
14.5	5.01	4.36	4.21	4.05	3.89	4.05	4.14	4.35	5.01
15.5	4.95	4.09	3.84	3.99	3.68	3.93	4.08	4.22	5.00
16.5	4.67	4.05	3.80	3.84	3.66	3.74	3.74	4.01	4.59
17.5	4.43	3.84	3.72	3.53	3.36	3.55	3.59	3.78	4.43
18.5	3.98	3.56	3.32	3.37	3.15	3.35	3.46	3.75	4.07
19.5	3.84	3.24	3.17	3.07	2.97	3.13	3.13	3.30	3.77
20.5	3.52	3.02	2.99	2.85	2.73	2.80	2.83	3.01	3.53
21.5	3.16	2.78	2.61	2.52	2.43	2.55	2.59	2.77	3.29
22.5	2.95	2.33	2.32	2.29	2.18	2.28	2.32	2.53	2.89
23.5	3.32	2.79	2.71	2.65	2.46	2.70	2.59	2.79	3.26
Ax. Avg.	4.09	3.51	3.34	3.28	3.14	3.30	3.34	3.54	4.09

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.5. Power Density Data (kW/cm^3) in Fuel Plate 5 in Prototypic Core.

Fuel core width: 2.120 inches / Fuel core thickness: 20 mil

Plate 5, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	1.77	1.49	1.31	1.35	1.21	1.29	1.35	1.44	1.79
1.5	1.64	1.28	1.12	1.14	1.13	1.16	1.19	1.26	1.63
2.5	1.91	1.60	1.43	1.39	1.35	1.39	1.43	1.52	1.88
3.5	2.17	1.78	1.68	1.68	1.61	1.65	1.73	1.84	2.22
4.5	2.54	2.16	2.04	1.92	1.88	2.01	2.00	2.09	2.57
5.5	2.94	2.54	2.35	2.31	2.15	2.18	2.30	2.48	3.02
6.5	3.36	2.86	2.64	2.56	2.43	2.55	2.53	2.75	3.45
7.5	3.85	3.14	2.96	2.84	2.70	2.86	2.97	3.12	3.73
8.5	4.18	3.46	3.27	3.20	3.09	3.26	3.32	3.50	4.29
9.5	4.68	3.86	3.66	3.52	3.41	3.56	3.55	3.84	4.80
10.5	5.06	4.17	3.93	3.82	3.58	3.70	3.77	4.03	4.93
11.5	5.37	4.52	4.29	4.04	3.88	4.00	4.16	4.51	5.41
12.5	5.68	4.61	4.18	4.18	4.11	4.22	4.40	4.69	5.42
13.5	5.66	4.73	4.34	4.33	4.16	4.36	4.48	4.73	5.67
14.5	5.78	4.86	4.48	4.38	4.14	4.36	4.56	4.90	5.78
15.5	5.89	4.71	4.53	4.31	4.22	4.32	4.41	4.78	5.73
16.5	5.64	4.64	4.40	4.28	4.12	4.25	4.37	4.67	5.75
17.5	5.50	4.54	4.24	4.08	3.94	4.14	4.33	4.45	5.37
18.5	5.04	4.26	4.00	3.78	3.66	3.88	4.04	4.26	5.23
19.5	4.78	4.04	3.68	3.62	3.48	3.65	3.68	4.07	4.84
20.5	4.44	3.68	3.35	3.26	3.15	3.35	3.38	3.59	4.30
21.5	4.08	3.21	3.02	3.00	2.88	2.95	3.12	3.24	3.98
22.5	3.66	2.93	2.66	2.67	2.51	2.59	2.73	2.91	3.64
23.5	4.20	3.47	3.21	3.22	3.11	3.13	3.35	3.47	4.32
Ax. Avg.	4.16	3.44	3.20	3.12	2.99	3.12	3.21	3.42	4.16

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.5. Power Density Data (kW/cc) in Fuel Plate 5 in Prototypic Conditions (continued).

Plate 5, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	2.63	2.12	2.07	1.92	1.88	1.95	1.94	2.08	2.49
1.5	2.35	1.88	1.74	1.65	1.61	1.72	1.76	1.87	2.34
2.5	2.75	2.23	2.06	1.96	1.92	2.03	2.01	2.26	2.74
3.5	3.10	2.56	2.32	2.31	2.19	2.35	2.38	2.53	3.17
4.5	3.56	2.96	2.67	2.61	2.52	2.59	2.74	2.87	3.48
5.5	3.86	3.12	2.90	2.86	2.79	2.86	2.98	3.10	3.91
6.5	4.13	3.42	3.20	3.07	2.96	3.12	3.21	3.36	4.26
7.5	4.49	3.66	3.42	3.36	3.14	3.26	3.33	3.58	4.44
8.5	4.64	3.79	3.62	3.36	3.30	3.52	3.53	3.77	4.63
9.5	4.80	3.96	3.57	3.66	3.49	3.65	3.60	4.04	4.79
10.5	5.13	4.09	3.84	3.68	3.54	3.66	3.79	4.03	5.01
11.5	5.04	4.12	3.77	3.78	3.64	3.71	3.77	4.15	5.05
12.5	5.25	4.24	3.92	3.74	3.67	3.72	3.73	4.16	5.16
13.5	5.13	4.17	3.75	3.80	3.58	3.74	3.89	4.17	5.06
14.5	4.97	3.98	3.74	3.59	3.44	3.73	3.70	4.06	5.00
15.5	4.71	3.85	3.63	3.57	3.37	3.54	3.66	3.98	4.81
16.5	4.61	3.76	3.55	3.39	3.24	3.42	3.47	3.74	4.49
17.5	4.36	3.48	3.31	3.29	3.01	3.21	3.31	3.47	4.20
18.5	3.99	3.36	3.05	2.99	2.91	3.01	3.15	3.34	3.93
19.5	3.65	3.08	2.86	2.80	2.72	2.81	2.82	2.97	3.56
20.5	3.45	2.84	2.55	2.57	2.38	2.49	2.48	2.78	3.22
21.5	2.98	2.48	2.28	2.23	2.16	2.18	2.24	2.50	2.99
22.5	2.62	2.18	1.97	1.91	1.86	1.95	1.97	2.19	2.74
23.5	3.31	2.60	2.39	2.38	2.21	2.34	2.42	2.61	3.16
Ax. Avg.	3.98	3.25	3.01	2.94	2.81	2.94	2.99	3.23	3.94

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.5. Power Density Data (kW/cc) in Fuel Plate 5 in Prototypic Conditions (continued).

Plate 5, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	2.50	1.99	1.98	1.92	1.83	1.88	1.88	2.13	2.54
1.5	2.32	1.86	1.72	1.67	1.60	1.68	1.80	1.90	2.32
2.5	2.60	2.24	1.98	1.93	1.88	1.98	2.05	2.13	2.73
3.5	2.98	2.56	2.28	2.30	2.13	2.31	2.33	2.60	3.10
4.5	3.41	2.83	2.67	2.57	2.44	2.60	2.70	2.81	3.40
5.5	3.70	3.01	2.91	2.83	2.71	2.81	2.90	3.16	3.79
6.5	4.02	3.25	3.15	2.89	2.91	3.07	3.16	3.41	4.00
7.5	4.28	3.55	3.33	3.21	3.05	3.27	3.37	3.56	4.26
8.5	4.42	3.69	3.48	3.35	3.22	3.36	3.53	3.76	4.54
9.5	4.73	3.96	3.63	3.48	3.36	3.56	3.58	3.85	4.50
10.5	4.79	3.99	3.76	3.61	3.37	3.61	3.66	3.92	4.92
11.5	4.92	4.01	3.74	3.66	3.51	3.69	3.75	3.95	4.75
12.5	4.88	4.08	3.67	3.56	3.47	3.68	3.75	4.02	4.96
13.5	5.04	3.98	3.63	3.71	3.51	3.62	3.72	4.08	4.80
14.5	4.76	3.98	3.61	3.52	3.39	3.56	3.61	3.90	4.69
15.5	4.50	3.76	3.50	3.45	3.26	3.44	3.53	3.83	4.59
16.5	4.26	3.65	3.36	3.32	3.18	3.36	3.40	3.60	4.36
17.5	4.10	3.46	3.25	3.13	2.93	3.12	3.24	3.43	4.11
18.5	3.85	3.18	2.98	2.91	2.76	2.81	2.96	3.09	3.74
19.5	3.47	2.91	2.81	2.69	2.60	2.75	2.79	2.90	3.52
20.5	3.30	2.68	2.50	2.47	2.34	2.39	2.49	2.64	3.23
21.5	2.89	2.41	2.18	2.17	2.09	2.18	2.23	2.40	2.85
22.5	2.54	2.03	1.98	1.94	1.80	1.87	1.94	2.15	2.56
23.5	3.08	2.55	2.29	2.35	2.15	2.31	2.32	2.49	3.12
Ax. Avg.	3.80	3.15	2.93	2.86	2.73	2.87	2.95	3.15	3.81

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.5. Power Density Data (kW/cc) in Fuel Plate 5 in Prototypic Conditions (continued).

Plate 5, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	2.59	2.06	1.99	1.92	1.81	1.90	1.89	2.05	2.55
1.5	2.28	1.81	1.72	1.69	1.64	1.65	1.76	1.87	2.27
2.5	2.56	2.04	1.93	2.01	1.83	1.98	2.06	2.23	2.62
3.5	2.94	2.59	2.33	2.36	2.17	2.31	2.29	2.51	2.99
4.5	3.42	2.77	2.71	2.57	2.46	2.62	2.65	2.86	3.46
5.5	3.72	3.18	2.90	2.79	2.71	2.85	2.78	3.12	3.63
6.5	3.88	3.42	3.11	3.03	2.82	3.06	3.13	3.27	3.86
7.5	4.31	3.57	3.32	3.16	3.02	3.13	3.28	3.48	4.28
8.5	4.35	3.62	3.33	3.41	3.22	3.35	3.51	3.63	4.48
9.5	4.62	3.90	3.63	3.57	3.37	3.57	3.48	3.80	4.63
10.5	4.75	3.94	3.62	3.67	3.38	3.54	3.70	4.07	4.71
11.5	4.92	4.03	3.73	3.59	3.41	3.68	3.71	4.00	4.77
12.5	4.88	4.03	3.73	3.68	3.46	3.60	3.83	3.99	4.85
13.5	4.73	3.95	3.63	3.56	3.42	3.67	3.79	4.04	4.91
14.5	4.72	3.95	3.75	3.49	3.47	3.56	3.69	3.92	4.73
15.5	4.53	3.81	3.58	3.41	3.28	3.48	3.52	3.66	4.45
16.5	4.31	3.67	3.43	3.25	3.18	3.25	3.40	3.53	4.39
17.5	4.06	3.48	3.20	3.09	3.01	3.10	3.24	3.47	4.09
18.5	3.77	3.22	2.97	2.96	2.80	2.91	3.04	3.20	3.78
19.5	3.44	2.97	2.68	2.59	2.56	2.65	2.69	2.86	3.51
20.5	3.10	2.60	2.45	2.39	2.36	2.50	2.55	2.68	3.33
21.5	2.83	2.37	2.22	2.15	2.07	2.10	2.17	2.36	2.82
22.5	2.70	2.16	2.01	1.87	1.79	1.92	1.97	2.09	2.57
23.5	3.14	2.54	2.30	2.35	2.24	2.28	2.36	2.54	3.14
Ax. Avg.	3.77	3.15	2.93	2.86	2.73	2.86	2.94	3.13	3.78

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.5. Power Density Data (kW/cc) in Fuel Plate 5 in Prototypic Conditions (continued).

Plate 5, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.903 inches	0.903 to 1.216 inches	1.216 to 1.529 inches	1.529 to 1.726 inches	1.726 to 1.923 inches	1.923 to 2.120 inches
0.5	2.46	2.04	1.90	1.90	1.84	1.91	1.95	2.07	2.55
1.5	2.20	1.84	1.69	1.59	1.56	1.66	1.73	1.87	2.28
2.5	2.46	2.11	1.97	1.90	1.85	1.95	1.98	2.14	2.52
3.5	2.99	2.56	2.25	2.23	2.17	2.23	2.30	2.45	2.93
4.5	3.16	2.64	2.56	2.51	2.44	2.55	2.60	2.73	3.27
5.5	3.58	3.02	2.93	2.85	2.62	2.78	2.95	3.01	3.61
6.5	3.83	3.30	3.14	3.02	2.85	2.98	3.10	3.28	3.88
7.5	4.08	3.41	3.22	3.20	2.97	3.10	3.28	3.38	4.14
8.5	4.24	3.61	3.39	3.32	3.14	3.36	3.31	3.67	4.18
9.5	4.43	3.68	3.55	3.45	3.25	3.41	3.49	3.74	4.43
10.5	4.55	3.91	3.53	3.49	3.37	3.57	3.55	3.85	4.61
11.5	4.65	3.98	3.67	3.56	3.44	3.49	3.72	3.75	4.48
12.5	4.64	3.88	3.67	3.52	3.38	3.55	3.69	3.94	4.50
13.5	4.56	3.85	3.60	3.51	3.44	3.58	3.76	4.02	4.60
14.5	4.56	3.73	3.60	3.47	3.29	3.41	3.61	3.76	4.56
15.5	4.41	3.65	3.38	3.25	3.12	3.32	3.40	3.69	4.39
16.5	4.15	3.47	3.32	3.26	3.14	3.25	3.31	3.55	4.14
17.5	4.03	3.36	3.15	3.05	2.89	3.07	3.14	3.39	4.00
18.5	3.71	3.19	2.89	2.85	2.71	2.94	2.99	3.20	3.64
19.5	3.41	2.85	2.71	2.60	2.52	2.75	2.70	2.88	3.47
20.5	3.06	2.54	2.48	2.38	2.32	2.33	2.46	2.62	3.12
21.5	2.84	2.32	2.17	2.16	2.02	2.19	2.22	2.37	2.88
22.5	2.54	2.08	1.93	1.92	1.84	1.92	2.07	2.10	2.51
23.5	2.95	2.36	2.41	2.29	2.17	2.29	2.37	2.48	2.92
Ax. Avg.	3.65	3.06	2.88	2.80	2.68	2.82	2.90	3.08	3.65

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.6. Power Density Data (kW/cm^3) in Fuel Plate 6 in Prototypic Core.

Fuel core width: 2.227 inches / Fuel core thickness: 20 mil

Plate 6, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	1.65	1.33	1.21	1.17	1.15	1.20	1.22	1.38	1.57
1.5	1.49	1.18	1.07	1.02	1.02	1.03	1.06	1.15	1.46
2.5	1.74	1.39	1.32	1.26	1.12	1.23	1.26	1.37	1.64
3.5	1.99	1.60	1.50	1.50	1.44	1.55	1.58	1.60	2.03
4.5	2.28	1.88	1.79	1.73	1.68	1.77	1.77	1.95	2.37
5.5	2.62	2.19	2.13	2.03	1.86	1.97	2.07	2.30	2.75
6.5	3.04	2.56	2.40	2.36	2.16	2.27	2.39	2.53	3.06
7.5	3.44	2.86	2.64	2.58	2.42	2.59	2.59	2.92	3.47
8.5	3.86	3.22	3.05	2.92	2.77	2.85	2.92	3.30	3.90
9.5	4.21	3.50	3.14	3.03	3.02	3.18	3.36	3.53	4.28
10.5	4.60	3.72	3.54	3.34	3.26	3.46	3.47	3.74	4.52
11.5	4.87	4.09	3.72	3.62	3.42	3.63	3.73	4.02	4.80
12.5	5.19	4.24	3.97	3.73	3.65	3.87	3.89	4.23	5.10
13.5	5.08	4.22	4.02	3.90	3.68	3.91	3.94	4.27	5.19
14.5	5.22	4.37	4.03	3.93	3.74	3.87	4.02	4.40	5.31
15.5	5.25	4.27	4.00	3.89	3.77	4.01	3.98	4.30	5.24
16.5	5.05	4.16	3.91	3.86	3.67	3.85	4.00	4.20	5.12
17.5	5.08	4.20	3.81	3.75	3.46	3.73	3.80	4.06	4.90
18.5	4.60	3.95	3.64	3.51	3.39	3.55	3.68	3.89	4.75
19.5	4.48	3.70	3.35	3.26	3.11	3.28	3.32	3.57	4.42
20.5	4.02	3.29	3.07	3.02	2.92	2.92	3.16	3.37	4.07
21.5	3.69	2.99	2.77	2.68	2.58	2.71	2.74	3.01	3.62
22.5	3.31	2.60	2.46	2.38	2.23	2.37	2.43	2.62	3.31
23.5	4.11	3.19	3.03	2.94	2.81	2.93	3.03	3.28	3.90
Ax. Avg.	3.79	3.11	2.90	2.81	2.68	2.82	2.89	3.12	3.78

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.6. Power Density Data (kW/cc) in Fuel Plate 6 in Prototypic Conditions (continued).

Plate 6, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	2.49	1.91	1.85	1.71	1.72	1.81	1.78	2.01	2.43
1.5	2.20	1.73	1.59	1.52	1.42	1.55	1.61	1.73	2.16
2.5	2.49	2.02	1.88	1.78	1.74	1.83	1.85	1.99	2.49
3.5	2.79	2.25	2.12	2.07	1.99	2.12	2.14	2.35	2.85
4.5	3.22	2.64	2.43	2.37	2.22	2.42	2.37	2.59	3.19
5.5	3.60	2.88	2.60	2.53	2.50	2.56	2.67	2.84	3.61
6.5	3.76	3.04	2.83	2.78	2.71	2.79	2.92	3.09	3.87
7.5	4.01	3.33	3.12	2.98	2.86	2.99	3.07	3.36	4.05
8.5	4.30	3.39	3.21	3.15	3.09	3.19	3.22	3.48	4.24
9.5	4.42	3.63	3.25	3.23	3.13	3.34	3.39	3.60	4.50
10.5	4.62	3.65	3.42	3.37	3.12	3.34	3.40	3.70	4.57
11.5	4.62	3.84	3.49	3.41	3.27	3.37	3.48	3.75	4.57
12.5	4.63	3.78	3.56	3.38	3.20	3.38	3.51	3.76	4.60
13.5	4.62	3.67	3.44	3.43	3.23	3.33	3.47	3.77	4.58
14.5	4.54	3.77	3.33	3.31	3.12	3.39	3.39	3.66	4.43
15.5	4.32	3.56	3.15	3.18	3.01	3.23	3.28	3.59	4.24
16.5	4.27	3.45	3.25	3.08	2.90	3.04	3.18	3.37	4.12
17.5	3.91	3.26	2.99	2.98	2.81	2.94	3.05	3.12	3.87
18.5	3.65	3.05	2.75	2.71	2.58	2.73	2.81	3.07	3.74
19.5	3.34	2.85	2.55	2.55	2.45	2.45	2.55	2.73	3.35
20.5	3.00	2.44	2.35	2.26	2.14	2.26	2.33	2.53	2.98
21.5	2.75	2.26	2.06	1.98	1.94	1.99	2.06	2.31	2.74
22.5	2.41	1.96	1.79	1.75	1.70	1.72	1.79	2.03	2.51
23.5	3.06	2.41	2.22	2.12	2.01	2.14	2.30	2.36	3.03
Ax. Avg.	3.63	2.95	2.72	2.65	2.54	2.66	2.73	2.95	3.61

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.6. Power Density Data (kW/cc) in Fuel Plate 6 in Prototypic Conditions (continued).

Plate 6, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	2.34	1.92	1.80	1.75	1.73	1.75	1.76	1.95	2.30
1.5	2.11	1.68	1.58	1.41	1.40	1.50	1.53	1.67	2.01
2.5	2.45	1.95	1.81	1.79	1.69	1.73	1.80	1.88	2.37
3.5	2.70	2.24	2.14	2.09	1.90	2.01	2.17	2.32	2.82
4.5	3.23	2.60	2.40	2.29	2.21	2.27	2.32	2.54	3.13
5.5	3.40	2.80	2.62	2.57	2.44	2.55	2.63	2.84	3.53
6.5	3.71	2.99	2.82	2.74	2.58	2.74	2.88	3.08	3.67
7.5	3.80	3.32	3.05	2.88	2.78	2.87	3.01	3.28	3.85
8.5	4.07	3.41	3.10	2.99	2.89	3.00	3.22	3.40	4.09
9.5	4.29	3.43	3.30	3.19	2.96	3.21	3.27	3.64	4.28
10.5	4.22	3.61	3.35	3.18	3.03	3.23	3.21	3.51	4.40
11.5	4.38	3.59	3.34	3.28	3.17	3.22	3.36	3.58	4.41
12.5	4.44	3.72	3.41	3.27	3.17	3.26	3.37	3.63	4.42
13.5	4.47	3.65	3.33	3.26	3.07	3.33	3.29	3.54	4.29
14.5	4.25	3.59	3.33	3.15	2.99	3.21	3.25	3.42	4.25
15.5	4.16	3.51	3.22	3.08	2.93	3.02	3.15	3.34	4.04
16.5	3.90	3.27	2.99	2.97	2.85	2.88	3.13	3.34	3.95
17.5	3.76	3.03	2.88	2.81	2.73	2.75	2.87	3.13	3.67
18.5	3.40	2.92	2.74	2.63	2.46	2.59	2.74	2.92	3.53
19.5	3.22	2.62	2.51	2.41	2.40	2.40	2.45	2.70	3.28
20.5	3.02	2.46	2.28	2.16	2.08	2.18	2.27	2.47	2.91
21.5	2.62	2.23	1.95	1.97	1.85	1.99	2.06	2.21	2.75
22.5	2.39	1.90	1.73	1.76	1.58	1.70	1.72	1.94	2.39
23.5	2.91	2.36	2.16	2.13	2.03	2.07	2.18	2.37	2.91
Ax. Avg.	3.47	2.87	2.66	2.57	2.45	2.56	2.65	2.86	3.47

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.6. Power Density Data (kW/cc) in Fuel Plate 6 in Prototypic Conditions (continued).

Plate 6, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	2.34	1.99	1.79	1.77	1.62	1.71	1.76	1.93	2.33
1.5	2.14	1.64	1.55	1.51	1.40	1.45	1.54	1.68	2.09
2.5	2.32	1.93	1.76	1.78	1.66	1.76	1.84	1.94	2.33
3.5	2.64	2.28	2.04	2.00	1.91	2.03	2.07	2.21	2.85
4.5	3.09	2.51	2.38	2.32	2.15	2.27	2.39	2.62	3.15
5.5	3.25	2.82	2.61	2.53	2.42	2.57	2.58	2.70	3.38
6.5	3.64	3.05	2.86	2.75	2.60	2.77	2.91	2.95	3.64
7.5	3.89	3.28	2.98	2.91	2.82	2.92	3.04	3.19	3.83
8.5	4.03	3.22	3.12	3.04	2.83	2.98	3.07	3.37	4.02
9.5	4.25	3.43	3.15	3.17	3.00	3.17	3.20	3.50	4.18
10.5	4.26	3.58	3.24	3.22	3.08	3.25	3.36	3.65	4.35
11.5	4.33	3.64	3.35	3.21	3.11	3.29	3.24	3.63	4.26
12.5	4.37	3.54	3.37	3.21	3.17	3.38	3.30	3.68	4.49
13.5	4.30	3.61	3.32	3.23	3.13	3.27	3.38	3.69	4.35
14.5	4.24	3.60	3.34	3.13	3.07	3.22	3.31	3.57	4.28
15.5	4.07	3.53	3.21	3.10	2.91	3.13	3.20	3.33	4.11
16.5	3.92	3.35	3.08	3.07	2.85	2.94	3.13	3.38	3.93
17.5	3.67	3.15	2.97	2.78	2.69	2.79	2.93	3.18	3.75
18.5	3.56	2.92	2.68	2.62	2.53	2.67	2.73	2.86	3.51
19.5	3.12	2.62	2.48	2.38	2.30	2.44	2.44	2.59	3.28
20.5	2.96	2.42	2.27	2.20	2.08	2.23	2.29	2.55	2.99
21.5	2.69	2.22	2.02	1.96	1.89	1.89	1.97	2.16	2.57
22.5	2.46	1.93	1.75	1.71	1.62	1.70	1.75	1.88	2.28
23.5	2.93	2.32	2.22	2.10	2.01	2.10	2.17	2.29	2.89
Ax. Avg.	3.44	2.86	2.65	2.57	2.45	2.58	2.65	2.86	3.45

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.6. Power Density Data (kW/cc) in Fuel Plate 6 in Prototypic Conditions (continued).

Plate 6, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.939 inches	0.939 to 1.288 inches	1.288 to 1.636 inches	1.636 to 1.833 inches	1.833 to 2.030 inches	2.030 to 2.227 inches
0.5	2.27	1.94	1.73	1.72	1.63	1.71	1.78	1.85	2.37
1.5	2.03	1.64	1.51	1.46	1.43	1.52	1.54	1.69	2.02
2.5	2.35	1.89	1.75	1.75	1.68	1.70	1.84	1.89	2.29
3.5	2.80	2.33	2.08	2.02	1.93	2.07	2.04	2.27	2.67
4.5	3.04	2.56	2.34	2.22	2.14	2.30	2.32	2.56	2.99
5.5	3.33	2.82	2.62	2.54	2.44	2.49	2.57	2.76	3.30
6.5	3.57	3.04	2.72	2.68	2.54	2.65	2.83	3.02	3.47
7.5	3.75	3.10	2.91	2.82	2.67	2.73	2.92	3.15	3.72
8.5	3.96	3.31	3.14	3.00	2.84	2.95	3.04	3.32	3.97
9.5	4.08	3.32	3.21	3.05	2.91	3.01	3.18	3.39	4.00
10.5	4.15	3.45	3.19	3.16	3.08	3.24	3.17	3.44	4.03
11.5	4.28	3.45	3.34	3.13	3.10	3.22	3.31	3.53	4.28
12.5	4.22	3.53	3.30	3.20	3.03	3.22	3.31	3.63	4.16
13.5	4.19	3.52	3.27	3.18	3.01	3.19	3.33	3.52	4.28
14.5	4.06	3.38	3.18	3.07	2.97	3.08	3.16	3.42	4.06
15.5	3.99	3.36	3.03	2.93	2.87	3.00	3.05	3.35	4.11
16.5	3.72	3.19	2.98	2.87	2.78	2.96	2.98	3.17	3.77
17.5	3.56	3.04	2.84	2.78	2.64	2.77	2.89	3.05	3.59
18.5	3.38	2.83	2.72	2.55	2.46	2.59	2.65	2.89	3.45
19.5	3.12	2.58	2.47	2.40	2.23	2.36	2.49	2.63	3.14
20.5	2.86	2.43	2.25	2.17	2.07	2.11	2.25	2.29	2.87
21.5	2.56	2.13	1.94	1.92	1.81	1.91	1.93	2.21	2.54
22.5	2.27	1.88	1.79	1.66	1.62	1.69	1.73	1.87	2.33
23.5	2.76	2.23	2.08	2.09	1.92	2.10	2.11	2.20	2.79
Ax. Avg.	3.35	2.79	2.60	2.52	2.41	2.52	2.60	2.80	3.34

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.7. Power Density Data (kW/cm^3) in Fuel Plate 7 in Prototypic Core.

Fuel core width: 2.334 inches / Fuel core thickness: 20 mil

Plate 7, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	1.59	1.32	1.15	1.05	1.10	1.12	1.19	1.18	1.46
1.5	1.33	1.01	1.00	0.93	0.89	0.93	0.98	1.06	1.27
2.5	1.62	1.30	1.23	1.14	1.10	1.12	1.20	1.30	1.58
3.5	1.84	1.53	1.44	1.38	1.33	1.36	1.38	1.54	1.79
4.5	2.12	1.76	1.66	1.66	1.62	1.64	1.71	1.81	2.25
5.5	2.47	2.08	1.98	1.88	1.77	1.86	1.88	2.00	2.50
6.5	2.81	2.36	2.20	2.10	1.99	2.07	2.18	2.40	2.77
7.5	3.16	2.63	2.46	2.34	2.29	2.41	2.56	2.63	3.17
8.5	3.60	3.01	2.86	2.79	2.58	2.65	2.79	2.93	3.56
9.5	3.92	3.20	3.01	2.90	2.76	2.90	3.04	3.23	3.98
10.5	4.17	3.50	3.29	3.24	3.09	3.15	3.35	3.49	4.14
11.5	4.55	3.70	3.41	3.32	3.20	3.40	3.42	3.82	4.53
12.5	4.75	3.89	3.56	3.51	3.37	3.48	3.53	3.87	4.64
13.5	4.91	4.16	3.68	3.61	3.45	3.65	3.77	4.17	4.94
14.5	4.87	4.14	3.77	3.72	3.57	3.68	3.76	4.11	4.95
15.5	4.95	4.08	3.77	3.59	3.49	3.73	3.82	4.14	4.87
16.5	4.75	3.95	3.68	3.56	3.42	3.62	3.79	4.05	4.93
17.5	4.52	3.88	3.53	3.52	3.33	3.40	3.57	3.78	4.62
18.5	4.27	3.67	3.44	3.33	3.21	3.30	3.44	3.63	4.44
19.5	4.10	3.37	3.17	3.09	2.96	3.12	3.13	3.33	4.09
20.5	3.74	3.14	2.97	2.92	2.76	2.82	2.95	3.17	3.84
21.5	3.41	2.78	2.63	2.51	2.42	2.55	2.63	2.73	3.31
22.5	3.06	2.51	2.24	2.16	2.02	2.16	2.24	2.30	3.05
23.5	3.84	3.13	2.79	2.76	2.66	2.73	2.83	3.03	3.76
Ax. Avg.	3.52	2.92	2.70	2.63	2.52	2.62	2.71	2.90	3.52

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.7. Power Density Data (kW/cc) in Fuel Plate 7 in Prototypic Conditions (continued).

Plate 7, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	2.30	1.85	1.64	1.66	1.66	1.67	1.71	1.82	2.21
1.5	1.99	1.64	1.52	1.41	1.34	1.43	1.44	1.53	1.94
2.5	2.26	1.90	1.76	1.69	1.60	1.66	1.74	1.92	2.26
3.5	2.57	2.14	2.01	1.97	1.81	1.92	2.10	2.24	2.62
4.5	2.92	2.49	2.31	2.23	2.15	2.19	2.20	2.37	3.02
5.5	3.20	2.72	2.47	2.40	2.32	2.40	2.50	2.57	3.13
6.5	3.48	2.94	2.73	2.67	2.54	2.61	2.61	2.89	3.48
7.5	3.70	3.19	2.95	2.79	2.64	2.74	2.90	3.10	3.71
8.5	3.96	3.21	3.04	2.91	2.82	2.98	3.02	3.24	3.91
9.5	4.08	3.38	3.16	3.07	2.85	3.04	3.15	3.41	4.15
10.5	4.25	3.47	3.26	3.12	2.90	3.13	3.24	3.46	4.13
11.5	4.26	3.50	3.27	3.15	2.98	3.16	3.20	3.50	4.24
12.5	4.34	3.50	3.20	3.18	3.03	3.14	3.27	3.51	4.28
13.5	4.21	3.41	3.22	3.14	2.97	3.09	3.29	3.50	4.28
14.5	4.01	3.46	3.18	3.08	2.96	3.14	3.19	3.42	4.10
15.5	4.01	3.41	3.04	2.96	2.86	3.01	3.16	3.30	3.95
16.5	3.90	3.08	2.99	2.88	2.77	2.83	3.00	3.22	3.75
17.5	3.59	3.16	2.82	2.78	2.55	2.72	2.82	3.01	3.60
18.5	3.33	2.80	2.60	2.55	2.44	2.59	2.70	2.85	3.38
19.5	3.09	2.66	2.40	2.40	2.30	2.33	2.44	2.65	3.05
20.5	2.86	2.31	2.20	2.16	1.99	2.13	2.15	2.31	2.81
21.5	2.56	2.05	1.97	1.86	1.80	1.82	1.99	2.09	2.49
22.5	2.19	1.87	1.64	1.59	1.52	1.61	1.67	1.88	2.22
23.5	2.90	2.24	2.05	2.07	2.00	2.06	2.09	2.25	2.85
Ax. Avg.	3.33	2.77	2.56	2.49	2.37	2.48	2.57	2.75	3.32

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.7. Power Density Data (kW/cc) in Fuel Plate 7 in Prototypic Conditions (continued).

Plate 7, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	2.21	1.85	1.76	1.68	1.60	1.70	1.70	1.82	2.27
1.5	1.95	1.63	1.45	1.36	1.31	1.39	1.42	1.55	1.92
2.5	2.20	1.77	1.67	1.58	1.54	1.63	1.67	1.84	2.21
3.5	2.50	2.15	1.98	1.86	1.76	1.89	2.03	2.18	2.55
4.5	2.95	2.38	2.21	2.19	2.06	2.10	2.18	2.35	2.88
5.5	3.30	2.76	2.51	2.38	2.32	2.37	2.41	2.71	3.27
6.5	3.38	2.81	2.67	2.54	2.38	2.56	2.54	2.85	3.47
7.5	3.59	2.97	2.83	2.67	2.57	2.67	2.83	3.01	3.63
8.5	3.85	3.22	2.84	2.77	2.74	2.84	2.92	3.12	3.81
9.5	3.88	3.13	3.04	2.93	2.79	2.96	3.08	3.32	3.92
10.5	4.05	3.32	3.08	2.97	2.86	2.99	3.15	3.31	4.05
11.5	4.20	3.40	3.14	3.04	2.88	3.07	3.11	3.37	4.05
12.5	4.07	3.39	3.22	3.03	2.86	3.06	3.05	3.39	4.14
13.5	4.19	3.39	3.16	3.03	2.86	3.01	3.04	3.31	4.01
14.5	4.07	3.26	2.98	2.92	2.77	2.93	3.03	3.23	3.93
15.5	3.91	3.22	2.98	2.87	2.75	2.86	2.99	3.19	3.79
16.5	3.63	3.14	2.88	2.79	2.67	2.74	2.76	3.25	3.78
17.5	3.59	2.91	2.67	2.64	2.47	2.62	2.66	2.89	3.51
18.5	3.27	2.73	2.50	2.45	2.37	2.45	2.62	2.71	3.26
19.5	2.96	2.55	2.29	2.27	2.15	2.25	2.32	2.48	2.94
20.5	2.73	2.26	2.15	2.03	1.98	2.06	2.10	2.31	2.73
21.5	2.48	2.03	1.85	1.80	1.70	1.79	1.86	2.03	2.41
22.5	2.22	1.77	1.63	1.57	1.47	1.58	1.66	1.81	2.15
23.5	2.79	2.22	1.90	1.99	1.90	1.97	2.07	2.32	2.75
Ax. Avg.	3.25	2.68	2.48	2.39	2.28	2.40	2.47	2.68	3.23

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.7. Power Density Data (kW/cc) in Fuel Plate 7 in Prototypic Conditions (continued).

Plate 7, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	2.19	1.79	1.66	1.65	1.56	1.64	1.73	1.84	2.21
1.5	1.92	1.57	1.45	1.36	1.28	1.34	1.40	1.56	1.96
2.5	2.20	1.81	1.70	1.62	1.54	1.60	1.69	1.88	2.21
3.5	2.56	2.14	1.98	1.87	1.82	1.90	1.92	2.11	2.62
4.5	2.84	2.37	2.20	2.14	2.06	2.12	2.20	2.45	2.87
5.5	2.98	2.64	2.50	2.35	2.24	2.36	2.46	2.61	3.04
6.5	3.32	2.82	2.65	2.56	2.39	2.54	2.64	2.81	3.41
7.5	3.59	3.02	2.88	2.70	2.56	2.68	2.86	3.04	3.57
8.5	3.69	3.15	2.89	2.81	2.72	2.83	2.96	3.08	3.82
9.5	3.92	3.18	3.02	2.88	2.83	2.94	3.03	3.23	3.87
10.5	4.01	3.41	3.12	3.05	2.88	3.03	3.10	3.36	4.06
11.5	4.04	3.31	3.10	3.03	2.92	3.02	3.18	3.30	4.11
12.5	4.00	3.47	3.19	3.12	2.96	3.00	3.14	3.45	4.28
13.5	4.01	3.44	3.10	2.98	2.87	3.01	3.15	3.36	4.06
14.5	3.90	3.28	3.07	2.94	2.82	2.94	3.15	3.35	3.94
15.5	3.87	3.24	2.95	2.86	2.80	2.84	2.94	3.06	3.83
16.5	3.70	3.18	2.90	2.82	2.67	2.78	2.90	3.18	3.69
17.5	3.46	2.95	2.76	2.59	2.46	2.60	2.76	2.92	3.45
18.5	3.25	2.73	2.59	2.45	2.37	2.48	2.54	2.70	3.14
19.5	2.98	2.50	2.30	2.26	2.16	2.28	2.32	2.55	3.12
20.5	2.77	2.28	2.17	2.05	1.93	2.05	2.17	2.26	2.70
21.5	2.43	2.00	1.90	1.78	1.69	1.76	1.86	2.06	2.51
22.5	2.25	1.82	1.62	1.59	1.54	1.55	1.59	1.81	2.12
23.5	2.73	2.24	2.05	1.97	1.88	1.97	2.04	2.19	2.76
Ax. Avg.	3.19	2.68	2.49	2.39	2.29	2.39	2.49	2.67	3.22

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.7. Power Density Data (kW/cc) in Fuel Plate 7 in Prototypic Conditions (continued).

Plate 7, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 0.975 inches	0.975 to 1.359 inches	1.359 to 1.743 inches	1.743 to 1.940 inches	1.940 to 2.137 inches	2.137 to 2.334 inches
0.5	2.21	1.82	1.67	1.58	1.54	1.62	1.74	1.77	2.29
1.5	1.84	1.49	1.39	1.35	1.31	1.44	1.45	1.59	1.90
2.5	2.16	1.82	1.68	1.58	1.55	1.60	1.68	1.87	2.16
3.5	2.47	2.01	1.89	1.88	1.81	1.91	1.89	2.06	2.50
4.5	2.76	2.35	2.13	2.05	2.04	2.10	2.14	2.38	2.74
5.5	3.07	2.63	2.54	2.28	2.20	2.32	2.35	2.59	3.14
6.5	3.22	2.85	2.60	2.50	2.37	2.51	2.60	2.77	3.31
7.5	3.52	2.91	2.74	2.63	2.50	2.66	2.75	3.05	3.55
8.5	3.68	3.06	2.86	2.75	2.58	2.77	2.91	3.07	3.70
9.5	3.83	3.16	2.89	2.85	2.71	2.83	3.01	3.17	3.84
10.5	3.90	3.34	2.97	2.93	2.80	2.92	3.06	3.28	3.87
11.5	3.88	3.35	3.06	2.96	2.87	2.99	3.12	3.33	3.92
12.5	3.94	3.28	3.16	2.93	2.77	2.95	3.13	3.29	3.95
13.5	3.86	3.25	3.04	2.93	2.78	2.97	2.96	3.39	3.85
14.5	3.87	3.24	2.92	2.83	2.77	2.84	2.91	3.22	3.80
15.5	3.69	3.10	2.85	2.74	2.66	2.76	2.80	3.08	3.67
16.5	3.56	2.96	2.84	2.77	2.60	2.72	2.80	3.08	3.52
17.5	3.39	2.85	2.71	2.61	2.42	2.61	2.67	2.92	3.31
18.5	3.18	2.67	2.38	2.43	2.32	2.39	2.55	2.72	3.25
19.5	2.91	2.52	2.33	2.17	2.10	2.24	2.28	2.51	2.85
20.5	2.72	2.31	2.08	2.05	1.92	1.99	2.07	2.21	2.62
21.5	2.45	2.06	1.81	1.80	1.65	1.76	1.84	1.96	2.37
22.5	2.16	1.73	1.60	1.52	1.49	1.54	1.64	1.76	2.15
23.5	2.61	2.11	1.99	1.97	1.86	1.94	2.04	2.13	2.60
Ax. Avg.	3.12	2.62	2.42	2.34	2.23	2.35	2.43	2.63	3.12

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.8. Power Density Data (kW/cm^3) in Fuel Plate 8 in Prototypic Core.

Fuel core width: 2.440 inches / Fuel core thickness: 20 mil

Plate 8, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	1.50	1.17	1.12	1.05	1.04	1.05	1.10	1.22	1.37
1.5	1.25	1.08	0.95	0.91	0.86	0.87	0.91	0.96	1.24
2.5	1.44	1.16	1.14	1.11	1.03	1.07	1.11	1.23	1.49
3.5	1.68	1.45	1.36	1.32	1.24	1.34	1.28	1.37	1.71
4.5	1.99	1.73	1.55	1.55	1.48	1.54	1.67	1.68	1.93
5.5	2.30	1.93	1.80	1.79	1.71	1.73	1.83	2.01	2.37
6.5	2.64	2.20	2.01	1.99	1.92	2.01	2.03	2.30	2.71
7.5	2.96	2.59	2.43	2.28	2.16	2.27	2.32	2.58	2.94
8.5	3.28	2.79	2.59	2.51	2.44	2.54	2.62	2.84	3.34
9.5	3.62	3.12	2.84	2.83	2.67	2.75	2.89	3.03	3.72
10.5	3.97	3.44	3.27	2.98	2.89	2.99	3.10	3.30	3.98
11.5	4.33	3.50	3.33	3.18	3.04	3.18	3.34	3.52	4.24
12.5	4.45	3.76	3.30	3.29	3.14	3.30	3.44	3.72	4.35
13.5	4.60	3.94	3.60	3.44	3.23	3.45	3.56	3.88	4.53
14.5	4.60	3.84	3.54	3.50	3.29	3.46	3.64	3.81	4.68
15.5	4.63	3.84	3.59	3.54	3.36	3.47	3.54	3.87	4.75
16.5	4.48	3.80	3.47	3.43	3.29	3.37	3.59	3.79	4.51
17.5	4.41	3.80	3.43	3.28	3.16	3.25	3.45	3.61	4.41
18.5	4.10	3.52	3.25	3.22	3.03	3.18	3.30	3.56	4.17
19.5	3.97	3.24	3.06	2.98	2.83	2.95	3.01	3.33	3.89
20.5	3.44	3.13	2.77	2.75	2.62	2.72	2.80	3.04	3.55
21.5	3.21	2.71	2.49	2.37	2.24	2.34	2.48	2.64	3.11
22.5	2.84	2.37	2.17	2.05	1.97	2.07	2.15	2.27	2.82
23.5	3.66	2.94	2.75	2.64	2.57	2.61	2.72	2.99	3.72
Ax. Avg.	3.31	2.79	2.58	2.50	2.38	2.48	2.58	2.77	3.31

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.8. Power Density Data (kW/cc) in Fuel Plate 8 in Prototypic Conditions (continued).

Plate 8, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	2.25	1.76	1.66	1.63	1.60	1.62	1.64	1.77	2.14
1.5	1.87	1.49	1.37	1.33	1.29	1.35	1.40	1.48	1.94
2.5	2.12	1.78	1.63	1.57	1.52	1.60	1.63	1.77	2.08
3.5	2.49	2.06	1.82	1.87	1.77	1.87	1.98	2.17	2.51
4.5	2.86	2.33	2.16	2.10	2.03	2.11	2.06	2.35	2.74
5.5	3.10	2.54	2.37	2.32	2.21	2.30	2.45	2.55	3.10
6.5	3.31	2.77	2.56	2.52	2.39	2.50	2.58	2.78	3.37
7.5	3.56	2.92	2.77	2.68	2.57	2.66	2.78	2.93	3.60
8.5	3.75	2.99	2.83	2.84	2.63	2.85	2.90	3.12	3.73
9.5	3.95	3.13	2.95	2.90	2.77	2.87	2.95	3.26	3.79
10.5	4.05	3.26	3.09	2.95	2.75	2.96	3.05	3.30	3.94
11.5	3.98	3.40	3.07	2.98	2.84	2.99	3.10	3.31	3.93
12.5	4.02	3.25	3.19	3.02	2.89	3.02	3.08	3.33	4.02
13.5	4.04	3.30	3.02	2.99	2.84	2.95	3.13	3.45	3.94
14.5	3.92	3.22	3.03	2.96	2.92	2.96	3.00	3.32	3.94
15.5	3.76	3.23	2.98	2.87	2.70	2.89	3.03	3.16	3.71
16.5	3.68	3.09	2.87	2.80	2.61	2.73	2.80	3.01	3.64
17.5	3.35	2.98	2.66	2.63	2.49	2.57	2.72	2.86	3.35
18.5	3.28	2.71	2.50	2.42	2.31	2.45	2.56	2.66	3.25
19.5	2.94	2.42	2.32	2.27	2.22	2.25	2.33	2.45	3.02
20.5	2.65	2.25	2.07	2.03	1.89	2.04	2.13	2.25	2.68
21.5	2.44	2.05	1.83	1.78	1.69	1.79	1.82	2.04	2.39
22.5	2.17	1.72	1.54	1.49	1.50	1.53	1.62	1.79	2.12
23.5	2.73	2.23	2.06	1.97	1.89	1.96	2.01	2.15	2.75
Ax. Avg.	3.18	2.62	2.43	2.37	2.26	2.37	2.45	2.64	3.15

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.8. Power Density Data (kW/cc) in Fuel Plate 8 in Prototypic Conditions (continued).

Plate 8, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	2.19	1.74	1.56	1.59	1.51	1.58	1.59	1.77	2.18
1.5	1.81	1.50	1.36	1.31	1.23	1.28	1.41	1.47	1.79
2.5	2.15	1.73	1.61	1.56	1.50	1.58	1.62	1.82	2.08
3.5	2.37	2.04	1.88	1.88	1.76	1.84	1.93	2.04	2.51
4.5	2.77	2.29	2.12	2.06	1.92	1.99	2.13	2.35	2.81
5.5	2.94	2.55	2.37	2.28	2.16	2.24	2.34	2.42	3.04
6.5	3.20	2.66	2.53	2.46	2.33	2.44	2.50	2.70	3.25
7.5	3.47	2.76	2.70	2.57	2.43	2.55	2.73	2.80	3.48
8.5	3.58	2.94	2.73	2.66	2.64	2.70	2.71	3.01	3.64
9.5	3.73	3.02	2.85	2.80	2.66	2.86	2.91	3.09	3.64
10.5	3.85	3.18	3.02	2.81	2.76	2.84	2.98	3.21	3.81
11.5	3.86	3.35	3.03	2.95	2.70	2.95	3.02	3.18	3.72
12.5	3.88	3.13	2.96	2.91	2.78	2.94	3.01	3.18	3.95
13.5	3.92	3.17	3.03	2.84	2.76	2.85	2.98	3.20	3.78
14.5	3.70	3.26	3.04	2.77	2.70	2.83	2.95	3.12	3.79
15.5	3.58	3.16	2.95	2.76	2.64	2.76	2.85	3.09	3.62
16.5	3.54	2.87	2.79	2.67	2.50	2.68	2.77	3.00	3.61
17.5	3.31	2.79	2.57	2.51	2.37	2.51	2.59	2.77	3.35
18.5	3.10	2.62	2.47	2.36	2.18	2.36	2.46	2.62	3.09
19.5	2.85	2.46	2.24	2.14	2.05	2.15	2.20	2.31	2.91
20.5	2.60	2.20	1.98	1.90	1.86	1.96	1.96	2.12	2.56
21.5	2.29	1.92	1.76	1.73	1.62	1.69	1.79	2.01	2.30
22.5	2.11	1.65	1.51	1.47	1.43	1.51	1.65	1.72	2.01
23.5	2.67	2.08	2.04	1.87	1.83	1.95	1.98	2.18	2.72
Ax. Avg.	3.06	2.55	2.38	2.29	2.18	2.29	2.38	2.55	3.07

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.8. Power Density Data (kW/cc) in Fuel Plate 8 in Prototypic Conditions (continued).

Plate 8, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	2.11	1.75	1.58	1.55	1.46	1.61	1.57	1.72	2.11
1.5	1.72	1.48	1.42	1.29	1.22	1.25	1.33	1.47	1.83
2.5	2.04	1.83	1.66	1.56	1.49	1.53	1.61	1.79	2.08
3.5	2.42	2.06	1.85	1.79	1.71	1.83	1.89	2.11	2.43
4.5	2.72	2.30	2.10	2.05	1.92	2.02	2.14	2.35	2.69
5.5	2.99	2.46	2.35	2.25	2.15	2.25	2.33	2.51	3.04
6.5	3.26	2.70	2.56	2.39	2.33	2.43	2.51	2.75	3.27
7.5	3.43	2.81	2.70	2.58	2.41	2.55	2.69	2.88	3.36
8.5	3.54	2.97	2.76	2.74	2.54	2.71	2.87	2.89	3.61
9.5	3.72	3.11	2.88	2.83	2.71	2.81	2.88	3.15	3.73
10.5	3.80	3.14	2.99	2.89	2.74	2.95	2.98	3.16	3.75
11.5	3.90	3.15	2.96	2.88	2.78	2.91	2.98	3.15	3.85
12.5	3.88	3.25	2.94	2.94	2.82	2.88	3.06	3.30	3.83
13.5	3.77	3.29	2.97	2.89	2.72	2.92	2.99	3.33	3.87
14.5	3.77	3.13	3.00	2.83	2.72	2.83	2.90	3.11	3.75
15.5	3.61	3.14	2.85	2.79	2.65	2.73	2.84	3.01	3.56
16.5	3.49	2.91	2.78	2.67	2.51	2.66	2.80	3.04	3.55
17.5	3.25	2.77	2.63	2.57	2.40	2.53	2.61	2.81	3.24
18.5	3.10	2.62	2.47	2.40	2.23	2.34	2.43	2.66	3.03
19.5	2.87	2.45	2.18	2.12	2.08	2.17	2.17	2.37	2.89
20.5	2.67	2.21	2.04	1.96	1.82	1.96	2.00	2.19	2.59
21.5	2.30	1.91	1.83	1.73	1.67	1.71	1.75	1.96	2.26
22.5	2.03	1.65	1.58	1.53	1.46	1.51	1.52	1.67	2.11
23.5	2.66	2.06	2.00	1.92	1.91	1.90	1.90	2.09	2.76
Ax. Avg.	3.04	2.55	2.38	2.30	2.19	2.29	2.36	2.56	3.05

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.8. Power Density Data (kW/cc) in Fuel Plate 8 in Prototypic Conditions (continued).

Plate 8, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.010 inches	1.010 to 1.430 inches	1.430 to 1.850 inches	1.850 to 2.047 inches	2.047 to 2.243 inches	2.243 to 2.440 inches
0.5	2.07	1.76	1.59	1.57	1.50	1.52	1.60	1.67	2.16
1.5	1.78	1.44	1.30	1.28	1.24	1.27	1.42	1.47	1.77
2.5	2.06	1.76	1.57	1.53	1.45	1.54	1.59	1.74	1.99
3.5	2.45	1.99	1.84	1.82	1.73	1.78	1.83	1.96	2.26
4.5	2.64	2.22	2.03	1.93	1.89	1.99	2.01	2.14	2.62
5.5	2.92	2.46	2.30	2.21	2.07	2.19	2.28	2.41	2.85
6.5	3.12	2.59	2.53	2.36	2.25	2.40	2.46	2.67	3.16
7.5	3.36	2.76	2.66	2.48	2.39	2.48	2.66	2.83	3.32
8.5	3.47	2.86	2.69	2.60	2.56	2.60	2.67	2.88	3.50
9.5	3.65	2.95	2.89	2.75	2.60	2.68	2.94	3.06	3.66
10.5	3.73	3.03	2.94	2.82	2.66	2.76	2.85	3.06	3.76
11.5	3.72	3.09	2.95	2.88	2.73	2.81	2.89	3.18	3.87
12.5	3.78	3.17	2.88	2.83	2.68	2.88	2.87	3.19	3.84
13.5	3.72	3.10	2.85	2.78	2.63	2.81	2.93	3.18	3.68
14.5	3.71	3.01	2.78	2.75	2.60	2.70	2.89	3.09	3.68
15.5	3.46	2.95	2.71	2.63	2.53	2.64	2.72	2.92	3.49
16.5	3.38	2.82	2.62	2.57	2.42	2.59	2.70	2.87	3.42
17.5	3.17	2.73	2.57	2.46	2.34	2.44	2.56	2.73	3.21
18.5	2.93	2.54	2.44	2.33	2.26	2.32	2.43	2.60	3.00
19.5	2.79	2.35	2.20	2.12	1.95	2.10	2.17	2.38	2.86
20.5	2.49	2.14	2.03	1.93	1.80	1.90	1.96	2.09	2.48
21.5	2.27	1.89	1.71	1.70	1.63	1.72	1.77	1.92	2.28
22.5	2.06	1.67	1.52	1.46	1.38	1.48	1.49	1.71	2.03
23.5	2.55	2.09	1.97	1.86	1.72	1.89	1.87	2.10	2.55
Ax. Avg.	2.97	2.47	2.32	2.24	2.13	2.23	2.32	2.49	2.98

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.9. Power Density Data (kW/cm^3) in Fuel Plate 9 in Prototypic Core.

Fuel core width: 2.547 inches / Fuel core thickness: 20 mil

Plate 9, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	1.38	1.10	1.08	1.04	0.98	1.05	1.06	1.16	1.35
1.5	1.20	1.02	0.93	0.83	0.84	0.86	0.86	0.98	1.12
2.5	1.35	1.17	1.07	1.04	1.01	1.04	1.10	1.21	1.44
3.5	1.61	1.36	1.32	1.25	1.22	1.26	1.30	1.34	1.61
4.5	1.89	1.59	1.55	1.52	1.42	1.46	1.60	1.63	1.95
5.5	2.16	1.86	1.71	1.69	1.56	1.65	1.76	1.84	2.21
6.5	2.42	2.09	1.99	1.96	1.84	1.91	2.02	2.15	2.50
7.5	2.85	2.42	2.29	2.18	2.06	2.15	2.28	2.43	2.76
8.5	3.19	2.78	2.58	2.48	2.35	2.46	2.51	2.74	3.15
9.5	3.53	2.94	2.70	2.67	2.57	2.72	2.76	2.97	3.54
10.5	3.81	3.18	3.09	2.92	2.82	2.87	3.02	3.27	3.81
11.5	4.10	3.38	3.23	3.10	2.94	3.07	3.19	3.56	4.12
12.5	4.15	3.60	3.46	3.13	3.06	3.15	3.34	3.64	4.23
13.5	4.39	3.73	3.52	3.33	3.18	3.31	3.49	3.65	4.41
14.5	4.31	3.73	3.53	3.37	3.20	3.39	3.57	3.78	4.37
15.5	4.48	3.76	3.56	3.38	3.22	3.35	3.57	3.72	4.43
16.5	4.28	3.58	3.51	3.38	3.16	3.33	3.45	3.68	4.52
17.5	4.14	3.63	3.37	3.25	3.10	3.18	3.33	3.59	4.21
18.5	3.92	3.34	3.19	3.10	2.88	3.10	3.18	3.42	3.94
19.5	3.59	3.16	2.94	2.86	2.76	2.85	3.01	3.26	3.82
20.5	3.38	2.76	2.76	2.53	2.55	2.62	2.77	2.94	3.39
21.5	3.01	2.55	2.43	2.35	2.20	2.33	2.39	2.57	3.06
22.5	2.87	2.28	2.09	2.00	1.88	2.05	2.11	2.27	2.81
23.5	3.54	2.86	2.71	2.62	2.54	2.54	2.66	2.89	3.63
Ax. Avg.	3.15	2.66	2.53	2.42	2.31	2.40	2.51	2.70	3.18

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.9. Power Density Data (kW/cc) in Fuel Plate 9 in Prototypic Conditions (continued).

Plate 9, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	2.07	1.67	1.58	1.59	1.55	1.57	1.63	1.71	2.09
1.5	1.80	1.44	1.33	1.33	1.26	1.31	1.28	1.45	1.75
2.5	2.09	1.73	1.56	1.53	1.49	1.56	1.63	1.75	2.08
3.5	2.33	1.94	1.85	1.79	1.69	1.78	1.88	1.98	2.45
4.5	2.75	2.27	2.09	2.03	1.96	2.01	2.10	2.21	2.59
5.5	2.93	2.46	2.33	2.21	2.14	2.22	2.31	2.49	2.97
6.5	3.24	2.68	2.50	2.44	2.34	2.43	2.59	2.70	3.28
7.5	3.40	2.92	2.70	2.59	2.46	2.53	2.66	2.90	3.50
8.5	3.58	3.02	2.79	2.69	2.64	2.76	2.88	2.95	3.55
9.5	3.73	3.04	2.86	2.81	2.67	2.88	2.87	3.12	3.71
10.5	3.75	3.21	2.94	2.87	2.72	2.88	2.94	3.16	3.70
11.5	3.93	3.19	2.97	2.89	2.83	2.94	3.09	3.28	3.87
12.5	3.84	3.29	3.07	2.99	2.79	2.91	3.02	3.33	3.85
13.5	3.88	3.21	2.98	2.91	2.77	2.89	3.07	3.22	3.81
14.5	3.71	3.08	2.91	2.87	2.77	2.87	2.90	3.09	3.78
15.5	3.72	3.10	2.83	2.78	2.59	2.81	2.94	3.07	3.59
16.5	3.40	3.01	2.74	2.63	2.58	2.65	2.76	3.00	3.50
17.5	3.27	2.79	2.56	2.52	2.40	2.50	2.59	2.75	3.21
18.5	3.08	2.58	2.48	2.40	2.25	2.37	2.45	2.61	3.04
19.5	2.89	2.46	2.33	2.20	2.11	2.13	2.27	2.46	2.91
20.5	2.63	2.16	2.00	1.99	1.86	1.97	2.01	2.13	2.59
21.5	2.28	1.90	1.76	1.68	1.64	1.71	1.81	1.95	2.28
22.5	2.08	1.65	1.48	1.50	1.44	1.50	1.56	1.67	2.05
23.5	2.65	2.15	1.91	1.86	1.86	1.88	1.94	2.03	2.66
Ax. Avg.	3.04	2.54	2.36	2.30	2.20	2.29	2.38	2.54	3.03

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.9. Power Density Data (kW/cc) in Fuel Plate 9 in Prototypic Conditions (continued).

Plate 9, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	2.06	1.72	1.60	1.52	1.46	1.48	1.53	1.65	2.05
1.5	1.77	1.43	1.30	1.26	1.21	1.26	1.34	1.37	1.74
2.5	1.98	1.69	1.56	1.52	1.46	1.54	1.52	1.67	2.01
3.5	2.23	1.98	1.80	1.84	1.70	1.77	1.85	1.96	2.40
4.5	2.63	2.21	2.03	1.97	1.88	1.95	2.01	2.19	2.59
5.5	2.82	2.37	2.28	2.20	2.10	2.20	2.28	2.46	2.87
6.5	3.17	2.62	2.42	2.37	2.30	2.37	2.45	2.62	3.06
7.5	3.20	2.75	2.57	2.48	2.38	2.47	2.58	2.80	3.34
8.5	3.49	2.94	2.64	2.59	2.54	2.69	2.69	2.84	3.42
9.5	3.47	2.95	2.79	2.73	2.58	2.73	2.82	3.03	3.57
10.5	3.66	3.09	2.86	2.75	2.64	2.80	2.84	3.01	3.71
11.5	3.77	3.19	3.02	2.81	2.60	2.80	2.88	3.08	3.71
12.5	3.69	3.09	2.90	2.80	2.70	2.83	2.82	3.14	3.72
13.5	3.66	3.11	2.91	2.77	2.62	2.77	2.80	3.14	3.63
14.5	3.72	3.07	2.88	2.72	2.64	2.73	2.80	3.00	3.67
15.5	3.49	2.99	2.80	2.68	2.55	2.66	2.81	2.97	3.51
16.5	3.39	2.84	2.64	2.56	2.49	2.55	2.61	2.86	3.36
17.5	3.24	2.71	2.48	2.45	2.30	2.43	2.47	2.67	3.23
18.5	2.98	2.54	2.30	2.28	2.18	2.28	2.44	2.55	3.03
19.5	2.69	2.38	2.19	2.08	2.00	2.08	2.20	2.31	2.72
20.5	2.51	2.15	1.94	1.81	1.82	1.86	1.93	2.11	2.43
21.5	2.27	1.92	1.74	1.67	1.58	1.70	1.77	1.87	2.22
22.5	2.00	1.58	1.43	1.45	1.44	1.45	1.52	1.67	2.01
23.5	2.60	2.14	1.87	1.81	1.78	1.89	1.91	2.04	2.57
Ax. Avg.	2.94	2.48	2.29	2.21	2.12	2.22	2.29	2.46	2.94

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.9. Power Density Data (kW/cc) in Fuel Plate 9 in Prototypic Conditions (continued).

Plate 9, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	2.02	1.71	1.54	1.49	1.43	1.50	1.56	1.67	2.07
1.5	1.66	1.45	1.36	1.27	1.18	1.26	1.27	1.42	1.73
2.5	2.04	1.71	1.58	1.53	1.42	1.49	1.49	1.69	1.99
3.5	2.36	1.91	1.82	1.74	1.65	1.77	1.92	1.99	2.34
4.5	2.56	2.21	2.08	2.02	1.90	1.96	1.96	2.17	2.61
5.5	2.95	2.41	2.29	2.19	2.05	2.19	2.23	2.35	2.84
6.5	3.16	2.55	2.49	2.36	2.23	2.36	2.44	2.55	3.01
7.5	3.26	2.77	2.68	2.50	2.31	2.44	2.56	2.77	3.32
8.5	3.37	2.86	2.61	2.55	2.49	2.63	2.74	2.85	3.35
9.5	3.61	2.98	2.76	2.67	2.59	2.70	2.80	3.03	3.49
10.5	3.57	3.07	2.86	2.74	2.66	2.74	2.85	3.07	3.61
11.5	3.77	3.09	2.87	2.76	2.71	2.75	2.87	3.12	3.68
12.5	3.69	3.11	2.88	2.84	2.67	2.79	2.93	3.12	3.71
13.5	3.67	3.08	2.94	2.77	2.64	2.82	2.88	3.11	3.59
14.5	3.63	3.08	2.93	2.78	2.63	2.72	2.85	3.09	3.67
15.5	3.50	2.95	2.78	2.70	2.58	2.65	2.71	2.92	3.57
16.5	3.37	2.82	2.70	2.55	2.42	2.60	2.69	2.81	3.39
17.5	3.21	2.68	2.53	2.44	2.34	2.44	2.46	2.65	3.04
18.5	3.01	2.54	2.35	2.28	2.18	2.23	2.35	2.54	2.99
19.5	2.76	2.39	2.15	2.06	2.01	2.15	2.10	2.37	2.74
20.5	2.44	2.11	1.95	1.91	1.80	1.91	1.93	2.12	2.48
21.5	2.25	1.87	1.79	1.68	1.59	1.64	1.66	1.84	2.22
22.5	1.94	1.65	1.50	1.45	1.38	1.41	1.51	1.64	2.03
23.5	2.61	2.11	1.98	1.83	1.80	1.84	1.92	2.04	2.56
Ax. Avg.	2.93	2.46	2.31	2.21	2.11	2.21	2.28	2.46	2.92

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.9. Power Density Data (kW/cc) in Fuel Plate 9 in Prototypic Conditions (continued).

Plate 9, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.046 inches	1.046 to 1.501 inches	1.501 to 1.957 inches	1.957 to 2.153 inches	2.153 to 2.350 inches	2.350 to 2.547 inches
0.5	2.01	1.68	1.50	1.53	1.41	1.47	1.59	1.65	2.02
1.5	1.68	1.44	1.31	1.21	1.17	1.24	1.30	1.40	1.71
2.5	1.94	1.66	1.53	1.45	1.43	1.45	1.55	1.64	2.03
3.5	2.26	1.90	1.78	1.71	1.67	1.74	1.79	1.83	2.24
4.5	2.60	2.19	1.93	1.90	1.83	1.91	1.97	2.17	2.49
5.5	2.80	2.37	2.19	2.12	2.03	2.18	2.21	2.36	2.80
6.5	2.93	2.53	2.34	2.32	2.18	2.26	2.37	2.56	3.05
7.5	3.29	2.77	2.53	2.41	2.34	2.41	2.51	2.69	3.13
8.5	3.33	2.75	2.62	2.56	2.45	2.57	2.57	2.87	3.28
9.5	3.49	2.90	2.78	2.60	2.55	2.67	2.78	2.95	3.53
10.5	3.48	3.01	2.75	2.67	2.55	2.61	2.78	3.09	3.59
11.5	3.55	3.05	2.75	2.74	2.54	2.74	2.89	3.04	3.68
12.5	3.55	3.07	2.83	2.71	2.56	2.67	2.81	3.02	3.66
13.5	3.59	2.95	2.89	2.69	2.57	2.67	2.84	2.97	3.55
14.5	3.39	2.97	2.75	2.66	2.53	2.66	2.79	3.00	3.52
15.5	3.36	2.89	2.62	2.61	2.40	2.59	2.68	2.90	3.41
16.5	3.19	2.66	2.55	2.50	2.33	2.47	2.58	2.72	3.18
17.5	3.13	2.67	2.46	2.40	2.31	2.39	2.47	2.65	3.13
18.5	2.91	2.45	2.31	2.26	2.14	2.16	2.37	2.49	2.88
19.5	2.65	2.29	2.17	2.06	1.95	2.01	2.18	2.31	2.70
20.5	2.42	2.03	1.93	1.81	1.74	1.84	1.97	2.01	2.49
21.5	2.20	1.83	1.71	1.63	1.53	1.67	1.73	1.83	2.18
22.5	1.98	1.60	1.47	1.43	1.35	1.43	1.44	1.63	2.01
23.5	2.43	2.00	1.87	1.80	1.71	1.80	1.94	2.03	2.47
Ax. Avg.	2.84	2.40	2.23	2.16	2.05	2.15	2.25	2.41	2.86

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.10. Power Density Data (kW/cm^3) in Fuel Plate 10 in Prototypic Core.

Fuel core width: 2.654 inches / Fuel core thickness: 20 mil

Plate 10, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	1.32	1.07	1.04	1.00	0.95	0.97	0.98	1.10	1.30
1.5	1.10	0.93	0.85	0.83	0.83	0.82	0.87	0.92	1.11
2.5	1.25	1.06	1.07	0.99	1.02	1.02	1.03	1.10	1.33
3.5	1.49	1.33	1.27	1.20	1.17	1.24	1.22	1.29	1.55
4.5	1.76	1.54	1.50	1.43	1.43	1.39	1.42	1.57	1.80
5.5	2.10	1.73	1.71	1.69	1.56	1.58	1.68	1.78	2.08
6.5	2.45	2.16	1.98	1.87	1.76	1.85	1.88	2.06	2.42
7.5	2.70	2.35	2.20	2.12	2.04	2.10	2.29	2.36	2.65
8.5	3.17	2.64	2.52	2.39	2.31	2.37	2.46	2.55	3.07
9.5	3.32	2.90	2.69	2.62	2.49	2.66	2.72	2.91	3.45
10.5	3.70	3.13	2.94	2.84	2.68	2.87	3.02	3.10	3.72
11.5	3.98	3.35	3.18	3.02	2.90	3.02	3.17	3.38	3.97
12.5	4.08	3.46	3.27	3.14	3.04	3.13	3.35	3.55	4.17
13.5	4.30	3.60	3.39	3.24	3.09	3.20	3.42	3.76	4.30
14.5	4.18	3.62	3.46	3.31	3.15	3.30	3.53	3.72	4.26
15.5	4.35	3.54	3.50	3.37	3.17	3.28	3.47	3.66	4.26
16.5	4.18	3.51	3.31	3.25	3.05	3.23	3.32	3.69	4.20
17.5	4.13	3.55	3.35	3.22	3.00	3.08	3.19	3.51	4.10
18.5	3.78	3.21	3.13	2.98	2.88	3.04	3.07	3.37	3.94
19.5	3.56	3.08	2.89	2.76	2.67	2.80	2.94	3.20	3.65
20.5	3.21	2.75	2.57	2.46	2.52	2.55	2.67	2.92	3.30
21.5	2.98	2.54	2.37	2.26	2.14	2.27	2.32	2.48	2.99
22.5	2.79	2.23	2.03	1.96	1.85	1.97	2.10	2.27	2.78
23.5	3.51	2.91	2.67	2.57	2.46	2.55	2.61	2.90	3.48
Ax. Avg.	3.06	2.59	2.45	2.36	2.26	2.35	2.45	2.63	3.08

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.10. Power Density Data (kW/cc) in Fuel Plate 10 in Prototypic Conditions (continued).

Plate 10, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	2.02	1.68	1.55	1.52	1.48	1.54	1.58	1.67	2.03
1.5	1.75	1.42	1.33	1.24	1.22	1.22	1.29	1.40	1.70
2.5	2.01	1.65	1.55	1.47	1.47	1.51	1.55	1.63	2.00
3.5	2.26	1.96	1.86	1.77	1.67	1.73	1.89	1.92	2.33
4.5	2.58	2.27	2.05	1.99	1.92	2.00	2.05	2.21	2.60
5.5	2.85	2.35	2.24	2.14	2.06	2.17	2.22	2.53	2.94
6.5	3.14	2.69	2.48	2.39	2.32	2.34	2.48	2.60	3.21
7.5	3.27	2.88	2.54	2.51	2.43	2.53	2.67	2.80	3.27
8.5	3.43	2.89	2.80	2.67	2.56	2.68	2.78	2.90	3.45
9.5	3.62	3.07	2.84	2.69	2.69	2.77	2.77	3.03	3.69
10.5	3.67	3.14	2.91	2.80	2.68	2.76	2.87	3.10	3.61
11.5	3.82	3.20	2.94	2.85	2.76	2.85	2.97	3.18	3.84
12.5	3.77	3.15	2.94	2.82	2.78	2.89	2.93	3.20	3.84
13.5	3.74	3.17	2.95	2.82	2.70	2.85	3.04	3.13	3.65
14.5	3.63	3.08	2.88	2.70	2.71	2.81	2.88	3.12	3.75
15.5	3.57	2.99	2.75	2.70	2.62	2.67	2.81	2.95	3.57
16.5	3.36	2.84	2.75	2.64	2.44	2.62	2.71	2.92	3.48
17.5	3.21	2.71	2.54	2.45	2.38	2.44	2.55	2.77	3.21
18.5	2.96	2.54	2.33	2.31	2.21	2.32	2.39	2.57	3.02
19.5	2.74	2.40	2.26	2.14	2.09	2.12	2.26	2.33	2.81
20.5	2.55	2.08	1.92	1.92	1.84	1.94	2.03	2.11	2.60
21.5	2.26	1.97	1.68	1.72	1.65	1.70	1.75	1.91	2.22
22.5	2.03	1.66	1.49	1.46	1.39	1.44	1.50	1.64	2.00
23.5	2.56	2.11	1.90	1.88	1.80	1.88	1.93	2.13	2.45
Ax. Avg.	2.95	2.49	2.31	2.23	2.16	2.24	2.33	2.49	2.97

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.10. Power Density Data (kW/cc) in Fuel Plate 10 in Prototypic Conditions (continued).

Plate 10, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	1.89	1.62	1.47	1.45	1.43	1.49	1.55	1.65	1.99
1.5	1.60	1.35	1.30	1.23	1.21	1.22	1.34	1.39	1.62
2.5	1.97	1.57	1.56	1.51	1.41	1.45	1.50	1.63	1.95
3.5	2.23	1.92	1.83	1.75	1.68	1.72	1.79	1.90	2.28
4.5	2.59	2.16	2.02	1.94	1.86	1.95	1.99	2.16	2.56
5.5	2.73	2.28	2.26	2.14	2.07	2.13	2.17	2.39	2.80
6.5	2.97	2.54	2.33	2.31	2.24	2.34	2.44	2.56	3.00
7.5	3.14	2.75	2.44	2.44	2.31	2.42	2.57	2.73	3.20
8.5	3.27	2.87	2.65	2.54	2.50	2.59	2.64	2.82	3.39
9.5	3.41	2.92	2.77	2.62	2.55	2.69	2.77	2.96	3.42
10.5	3.58	3.13	2.81	2.71	2.51	2.70	2.75	2.92	3.48
11.5	3.53	3.06	2.87	2.76	2.61	2.71	2.83	3.03	3.57
12.5	3.69	3.08	2.78	2.77	2.61	2.73	2.82	3.03	3.72
13.5	3.58	3.07	2.82	2.72	2.58	2.78	2.84	3.11	3.49
14.5	3.52	2.95	2.89	2.71	2.53	2.66	2.71	2.97	3.44
15.5	3.31	2.89	2.67	2.60	2.50	2.62	2.74	2.88	3.42
16.5	3.19	2.76	2.56	2.50	2.38	2.49	2.59	2.76	3.29
17.5	3.11	2.66	2.43	2.37	2.26	2.36	2.39	2.63	3.09
18.5	2.78	2.44	2.41	2.25	2.10	2.22	2.25	2.45	2.87
19.5	2.73	2.29	2.18	2.10	2.01	2.02	2.11	2.31	2.70
20.5	2.47	2.06	1.90	1.85	1.76	1.84	1.93	2.06	2.44
21.5	2.20	1.79	1.68	1.63	1.56	1.63	1.71	1.80	2.14
22.5	1.94	1.60	1.52	1.38	1.34	1.42	1.46	1.56	1.89
23.5	2.54	2.05	1.87	1.80	1.75	1.81	1.88	2.01	2.50
Ax. Avg.	2.83	2.41	2.25	2.17	2.07	2.17	2.24	2.40	2.84

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.10. Power Density Data (kW/cc) in Fuel Plate 10 in Prototypic Conditions (continued).

Plate 10, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	2.01	1.73	1.56	1.44	1.42	1.43	1.50	1.61	2.02
1.5	1.67	1.42	1.28	1.24	1.18	1.21	1.24	1.35	1.64
2.5	1.88	1.63	1.54	1.46	1.46	1.43	1.56	1.63	1.93
3.5	2.32	1.95	1.77	1.71	1.65	1.73	1.88	1.92	2.22
4.5	2.49	2.11	2.00	1.95	1.87	1.98	1.99	2.21	2.65
5.5	2.78	2.40	2.14	2.12	2.08	2.12	2.25	2.33	2.78
6.5	2.99	2.55	2.39	2.31	2.17	2.29	2.43	2.56	2.96
7.5	3.12	2.77	2.61	2.44	2.31	2.43	2.55	2.65	3.26
8.5	3.27	2.82	2.62	2.55	2.43	2.61	2.74	2.84	3.35
9.5	3.39	2.88	2.82	2.64	2.59	2.65	2.68	2.84	3.51
10.5	3.45	2.87	2.82	2.72	2.63	2.66	2.78	3.06	3.58
11.5	3.50	3.09	2.93	2.78	2.64	2.71	2.75	2.97	3.52
12.5	3.62	3.07	2.83	2.81	2.65	2.69	2.84	3.07	3.57
13.5	3.56	3.06	2.82	2.73	2.59	2.71	2.86	2.96	3.58
14.5	3.48	2.94	2.77	2.69	2.57	2.72	2.76	2.97	3.51
15.5	3.39	2.97	2.68	2.61	2.56	2.62	2.69	2.87	3.39
16.5	3.28	2.69	2.54	2.51	2.40	2.48	2.62	2.85	3.16
17.5	3.11	2.65	2.45	2.40	2.30	2.38	2.39	2.56	3.04
18.5	2.96	2.45	2.39	2.29	2.18	2.20	2.25	2.56	2.86
19.5	2.62	2.35	2.22	2.07	1.96	2.09	2.13	2.29	2.61
20.5	2.38	2.08	1.92	1.84	1.78	1.87	1.83	2.12	2.48
21.5	2.15	1.83	1.73	1.64	1.55	1.62	1.65	1.83	2.12
22.5	1.96	1.64	1.47	1.40	1.34	1.38	1.49	1.58	1.90
23.5	2.46	2.09	1.93	1.85	1.73	1.84	1.94	2.07	2.45
Ax. Avg.	2.83	2.42	2.26	2.18	2.08	2.16	2.24	2.41	2.84

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.10. Power Density Data (kW/cc) in Fuel Plate 10 in Prototypic Conditions (continued).

Plate 10, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.082 inches	1.082 to 1.572 inches	1.572 to 2.063 inches	2.063 to 2.260 inches	2.260 to 2.457 inches	2.457 to 2.654 inches
0.5	1.98	1.61	1.47	1.46	1.39	1.47	1.50	1.61	1.91
1.5	1.66	1.37	1.25	1.18	1.16	1.20	1.27	1.42	1.66
2.5	1.90	1.65	1.49	1.44	1.38	1.43	1.49	1.59	1.85
3.5	2.28	1.85	1.80	1.64	1.64	1.68	1.75	1.87	2.19
4.5	2.48	2.09	1.91	1.89	1.80	1.90	1.96	2.11	2.45
5.5	2.72	2.34	2.19	2.09	2.03	2.11	2.17	2.33	2.76
6.5	2.95	2.49	2.29	2.23	2.16	2.24	2.32	2.56	2.95
7.5	3.17	2.65	2.44	2.33	2.27	2.34	2.53	2.71	3.11
8.5	3.20	2.70	2.51	2.50	2.35	2.48	2.60	2.77	3.22
9.5	3.27	2.86	2.62	2.58	2.48	2.58	2.66	2.88	3.42
10.5	3.39	2.95	2.69	2.60	2.45	2.64	2.74	2.93	3.50
11.5	3.42	2.90	2.69	2.69	2.53	2.60	2.81	2.87	3.47
12.5	3.47	2.96	2.79	2.63	2.54	2.63	2.82	2.88	3.42
13.5	3.36	2.94	2.71	2.62	2.46	2.57	2.74	2.91	3.54
14.5	3.42	2.88	2.73	2.55	2.47	2.63	2.68	2.87	3.34
15.5	3.35	2.80	2.61	2.45	2.42	2.52	2.63	2.82	3.28
16.5	3.08	2.66	2.50	2.40	2.29	2.42	2.57	2.66	3.11
17.5	2.97	2.54	2.37	2.32	2.24	2.27	2.31	2.51	3.10
18.5	2.80	2.37	2.17	2.21	2.06	2.15	2.31	2.47	2.86
19.5	2.65	2.28	2.09	2.02	1.93	2.01	2.12	2.21	2.54
20.5	2.30	1.97	1.98	1.83	1.73	1.82	1.87	1.99	2.40
21.5	2.16	1.77	1.67	1.57	1.48	1.65	1.65	1.82	2.08
22.5	1.92	1.55	1.44	1.39	1.32	1.38	1.41	1.60	1.90
23.5	2.57	1.98	1.88	1.77	1.67	1.74	1.86	1.99	2.51
Ax. Avg.	2.77	2.34	2.18	2.10	2.01	2.10	2.20	2.35	2.77

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.11. Power Density Data (kW/cm^3) in Fuel Plate 11 in Prototypic Core.

Fuel core width: 2.761 inches / Fuel core thickness: 20 mil

Plate 11, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	1.29	1.07	0.99	0.95	0.93	0.99	1.01	1.09	1.22
1.5	1.09	0.88	0.82	0.82	0.80	0.81	0.88	0.90	1.07
2.5	1.20	1.08	1.06	1.00	0.96	1.00	1.08	1.06	1.31
3.5	1.52	1.29	1.22	1.19	1.16	1.17	1.20	1.27	1.48
4.5	1.68	1.40	1.46	1.38	1.38	1.36	1.50	1.49	1.74
5.5	2.03	1.76	1.63	1.62	1.55	1.56	1.65	1.76	1.99
6.5	2.37	2.04	1.90	1.80	1.79	1.88	1.91	2.05	2.25
7.5	2.61	2.31	2.12	2.12	2.00	2.07	2.25	2.37	2.65
8.5	3.03	2.60	2.44	2.35	2.26	2.39	2.44	2.51	2.98
9.5	3.38	2.81	2.66	2.58	2.44	2.56	2.70	2.82	3.28
10.5	3.58	3.09	2.87	2.73	2.69	2.78	2.90	3.08	3.58
11.5	3.91	3.34	3.12	2.95	2.84	2.97	3.11	3.26	3.85
12.5	3.99	3.41	3.23	3.08	2.93	3.09	3.21	3.58	3.94
13.5	4.16	3.53	3.33	3.23	3.08	3.12	3.38	3.59	4.26
14.5	4.18	3.60	3.36	3.24	3.13	3.24	3.36	3.50	4.23
15.5	4.22	3.53	3.39	3.24	3.12	3.22	3.37	3.55	4.19
16.5	4.11	3.53	3.26	3.18	3.11	3.20	3.24	3.59	4.15
17.5	3.99	3.40	3.27	3.14	2.97	3.05	3.17	3.54	3.97
18.5	3.76	3.16	3.01	2.91	2.81	2.96	3.15	3.21	3.75
19.5	3.49	3.02	2.79	2.71	2.61	2.76	2.89	3.08	3.57
20.5	3.18	2.75	2.52	2.46	2.47	2.55	2.65	2.82	3.24
21.5	2.90	2.47	2.32	2.21	2.08	2.16	2.27	2.55	2.97
22.5	2.73	2.25	2.07	1.93	1.86	1.98	2.06	2.22	2.62
23.5	3.47	2.79	2.61	2.54	2.44	2.53	2.62	2.81	3.42
Ax. Avg.	3.00	2.55	2.39	2.31	2.22	2.31	2.42	2.57	2.99

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.11. Power Density Data (kW/cc) in Fuel Plate 11 in Prototypic Conditions (continued).

Plate 11, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	1.94	1.64	1.50	1.50	1.43	1.48	1.51	1.58	1.95
1.5	1.65	1.37	1.24	1.24	1.19	1.20	1.33	1.34	1.73
2.5	1.98	1.62	1.48	1.46	1.43	1.49	1.56	1.64	1.93
3.5	2.26	1.92	1.75	1.72	1.62	1.71	1.82	1.93	2.24
4.5	2.46	2.16	1.99	1.98	1.86	1.95	2.03	2.19	2.66
5.5	2.88	2.39	2.22	2.17	2.06	2.13	2.17	2.44	2.80
6.5	2.97	2.64	2.43	2.31	2.24	2.27	2.40	2.66	3.12
7.5	3.23	2.75	2.62	2.50	2.34	2.48	2.65	2.81	3.31
8.5	3.32	2.89	2.71	2.62	2.54	2.65	2.69	2.87	3.30
9.5	3.45	2.93	2.80	2.65	2.63	2.77	2.82	3.04	3.50
10.5	3.62	3.12	2.93	2.74	2.69	2.79	2.81	3.05	3.49
11.5	3.68	3.13	2.83	2.80	2.72	2.84	2.90	3.10	3.73
12.5	3.71	3.17	2.93	2.78	2.68	2.80	2.94	3.09	3.73
13.5	3.66	3.06	2.91	2.81	2.70	2.80	2.86	3.01	3.47
14.5	3.61	3.02	2.84	2.73	2.68	2.75	2.74	2.98	3.56
15.5	3.48	2.98	2.76	2.66	2.55	2.66	2.74	2.97	3.46
16.5	3.32	2.87	2.65	2.55	2.48	2.51	2.60	2.89	3.35
17.5	3.16	2.76	2.47	2.41	2.29	2.45	2.60	2.71	3.10
18.5	2.90	2.50	2.38	2.26	2.20	2.30	2.42	2.49	2.92
19.5	2.66	2.27	2.18	2.12	2.02	2.10	2.23	2.30	2.76
20.5	2.53	2.03	1.91	1.92	1.82	1.90	1.96	2.09	2.58
21.5	2.20	1.88	1.76	1.66	1.60	1.63	1.71	1.87	2.15
22.5	1.98	1.56	1.55	1.46	1.36	1.47	1.50	1.61	1.87
23.5	2.49	2.02	1.87	1.83	1.74	1.84	1.93	2.05	2.59
Ax. Avg.	2.88	2.44	2.28	2.20	2.12	2.21	2.29	2.45	2.89

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.11. Power Density Data (kW/cc) in Fuel Plate 11 in Prototypic Conditions (continued).

Plate 11, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	1.86	1.64	1.49	1.46	1.40	1.45	1.45	1.58	1.96
1.5	1.59	1.34	1.30	1.20	1.15	1.21	1.26	1.36	1.57
2.5	1.86	1.56	1.55	1.43	1.39	1.47	1.47	1.64	1.93
3.5	2.19	1.83	1.81	1.72	1.65	1.68	1.78	1.90	2.22
4.5	2.48	2.12	1.97	1.91	1.82	1.91	1.95	2.18	2.51
5.5	2.71	2.34	2.13	2.09	2.00	2.10	2.18	2.33	2.68
6.5	2.89	2.51	2.32	2.28	2.20	2.30	2.40	2.50	2.91
7.5	3.13	2.69	2.53	2.42	2.31	2.46	2.49	2.71	3.14
8.5	3.29	2.89	2.64	2.48	2.43	2.57	2.66	2.82	3.35
9.5	3.41	2.89	2.78	2.60	2.50	2.64	2.73	2.92	3.44
10.5	3.61	2.96	2.72	2.66	2.56	2.70	2.79	2.91	3.52
11.5	3.49	3.06	2.82	2.74	2.58	2.68	2.78	3.06	3.41
12.5	3.51	3.08	2.82	2.68	2.61	2.66	2.78	3.03	3.51
13.5	3.53	2.98	2.84	2.69	2.53	2.65	2.87	3.02	3.41
14.5	3.42	2.96	2.74	2.73	2.49	2.59	2.72	2.88	3.43
15.5	3.29	2.83	2.56	2.49	2.47	2.53	2.55	2.82	3.32
16.5	3.20	2.76	2.51	2.45	2.33	2.39	2.49	2.72	3.17
17.5	3.00	2.53	2.39	2.34	2.20	2.29	2.33	2.53	2.97
18.5	2.85	2.52	2.32	2.25	2.17	2.19	2.29	2.39	2.83
19.5	2.54	2.24	2.13	2.03	1.93	1.97	2.08	2.25	2.60
20.5	2.38	2.03	1.86	1.82	1.74	1.79	1.93	1.97	2.41
21.5	2.21	1.77	1.61	1.57	1.53	1.57	1.68	1.80	2.05
22.5	1.85	1.56	1.44	1.38	1.30	1.38	1.46	1.57	1.94
23.5	2.46	2.07	1.89	1.81	1.73	1.79	1.86	2.03	2.55
Ax. Avg.	2.78	2.38	2.22	2.14	2.04	2.12	2.21	2.37	2.79

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.11. Power Density Data (kW/cc) in Fuel Plate 11 in Prototypic Conditions (continued).

Plate 11, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	1.90	1.59	1.50	1.41	1.37	1.43	1.40	1.51	1.89
1.5	1.66	1.42	1.30	1.20	1.13	1.20	1.19	1.26	1.63
2.5	1.90	1.56	1.53	1.48	1.39	1.45	1.46	1.55	1.91
3.5	2.28	1.92	1.82	1.65	1.66	1.69	1.79	1.91	2.12
4.5	2.41	2.12	1.91	1.86	1.80	1.89	1.88	2.12	2.55
5.5	2.66	2.32	2.15	2.10	1.99	2.09	2.20	2.29	2.77
6.5	2.87	2.49	2.34	2.27	2.16	2.25	2.39	2.54	2.95
7.5	3.09	2.62	2.46	2.43	2.24	2.39	2.44	2.69	3.04
8.5	3.25	2.77	2.62	2.50	2.42	2.51	2.72	2.81	3.33
9.5	3.40	2.83	2.66	2.63	2.49	2.55	2.60	2.80	3.38
10.5	3.31	2.87	2.73	2.65	2.53	2.66	2.75	2.88	3.51
11.5	3.46	3.08	2.75	2.71	2.61	2.67	2.81	2.92	3.57
12.5	3.44	2.91	2.83	2.72	2.57	2.65	2.83	2.90	3.54
13.5	3.44	3.04	2.75	2.70	2.58	2.75	2.73	2.96	3.49
14.5	3.37	2.91	2.72	2.63	2.56	2.64	2.72	2.95	3.47
15.5	3.39	2.83	2.64	2.56	2.49	2.52	2.65	2.81	3.29
16.5	3.14	2.77	2.57	2.44	2.37	2.43	2.52	2.68	3.21
17.5	3.01	2.53	2.45	2.35	2.23	2.39	2.47	2.62	3.07
18.5	2.79	2.49	2.29	2.28	2.09	2.19	2.30	2.52	2.93
19.5	2.64	2.22	2.12	2.00	1.91	2.07	2.04	2.19	2.59
20.5	2.40	2.07	1.90	1.83	1.71	1.81	1.85	2.01	2.35
21.5	2.07	1.77	1.68	1.61	1.52	1.60	1.64	1.80	2.16
22.5	1.92	1.58	1.45	1.37	1.29	1.39	1.46	1.60	1.81
23.5	2.47	2.05	1.79	1.80	1.73	1.77	1.83	1.97	2.41
Ax. Avg.	2.76	2.37	2.21	2.13	2.03	2.12	2.19	2.35	2.79

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.11. Power Density Data (kW/cc) in Fuel Plate 11 in Prototypic Conditions (continued).

Plate 11, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.117 inches	1.117 to 1.644 inches	1.644 to 2.170 inches	2.170 to 2.367 inches	2.367 to 2.564 inches	2.564 to 2.761 inches
0.5	1.91	1.56	1.46	1.41	1.41	1.45	1.47	1.65	1.88
1.5	1.60	1.34	1.27	1.13	1.14	1.22	1.21	1.33	1.59
2.5	1.87	1.62	1.50	1.45	1.38	1.42	1.48	1.62	1.81
3.5	2.18	1.88	1.74	1.68	1.59	1.61	1.73	1.86	2.15
4.5	2.41	2.10	1.91	1.82	1.81	1.85	1.90	2.11	2.42
5.5	2.74	2.36	2.11	2.04	1.98	2.10	2.17	2.27	2.72
6.5	2.85	2.38	2.35	2.15	2.11	2.18	2.32	2.48	2.93
7.5	3.06	2.68	2.43	2.32	2.21	2.34	2.43	2.67	2.96
8.5	3.25	2.77	2.50	2.46	2.33	2.47	2.54	2.63	3.20
9.5	3.27	2.73	2.62	2.51	2.37	2.52	2.63	2.74	3.32
10.5	3.33	2.85	2.59	2.58	2.43	2.61	2.60	2.83	3.35
11.5	3.33	2.87	2.69	2.60	2.48	2.56	2.71	2.89	3.42
12.5	3.35	2.94	2.69	2.63	2.53	2.53	2.64	2.90	3.30
13.5	3.34	2.88	2.67	2.56	2.46	2.55	2.69	2.89	3.32
14.5	3.22	2.77	2.57	2.54	2.45	2.56	2.70	2.82	3.22
15.5	3.21	2.76	2.54	2.43	2.37	2.46	2.60	2.68	3.24
16.5	3.10	2.57	2.43	2.38	2.29	2.39	2.46	2.69	3.04
17.5	2.93	2.52	2.31	2.30	2.16	2.24	2.25	2.46	2.98
18.5	2.75	2.35	2.14	2.15	2.04	2.08	2.25	2.40	2.69
19.5	2.52	2.19	2.04	2.00	1.86	1.95	2.06	2.22	2.55
20.5	2.29	1.95	1.78	1.77	1.73	1.83	1.86	1.93	2.24
21.5	2.01	1.73	1.60	1.57	1.47	1.55	1.59	1.66	2.08
22.5	1.88	1.57	1.44	1.37	1.28	1.36	1.39	1.57	1.86
23.5	2.32	1.89	1.85	1.74	1.65	1.77	1.80	1.99	2.41
Ax. Avg.	2.70	2.30	2.14	2.07	1.98	2.07	2.15	2.30	2.69

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.12. Power Density Data (kW/cm^3) in Fuel Plate 12 in Prototypic Core.

Fuel core width: 2.868 inches / Fuel core thickness: 20 mil

Plate 12, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	1.28	1.08	0.99	0.95	0.93	0.93	0.93	1.04	1.18
1.5	1.00	0.90	0.84	0.81	0.80	0.81	0.79	0.86	1.07
2.5	1.17	1.07	0.97	0.99	0.94	0.98	1.03	1.02	1.18
3.5	1.45	1.30	1.17	1.16	1.12	1.16	1.20	1.21	1.39
4.5	1.68	1.42	1.37	1.38	1.34	1.36	1.43	1.46	1.70
5.5	1.99	1.81	1.63	1.59	1.59	1.58	1.65	1.77	1.95
6.5	2.23	1.92	1.88	1.78	1.78	1.81	1.84	1.95	2.28
7.5	2.58	2.23	2.01	2.06	2.00	2.04	2.19	2.25	2.62
8.5	2.88	2.50	2.34	2.30	2.17	2.31	2.35	2.54	2.93
9.5	3.29	2.76	2.70	2.52	2.39	2.53	2.56	2.80	3.26
10.5	3.52	2.99	2.78	2.77	2.68	2.73	2.89	2.97	3.55
11.5	3.77	3.30	3.05	2.91	2.82	2.91	3.13	3.25	3.72
12.5	3.98	3.37	3.12	3.06	2.98	3.03	3.08	3.37	4.06
13.5	4.02	3.58	3.17	3.20	2.99	3.12	3.36	3.53	4.13
14.5	4.16	3.56	3.30	3.17	3.06	3.20	3.28	3.50	4.03
15.5	4.12	3.45	3.28	3.20	3.08	3.22	3.34	3.48	4.16
16.5	4.02	3.49	3.34	3.21	3.03	3.12	3.35	3.53	4.23
17.5	3.90	3.41	3.30	3.03	2.91	3.04	3.17	3.47	3.86
18.5	3.79	3.17	2.99	2.96	2.79	2.97	3.01	3.09	3.66
19.5	3.45	3.01	2.85	2.70	2.59	2.74	2.82	3.08	3.55
20.5	3.21	2.76	2.60	2.49	2.42	2.50	2.56	2.82	3.27
21.5	2.80	2.42	2.33	2.17	2.11	2.17	2.30	2.47	3.01
22.5	2.57	2.11	1.95	1.90	1.82	1.93	2.07	2.25	2.68
23.5	3.36	2.78	2.62	2.48	2.38	2.47	2.54	2.81	3.44
Ax. Avg.	2.93	2.52	2.36	2.28	2.19	2.28	2.37	2.52	2.95

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.12. Power Density Data (kW/cc) in Fuel Plate 12 in Prototypic Conditions (continued).

Plate 12, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	1.92	1.60	1.49	1.48	1.40	1.44	1.44	1.58	1.85
1.5	1.65	1.30	1.25	1.22	1.20	1.21	1.30	1.43	1.62
2.5	1.88	1.58	1.47	1.42	1.42	1.48	1.52	1.60	1.90
3.5	2.20	1.84	1.70	1.70	1.63	1.75	1.76	1.86	2.21
4.5	2.56	2.16	2.06	1.97	1.86	1.90	1.98	2.18	2.47
5.5	2.75	2.39	2.17	2.16	2.07	2.12	2.24	2.37	2.81
6.5	2.94	2.53	2.47	2.31	2.23	2.30	2.48	2.57	3.03
7.5	3.15	2.73	2.56	2.46	2.40	2.47	2.60	2.74	3.04
8.5	3.33	2.79	2.69	2.62	2.51	2.61	2.61	2.86	3.38
9.5	3.51	3.11	2.70	2.64	2.61	2.76	2.74	2.89	3.39
10.5	3.58	3.07	2.86	2.73	2.62	2.71	2.80	3.06	3.42
11.5	3.59	2.99	2.84	2.75	2.71	2.81	2.81	3.12	3.55
12.5	3.63	3.14	2.87	2.79	2.67	2.77	2.91	3.09	3.63
13.5	3.61	3.10	2.79	2.74	2.70	2.74	2.84	3.05	3.53
14.5	3.54	2.99	2.85	2.68	2.63	2.70	2.78	3.01	3.45
15.5	3.46	2.96	2.76	2.67	2.55	2.64	2.70	2.92	3.38
16.5	3.27	2.82	2.58	2.52	2.38	2.50	2.62	2.83	3.13
17.5	3.21	2.69	2.56	2.37	2.31	2.41	2.52	2.67	3.08
18.5	2.76	2.47	2.34	2.25	2.20	2.27	2.36	2.55	2.81
19.5	2.74	2.26	2.20	2.09	2.00	2.03	2.21	2.37	2.62
20.5	2.51	2.11	1.97	1.87	1.79	1.84	1.94	2.12	2.42
21.5	2.17	1.86	1.69	1.64	1.57	1.62	1.70	1.79	2.15
22.5	1.86	1.64	1.43	1.43	1.38	1.42	1.46	1.57	1.84
23.5	2.48	2.00	1.83	1.83	1.80	1.83	1.87	2.09	2.50
Ax. Avg.	2.84	2.42	2.25	2.18	2.11	2.18	2.26	2.43	2.80

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.12. Power Density Data (kW/cc) in Fuel Plate 12 in Prototypic Conditions (continued).

Plate 12, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	1.80	1.58	1.45	1.42	1.37	1.42	1.42	1.59	1.84
1.5	1.58	1.32	1.27	1.17	1.16	1.24	1.25	1.28	1.51
2.5	1.84	1.57	1.54	1.41	1.36	1.39	1.50	1.50	1.79
3.5	2.21	1.85	1.75	1.67	1.63	1.68	1.67	1.81	2.08
4.5	2.46	2.12	1.91	1.90	1.79	1.87	1.98	2.06	2.43
5.5	2.72	2.34	2.13	2.10	1.99	2.05	2.18	2.35	2.70
6.5	2.90	2.51	2.36	2.23	2.15	2.22	2.29	2.52	2.98
7.5	3.17	2.67	2.44	2.39	2.30	2.36	2.55	2.67	3.15
8.5	3.15	2.80	2.62	2.46	2.36	2.54	2.65	2.87	3.27
9.5	3.35	2.89	2.70	2.57	2.48	2.57	2.74	2.91	3.31
10.5	3.44	2.94	2.76	2.65	2.55	2.64	2.71	2.86	3.37
11.5	3.43	2.93	2.76	2.65	2.53	2.70	2.77	2.99	3.50
12.5	3.47	2.99	2.82	2.66	2.53	2.55	2.71	2.89	3.59
13.5	3.41	2.89	2.81	2.67	2.52	2.60	2.75	2.90	3.48
14.5	3.43	2.90	2.69	2.64	2.49	2.56	2.64	2.90	3.45
15.5	3.29	2.81	2.68	2.50	2.41	2.48	2.59	2.84	3.18
16.5	3.11	2.68	2.48	2.39	2.36	2.39	2.56	2.64	3.10
17.5	2.98	2.58	2.34	2.27	2.21	2.28	2.36	2.56	2.97
18.5	2.83	2.40	2.28	2.24	2.09	2.14	2.25	2.41	2.78
19.5	2.55	2.22	2.06	2.00	1.92	1.98	2.05	2.23	2.54
20.5	2.34	2.02	1.86	1.80	1.76	1.79	1.95	1.95	2.39
21.5	2.08	1.80	1.65	1.59	1.49	1.58	1.62	1.77	2.17
22.5	1.85	1.56	1.39	1.37	1.27	1.37	1.39	1.56	1.81
23.5	2.48	2.00	1.84	1.82	1.69	1.76	1.87	2.07	2.31
Ax. Avg.	2.74	2.35	2.19	2.11	2.02	2.09	2.19	2.34	2.74

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.12. Power Density Data (kW/cc) in Fuel Plate 12 in Prototypic Conditions (continued).

Plate 12, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	1.90	1.60	1.45	1.39	1.36	1.38	1.42	1.44	1.90
1.5	1.62	1.34	1.21	1.17	1.13	1.20	1.21	1.31	1.56
2.5	1.92	1.58	1.46	1.43	1.35	1.42	1.47	1.63	1.85
3.5	2.19	1.84	1.76	1.63	1.66	1.67	1.71	1.85	2.19
4.5	2.35	2.02	1.90	1.87	1.82	1.88	2.03	2.02	2.47
5.5	2.71	2.33	2.17	2.03	1.99	2.05	2.11	2.33	2.70
6.5	2.91	2.49	2.35	2.23	2.17	2.23	2.34	2.50	2.87
7.5	3.10	2.66	2.43	2.35	2.23	2.33	2.47	2.69	3.05
8.5	3.19	2.72	2.57	2.47	2.39	2.50	2.59	2.80	3.32
9.5	3.30	2.87	2.65	2.56	2.47	2.52	2.65	2.77	3.36
10.5	3.34	2.88	2.69	2.58	2.53	2.60	2.78	2.95	3.42
11.5	3.43	2.98	2.73	2.68	2.56	2.69	2.79	2.82	3.48
12.5	3.51	2.93	2.80	2.67	2.58	2.63	2.75	3.00	3.50
13.5	3.44	2.93	2.72	2.68	2.53	2.65	2.73	2.97	3.46
14.5	3.34	2.95	2.71	2.63	2.50	2.57	2.70	2.89	3.45
15.5	3.29	2.78	2.58	2.48	2.43	2.47	2.62	2.85	3.29
16.5	3.19	2.66	2.56	2.41	2.31	2.41	2.43	2.59	3.19
17.5	3.01	2.58	2.44	2.30	2.26	2.32	2.33	2.50	3.01
18.5	2.82	2.43	2.26	2.15	2.10	2.18	2.34	2.41	2.79
19.5	2.62	2.22	2.06	1.99	1.92	1.98	2.07	2.20	2.64
20.5	2.36	1.98	1.90	1.80	1.75	1.82	1.89	2.01	2.27
21.5	2.13	1.79	1.63	1.55	1.59	1.60	1.63	1.85	2.10
22.5	1.91	1.61	1.47	1.37	1.29	1.36	1.48	1.59	1.87
23.5	2.40	1.94	1.90	1.74	1.71	1.78	1.78	2.07	2.31
Ax. Avg.	2.75	2.34	2.18	2.09	2.03	2.09	2.18	2.33	2.75

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.12. Power Density Data (kW/cc) in Fuel Plate 12 in Prototypic Conditions (continued).

Plate 12, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.153 inches	1.153 to 1.715 inches	1.715 to 2.277 inches	2.277 to 2.474 inches	2.474 to 2.671 inches	2.671 to 2.868 inches
0.5	1.80	1.54	1.40	1.41	1.36	1.43	1.39	1.50	1.87
1.5	1.57	1.37	1.23	1.16	1.14	1.16	1.27	1.34	1.55
2.5	1.85	1.55	1.43	1.41	1.35	1.41	1.42	1.54	1.81
3.5	2.13	1.86	1.69	1.64	1.57	1.67	1.74	1.82	2.11
4.5	2.45	1.98	1.95	1.83	1.78	1.79	1.92	2.07	2.37
5.5	2.66	2.25	2.11	2.00	1.93	1.99	2.11	2.18	2.56
6.5	2.85	2.47	2.27	2.16	2.09	2.22	2.33	2.37	2.78
7.5	3.03	2.61	2.41	2.29	2.14	2.35	2.40	2.61	3.01
8.5	3.17	2.59	2.49	2.39	2.25	2.38	2.44	2.63	3.14
9.5	3.21	2.79	2.62	2.46	2.40	2.50	2.67	2.71	3.15
10.5	3.28	2.79	2.59	2.54	2.44	2.58	2.62	2.77	3.20
11.5	3.40	2.87	2.62	2.53	2.47	2.53	2.64	2.99	3.40
12.5	3.43	2.85	2.67	2.55	2.51	2.58	2.70	2.79	3.29
13.5	3.38	2.77	2.59	2.55	2.44	2.52	2.62	2.81	3.28
14.5	3.35	2.75	2.57	2.49	2.46	2.53	2.55	2.74	3.19
15.5	3.15	2.59	2.41	2.38	2.33	2.45	2.50	2.72	3.13
16.5	2.94	2.61	2.50	2.39	2.31	2.33	2.45	2.60	3.05
17.5	2.80	2.52	2.32	2.25	2.13	2.20	2.27	2.44	2.91
18.5	2.71	2.34	2.09	2.08	2.04	2.08	2.20	2.33	2.71
19.5	2.51	2.11	1.99	1.95	1.87	1.89	2.07	2.17	2.51
20.5	2.26	1.94	1.80	1.76	1.70	1.77	1.80	1.96	2.27
21.5	2.00	1.65	1.64	1.54	1.49	1.57	1.60	1.69	2.08
22.5	1.82	1.57	1.36	1.33	1.26	1.32	1.44	1.51	1.84
23.5	2.51	1.88	1.84	1.72	1.64	1.78	1.80	1.98	2.37
Ax. Avg.	2.68	2.26	2.11	2.03	1.96	2.04	2.12	2.26	2.65

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.13. Power Density Data (kW/cm^3) in Fuel Plate 13 in Prototypic Core.

Fuel core width: 2.974 inches / Fuel core thickness: 20 mil

Plate 13, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	1.16	1.02	0.91	0.94	0.86	0.91	0.94	1.05	1.18
1.5	0.91	0.85	0.85	0.81	0.77	0.77	0.82	0.87	1.04
2.5	1.10	1.03	0.95	0.99	0.89	0.98	1.00	1.00	1.18
3.5	1.36	1.22	1.15	1.13	1.09	1.17	1.16	1.20	1.34
4.5	1.59	1.38	1.36	1.35	1.29	1.34	1.41	1.43	1.68
5.5	1.88	1.73	1.60	1.55	1.55	1.59	1.61	1.63	1.87
6.5	2.10	1.95	1.81	1.74	1.78	1.79	1.86	1.95	2.19
7.5	2.52	2.13	2.02	2.03	1.97	2.01	2.15	2.22	2.48
8.5	2.84	2.39	2.21	2.24	2.20	2.28	2.40	2.50	2.86
9.5	3.25	2.77	2.60	2.49	2.40	2.49	2.60	2.76	3.23
10.5	3.46	3.00	2.75	2.72	2.69	2.80	2.76	2.97	3.43
11.5	3.73	3.33	2.95	2.88	2.80	2.95	2.97	3.21	3.73
12.5	3.92	3.38	3.13	3.02	2.93	3.01	3.14	3.40	3.88
13.5	4.04	3.56	3.31	3.12	3.03	3.16	3.33	3.60	4.08
14.5	4.14	3.49	3.26	3.19	3.09	3.19	3.39	3.58	4.07
15.5	4.10	3.46	3.13	3.15	3.01	3.16	3.22	3.46	4.09
16.5	3.97	3.55	3.30	3.15	3.00	3.15	3.27	3.50	4.08
17.5	4.02	3.37	3.21	3.03	2.91	3.05	3.14	3.30	3.89
18.5	3.69	3.28	2.94	2.86	2.79	2.91	2.87	3.21	3.76
19.5	3.47	2.96	2.78	2.69	2.59	2.69	2.78	3.05	3.45
20.5	3.19	2.72	2.55	2.48	2.38	2.46	2.56	2.77	3.16
21.5	2.88	2.41	2.24	2.18	2.07	2.16	2.25	2.43	2.89
22.5	2.66	2.18	1.94	1.85	1.82	1.90	2.00	2.20	2.50
23.5	3.43	2.72	2.57	2.47	2.35	2.44	2.57	2.75	3.48
Ax. Avg.	2.89	2.49	2.31	2.25	2.18	2.26	2.34	2.50	2.90

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.13. Power Density Data (kW/cc) in Fuel Plate 13 in Prototypic Conditions (continued).

Plate 13, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	1.82	1.61	1.52	1.42	1.37	1.42	1.44	1.57	1.91
1.5	1.62	1.35	1.23	1.18	1.18	1.23	1.28	1.40	1.54
2.5	1.91	1.66	1.55	1.44	1.37	1.44	1.53	1.62	1.89
3.5	2.17	1.83	1.76	1.69	1.66	1.68	1.73	1.87	2.28
4.5	2.44	2.12	1.99	1.93	1.81	1.90	2.05	2.14	2.54
5.5	2.65	2.39	2.13	2.12	2.07	2.09	2.19	2.37	2.75
6.5	2.92	2.55	2.36	2.31	2.21	2.29	2.44	2.63	3.00
7.5	3.22	2.70	2.52	2.45	2.33	2.43	2.58	2.67	3.22
8.5	3.40	2.81	2.62	2.54	2.47	2.58	2.63	2.79	3.29
9.5	3.44	3.06	2.75	2.62	2.58	2.69	2.69	2.87	3.48
10.5	3.49	3.04	2.79	2.69	2.64	2.69	2.76	3.06	3.48
11.5	3.59	3.07	2.82	2.75	2.67	2.75	2.87	3.11	3.51
12.5	3.61	2.98	2.93	2.65	2.65	2.77	2.90	3.05	3.53
13.5	3.56	2.99	2.83	2.72	2.59	2.71	2.90	3.04	3.68
14.5	3.45	2.96	2.77	2.70	2.59	2.69	2.78	2.85	3.40
15.5	3.44	2.88	2.73	2.62	2.52	2.59	2.77	2.87	3.39
16.5	3.29	2.69	2.61	2.49	2.43	2.46	2.52	2.83	3.32
17.5	3.06	2.68	2.53	2.36	2.25	2.38	2.48	2.63	3.07
18.5	2.79	2.41	2.27	2.26	2.11	2.18	2.28	2.50	2.90
19.5	2.65	2.37	2.13	2.06	1.99	2.00	2.18	2.34	2.64
20.5	2.53	2.10	1.88	1.82	1.85	1.81	1.91	2.08	2.42
21.5	2.15	1.79	1.70	1.58	1.61	1.62	1.69	1.81	2.12
22.5	1.93	1.63	1.46	1.42	1.36	1.37	1.47	1.60	1.85
23.5	2.51	2.00	1.84	1.80	1.72	1.79	1.86	2.02	2.49
Ax. Avg.	2.82	2.40	2.24	2.15	2.09	2.15	2.25	2.41	2.82

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.13. Power Density Data (kW/cc) in Fuel Plate 13 in Prototypic Conditions (continued).

Plate 13, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	1.84	1.53	1.53	1.39	1.36	1.42	1.42	1.48	1.82
1.5	1.66	1.37	1.27	1.18	1.15	1.18	1.23	1.29	1.53
2.5	1.88	1.59	1.44	1.42	1.35	1.41	1.51	1.63	1.89
3.5	2.14	1.81	1.78	1.65	1.59	1.62	1.73	1.84	2.21
4.5	2.40	2.11	1.95	1.86	1.80	1.88	1.93	2.01	2.48
5.5	2.70	2.38	2.14	2.10	1.99	2.06	2.11	2.25	2.64
6.5	2.88	2.39	2.38	2.26	2.10	2.16	2.26	2.55	2.91
7.5	3.05	2.68	2.40	2.31	2.28	2.31	2.45	2.69	3.09
8.5	3.31	2.70	2.64	2.41	2.38	2.45	2.66	2.79	3.28
9.5	3.27	2.90	2.64	2.54	2.45	2.54	2.67	2.86	3.31
10.5	3.35	2.88	2.81	2.64	2.53	2.62	2.66	2.98	3.31
11.5	3.50	2.93	2.75	2.63	2.52	2.61	2.68	3.01	3.45
12.5	3.45	2.96	2.75	2.65	2.55	2.61	2.74	2.94	3.45
13.5	3.45	2.86	2.74	2.59	2.54	2.61	2.69	2.89	3.41
14.5	3.35	2.87	2.70	2.56	2.49	2.52	2.58	2.96	3.39
15.5	3.19	2.77	2.62	2.48	2.42	2.47	2.73	2.73	3.18
16.5	3.13	2.72	2.44	2.39	2.30	2.40	2.45	2.63	3.05
17.5	3.03	2.57	2.41	2.26	2.17	2.29	2.29	2.51	2.92
18.5	2.76	2.43	2.26	2.17	2.07	2.08	2.22	2.40	2.76
19.5	2.60	2.25	2.01	1.99	1.91	1.97	2.03	2.23	2.63
20.5	2.35	2.05	1.90	1.76	1.71	1.82	1.79	2.00	2.38
21.5	2.06	1.79	1.69	1.61	1.50	1.56	1.63	1.77	2.05
22.5	1.81	1.56	1.42	1.35	1.29	1.38	1.40	1.53	1.90
23.5	2.40	1.95	1.83	1.78	1.67	1.75	1.81	1.95	2.40
Ax. Avg.	2.73	2.33	2.19	2.08	2.00	2.07	2.15	2.33	2.73

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.13. Power Density Data (kW/cc) in Fuel Plate 13 in Prototypic Conditions (continued).

Plate 13, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	1.79	1.54	1.39	1.35	1.32	1.36	1.40	1.55	1.76
1.5	1.54	1.31	1.26	1.18	1.10	1.14	1.19	1.25	1.52
2.5	1.83	1.53	1.46	1.44	1.39	1.40	1.43	1.53	1.83
3.5	2.16	1.89	1.76	1.66	1.62	1.69	1.78	1.85	2.11
4.5	2.41	2.04	1.85	1.87	1.84	1.89	1.95	2.10	2.39
5.5	2.75	2.31	2.16	2.04	1.99	2.05	2.16	2.25	2.67
6.5	2.90	2.44	2.32	2.23	2.08	2.19	2.27	2.52	2.98
7.5	3.06	2.67	2.46	2.38	2.24	2.40	2.45	2.62	3.05
8.5	3.08	2.76	2.56	2.43	2.41	2.47	2.61	2.74	3.24
9.5	3.27	2.82	2.58	2.54	2.46	2.55	2.70	2.84	3.25
10.5	3.29	2.84	2.69	2.60	2.54	2.61	2.75	3.01	3.33
11.5	3.36	2.93	2.80	2.64	2.55	2.66	2.79	2.91	3.46
12.5	3.44	2.94	2.74	2.68	2.61	2.65	2.80	2.90	3.44
13.5	3.41	3.01	2.75	2.63	2.48	2.59	2.74	2.93	3.47
14.5	3.37	2.88	2.65	2.60	2.50	2.59	2.74	2.85	3.36
15.5	3.20	2.79	2.67	2.47	2.39	2.49	2.70	2.87	3.37
16.5	3.23	2.67	2.53	2.42	2.29	2.39	2.52	2.69	3.23
17.5	2.97	2.64	2.42	2.29	2.23	2.28	2.41	2.53	2.97
18.5	2.90	2.37	2.27	2.14	2.09	2.12	2.24	2.41	2.72
19.5	2.55	2.27	2.06	2.02	1.87	2.02	2.05	2.24	2.52
20.5	2.34	2.01	1.81	1.76	1.72	1.80	1.86	2.02	2.41
21.5	2.09	1.74	1.64	1.59	1.55	1.57	1.65	1.85	2.08
22.5	1.84	1.58	1.42	1.39	1.30	1.37	1.44	1.63	1.86
23.5	2.50	2.06	1.80	1.79	1.73	1.73	1.84	2.00	2.39
Ax. Avg.	2.72	2.33	2.17	2.09	2.01	2.08	2.19	2.34	2.73

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.13. Power Density Data (kW/cc) in Fuel Plate 13 in Prototypic Conditions (continued).

Plate 13, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.188 inches	1.188 to 1.786 inches	1.786 to 2.384 inches	2.384 to 2.581 inches	2.581 to 2.778 inches	2.778 to 2.974 inches
0.5	1.78	1.49	1.41	1.37	1.34	1.33	1.43	1.51	1.83
1.5	1.52	1.28	1.19	1.14	1.09	1.15	1.17	1.23	1.59
2.5	1.85	1.50	1.49	1.39	1.35	1.37	1.45	1.54	1.73
3.5	2.15	1.86	1.70	1.63	1.56	1.60	1.73	1.77	2.09
4.5	2.40	2.07	1.92	1.81	1.74	1.84	1.89	1.99	2.34
5.5	2.60	2.26	2.08	1.97	1.91	1.97	2.09	2.21	2.63
6.5	2.90	2.37	2.22	2.15	2.08	2.17	2.27	2.41	2.79
7.5	3.02	2.60	2.42	2.26	2.21	2.29	2.37	2.59	2.98
8.5	3.05	2.67	2.45	2.37	2.31	2.42	2.42	2.65	3.14
9.5	3.23	2.63	2.57	2.45	2.39	2.47	2.58	2.70	3.19
10.5	3.21	2.79	2.54	2.51	2.37	2.50	2.64	2.77	3.12
11.5	3.31	2.83	2.63	2.52	2.48	2.56	2.72	2.85	3.27
12.5	3.36	2.86	2.70	2.50	2.47	2.53	2.61	2.84	3.30
13.5	3.27	2.87	2.57	2.51	2.39	2.51	2.62	2.79	3.19
14.5	3.16	2.72	2.61	2.46	2.37	2.49	2.58	2.69	3.26
15.5	3.18	2.65	2.43	2.42	2.32	2.41	2.52	2.72	3.12
16.5	2.96	2.58	2.37	2.32	2.27	2.31	2.45	2.67	3.06
17.5	2.74	2.47	2.28	2.19	2.11	2.16	2.27	2.44	2.86
18.5	2.59	2.29	2.12	2.10	1.97	2.09	2.21	2.38	2.68
19.5	2.58	2.08	2.00	1.92	1.84	1.90	1.94	2.17	2.54
20.5	2.23	1.90	1.77	1.74	1.69	1.76	1.76	1.93	2.25
21.5	1.95	1.77	1.59	1.53	1.45	1.56	1.59	1.68	2.04
22.5	1.86	1.43	1.32	1.34	1.27	1.34	1.43	1.55	1.82
23.5	2.32	2.00	1.81	1.73	1.63	1.77	1.79	1.96	2.37
Ax. Avg.	2.63	2.25	2.09	2.01	1.94	2.02	2.11	2.25	2.63

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.14. Power Density Data (kW/cm^3) in Fuel Plate 14 in Prototypic Core.

Fuel core width: 3.081 inches / Fuel core thickness: 20 mil

Plate 14, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	1.18	1.03	0.91	0.89	0.89	0.93	0.93	0.94	1.16
1.5	0.95	0.88	0.82	0.77	0.77	0.76	0.81	0.86	0.97
2.5	1.08	1.01	0.99	0.94	0.91	0.96	0.93	1.03	1.16
3.5	1.31	1.22	1.14	1.12	1.10	1.14	1.14	1.15	1.32
4.5	1.46	1.39	1.36	1.34	1.26	1.34	1.38	1.51	1.57
5.5	1.83	1.70	1.63	1.51	1.49	1.55	1.60	1.66	1.81
6.5	2.09	1.84	1.76	1.74	1.73	1.73	1.81	1.92	2.16
7.5	2.47	2.21	2.03	2.00	1.95	2.03	2.09	2.15	2.50
8.5	2.83	2.44	2.36	2.18	2.13	2.25	2.34	2.50	2.82
9.5	3.21	2.71	2.62	2.45	2.40	2.47	2.57	2.74	3.26
10.5	3.45	3.03	2.82	2.73	2.59	2.72	2.88	2.97	3.56
11.5	3.74	3.27	2.98	2.85	2.81	2.91	2.98	3.24	3.78
12.5	3.95	3.37	3.14	3.02	2.89	3.02	3.07	3.31	3.95
13.5	4.02	3.43	3.30	3.11	2.99	3.11	3.20	3.46	4.01
14.5	4.09	3.50	3.26	3.17	3.03	3.15	3.30	3.53	4.11
15.5	4.16	3.55	3.24	3.14	3.07	3.17	3.32	3.46	4.14
16.5	3.94	3.39	3.28	3.09	2.92	3.08	3.30	3.53	4.08
17.5	3.89	3.33	3.13	3.01	2.94	3.05	3.14	3.43	3.91
18.5	3.68	3.08	2.96	2.88	2.80	2.88	2.93	3.30	3.70
19.5	3.37	2.90	2.80	2.64	2.59	2.66	2.82	2.96	3.48
20.5	3.22	2.68	2.59	2.42	2.38	2.42	2.64	2.78	3.21
21.5	2.80	2.32	2.28	2.16	2.08	2.15	2.27	2.44	2.84
22.5	2.53	2.09	1.99	1.89	1.82	1.95	2.07	2.11	2.54
23.5	3.31	2.72	2.53	2.41	2.34	2.45	2.47	2.69	3.42
Ax. Avg.	2.86	2.46	2.33	2.23	2.16	2.24	2.33	2.49	2.89

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.14. Power Density Data (kW/cc) in Fuel Plate 14 in Prototypic Conditions (continued).

Plate 14, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	1.86	1.56	1.45	1.39	1.38	1.38	1.36	1.60	1.80
1.5	1.53	1.28	1.20	1.20	1.15	1.19	1.26	1.35	1.56
2.5	1.87	1.55	1.53	1.44	1.39	1.44	1.50	1.55	1.91
3.5	2.25	1.91	1.72	1.65	1.62	1.70	1.73	1.89	2.26
4.5	2.48	2.13	1.93	1.90	1.84	1.93	1.98	2.11	2.49
5.5	2.70	2.29	2.20	2.12	2.04	2.10	2.22	2.40	2.85
6.5	2.98	2.56	2.39	2.27	2.21	2.31	2.40	2.62	2.99
7.5	3.12	2.78	2.54	2.43	2.30	2.46	2.46	2.73	3.23
8.5	3.39	2.93	2.57	2.50	2.52	2.54	2.64	2.68	3.30
9.5	3.44	2.98	2.68	2.61	2.53	2.63	2.70	2.88	3.49
10.5	3.50	2.99	2.78	2.71	2.59	2.69	2.72	3.01	3.52
11.5	3.54	3.06	2.79	2.73	2.60	2.77	2.82	3.07	3.50
12.5	3.50	2.93	2.81	2.71	2.61	2.77	2.88	3.10	3.52
13.5	3.54	3.12	2.85	2.66	2.67	2.69	2.80	3.14	3.52
14.5	3.47	2.96	2.71	2.71	2.58	2.62	2.74	2.93	3.53
15.5	3.36	2.94	2.61	2.62	2.52	2.58	2.71	2.97	3.50
16.5	3.24	2.81	2.55	2.48	2.40	2.48	2.61	2.74	3.27
17.5	3.20	2.71	2.45	2.34	2.25	2.36	2.47	2.58	3.10
18.5	2.86	2.45	2.27	2.25	2.14	2.22	2.26	2.41	2.92
19.5	2.73	2.33	2.12	2.06	1.97	2.04	2.14	2.25	2.68
20.5	2.46	2.04	1.95	1.91	1.79	1.83	1.88	2.10	2.49
21.5	2.13	1.77	1.70	1.61	1.53	1.62	1.69	1.76	2.14
22.5	1.92	1.60	1.48	1.40	1.34	1.39	1.51	1.62	1.89
23.5	2.46	1.99	1.82	1.80	1.73	1.75	1.87	2.08	2.43
Ax. Avg.	2.81	2.40	2.21	2.14	2.07	2.15	2.22	2.40	2.83

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.14. Power Density Data (kW/cc) in Fuel Plate 14 in Prototypic Conditions (continued).

Plate 14, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	1.75	1.47	1.48	1.36	1.34	1.41	1.41	1.51	1.73
1.5	1.59	1.30	1.21	1.19	1.12	1.16	1.25	1.36	1.50
2.5	1.85	1.52	1.51	1.40	1.35	1.41	1.47	1.61	1.84
3.5	2.20	1.78	1.74	1.70	1.57	1.62	1.74	1.82	2.12
4.5	2.47	2.05	1.89	1.85	1.77	1.84	1.89	2.10	2.49
5.5	2.75	2.33	2.19	2.07	1.99	2.04	2.08	2.32	2.68
6.5	2.90	2.48	2.33	2.24	2.14	2.19	2.35	2.50	2.88
7.5	3.11	2.65	2.41	2.36	2.26	2.31	2.50	2.68	3.14
8.5	3.19	2.86	2.56	2.45	2.34	2.45	2.54	2.72	3.28
9.5	3.28	2.84	2.58	2.53	2.45	2.55	2.67	2.74	3.35
10.5	3.42	2.89	2.67	2.63	2.53	2.59	2.71	2.86	3.40
11.5	3.45	2.81	2.71	2.63	2.53	2.62	2.75	2.99	3.46
12.5	3.57	2.98	2.78	2.67	2.53	2.67	2.73	2.99	3.36
13.5	3.46	2.92	2.69	2.62	2.48	2.62	2.68	2.91	3.41
14.5	3.40	2.84	2.74	2.56	2.48	2.53	2.60	2.84	3.33
15.5	3.24	2.73	2.63	2.51	2.44	2.50	2.59	2.76	3.24
16.5	3.21	2.70	2.50	2.39	2.31	2.43	2.43	2.65	3.17
17.5	2.91	2.55	2.39	2.25	2.19	2.26	2.30	2.51	2.92
18.5	2.89	2.48	2.20	2.15	2.07	2.09	2.16	2.37	2.90
19.5	2.64	2.23	2.01	1.97	1.90	1.94	2.07	2.13	2.59
20.5	2.33	2.06	1.79	1.75	1.69	1.76	1.80	2.01	2.28
21.5	2.10	1.79	1.62	1.57	1.50	1.57	1.60	1.72	2.04
22.5	1.91	1.61	1.41	1.37	1.26	1.36	1.41	1.50	1.82
23.5	2.42	1.96	1.86	1.73	1.66	1.71	1.79	1.93	2.40
Ax. Avg.	2.75	2.33	2.16	2.08	2.00	2.07	2.15	2.31	2.72

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.14. Power Density Data (kW/cc) in Fuel Plate 14 in Prototypic Conditions (continued).

Plate 14, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	1.71	1.49	1.37	1.33	1.28	1.35	1.37	1.52	1.72
1.5	1.61	1.32	1.22	1.15	1.10	1.14	1.14	1.31	1.53
2.5	1.82	1.61	1.45	1.45	1.36	1.37	1.42	1.49	1.79
3.5	2.17	1.86	1.78	1.67	1.62	1.67	1.74	1.82	2.19
4.5	2.38	1.98	1.91	1.87	1.82	1.86	2.01	2.15	2.40
5.5	2.69	2.32	2.17	2.09	2.00	2.02	2.12	2.30	2.70
6.5	2.85	2.52	2.29	2.18	2.11	2.22	2.35	2.46	2.86
7.5	3.09	2.69	2.37	2.34	2.23	2.38	2.38	2.59	3.18
8.5	3.20	2.75	2.54	2.42	2.37	2.42	2.62	2.68	3.30
9.5	3.37	2.88	2.64	2.55	2.50	2.54	2.70	2.87	3.23
10.5	3.36	2.86	2.65	2.56	2.52	2.64	2.77	2.85	3.44
11.5	3.42	2.98	2.74	2.66	2.52	2.61	2.76	3.06	3.52
12.5	3.41	2.92	2.81	2.73	2.54	2.63	2.75	2.98	3.61
13.5	3.49	2.85	2.82	2.62	2.52	2.57	2.66	2.89	3.44
14.5	3.50	2.92	2.77	2.56	2.50	2.62	2.67	2.92	3.45
15.5	3.26	2.77	2.57	2.42	2.41	2.46	2.58	2.79	3.29
16.5	3.18	2.65	2.47	2.39	2.30	2.47	2.46	2.64	3.19
17.5	3.01	2.50	2.35	2.32	2.22	2.25	2.39	2.51	2.95
18.5	2.80	2.42	2.23	2.11	2.04	2.16	2.21	2.39	2.76
19.5	2.55	2.19	2.09	2.02	1.91	1.95	2.02	2.25	2.63
20.5	2.38	1.92	1.85	1.77	1.68	1.78	1.84	1.94	2.36
21.5	2.12	1.74	1.68	1.55	1.53	1.56	1.69	1.83	2.08
22.5	1.84	1.51	1.41	1.34	1.28	1.36	1.44	1.61	1.85
23.5	2.41	1.96	1.90	1.77	1.68	1.76	1.84	1.99	2.44
Ax. Avg.	2.73	2.32	2.17	2.08	2.00	2.07	2.16	2.33	2.75

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.14. Power Density Data (kW/cc) in Fuel Plate 14 in Prototypic Conditions (continued).

Plate 14, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.224 inches	1.224 to 1.857 inches	1.857 to 2.491 inches	2.491 to 2.688 inches	2.688 to 2.884 inches	2.884 to 3.081 inches
0.5	1.75	1.48	1.35	1.31	1.26	1.29	1.33	1.42	1.76
1.5	1.51	1.24	1.15	1.14	1.11	1.15	1.21	1.26	1.51
2.5	1.83	1.51	1.44	1.40	1.34	1.38	1.44	1.50	1.82
3.5	2.18	1.84	1.61	1.60	1.57	1.63	1.72	1.74	1.95
4.5	2.40	2.04	1.87	1.81	1.70	1.85	1.90	1.95	2.34
5.5	2.69	2.25	2.11	1.98	1.93	2.00	2.10	2.23	2.55
6.5	2.76	2.41	2.27	2.14	2.05	2.17	2.26	2.48	2.86
7.5	2.97	2.52	2.33	2.28	2.19	2.27	2.39	2.57	2.93
8.5	3.07	2.68	2.50	2.38	2.28	2.38	2.46	2.60	3.05
9.5	3.15	2.68	2.52	2.39	2.37	2.46	2.59	2.74	3.07
10.5	3.27	2.82	2.53	2.52	2.43	2.49	2.72	2.89	3.29
11.5	3.34	2.87	2.71	2.56	2.42	2.59	2.71	2.84	3.41
12.5	3.41	2.85	2.68	2.53	2.44	2.51	2.61	2.90	3.30
13.5	3.29	2.83	2.71	2.53	2.44	2.52	2.61	2.78	3.33
14.5	3.15	2.78	2.58	2.47	2.37	2.44	2.63	2.74	3.27
15.5	3.10	2.67	2.41	2.42	2.29	2.45	2.54	2.68	3.08
16.5	3.03	2.57	2.39	2.32	2.23	2.29	2.48	2.64	3.05
17.5	2.85	2.43	2.32	2.21	2.13	2.21	2.38	2.43	2.94
18.5	2.66	2.23	2.18	2.01	1.98	2.10	2.26	2.30	2.73
19.5	2.60	2.14	1.95	1.90	1.83	1.93	1.94	2.14	2.55
20.5	2.33	1.93	1.80	1.74	1.69	1.74	1.78	1.97	2.30
21.5	2.02	1.72	1.59	1.53	1.48	1.58	1.68	1.74	2.08
22.5	1.76	1.49	1.36	1.32	1.24	1.32	1.44	1.51	1.83
23.5	2.44	1.95	1.81	1.69	1.65	1.72	1.81	1.91	2.31
Ax. Avg.	2.65	2.25	2.09	2.01	1.93	2.02	2.12	2.25	2.64

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.15. Power Density Data (kW/cm^3) in Fuel Plate 15 in Prototypic Core.

Fuel core width: 3.188 inches / Fuel core thickness: 20 mil

Plate 15, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	1.11	0.99	0.93	0.91	0.86	0.89	0.89	0.99	1.10
1.5	0.94	0.85	0.80	0.75	0.75	0.75	0.78	0.82	0.99
2.5	1.09	0.96	0.90	0.92	0.87	0.94	0.92	1.01	1.12
3.5	1.32	1.19	1.18	1.12	1.07	1.11	1.13	1.19	1.29
4.5	1.51	1.38	1.28	1.31	1.26	1.29	1.31	1.45	1.57
5.5	1.75	1.59	1.57	1.53	1.48	1.52	1.50	1.57	1.79
6.5	2.07	1.82	1.79	1.72	1.68	1.74	1.78	1.85	2.09
7.5	2.45	2.12	2.05	2.00	1.94	2.00	2.03	2.10	2.38
8.5	2.79	2.43	2.36	2.19	2.15	2.25	2.29	2.49	2.81
9.5	3.13	2.66	2.57	2.45	2.40	2.46	2.62	2.77	3.26
10.5	3.56	2.94	2.78	2.68	2.61	2.74	2.79	2.97	3.48
11.5	3.74	3.27	3.00	2.86	2.74	2.88	2.99	3.24	3.80
12.5	4.01	3.38	3.13	3.03	2.88	2.97	3.13	3.39	3.91
13.5	4.18	3.45	3.24	3.11	3.01	3.12	3.26	3.53	4.06
14.5	4.13	3.56	3.24	3.18	3.02	3.17	3.34	3.64	4.11
15.5	4.16	3.48	3.32	3.14	3.03	3.19	3.32	3.44	4.21
16.5	3.97	3.45	3.24	3.14	2.98	3.08	3.33	3.52	4.07
17.5	3.97	3.39	3.20	3.06	2.92	3.05	3.18	3.43	3.92
18.5	3.81	3.34	3.06	2.85	2.75	2.84	2.97	3.26	3.82
19.5	3.45	2.91	2.81	2.64	2.56	2.72	2.76	3.06	3.46
20.5	3.10	2.75	2.59	2.42	2.33	2.47	2.67	2.78	3.23
21.5	2.95	2.42	2.27	2.16	2.11	2.20	2.35	2.41	2.90
22.5	2.57	2.12	2.01	1.87	1.81	1.92	2.03	2.18	2.63
23.5	3.34	2.82	2.57	2.45	2.32	2.46	2.51	2.63	3.34
Ax. Avg.	2.88	2.47	2.33	2.23	2.15	2.24	2.33	2.49	2.89

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.15. Power Density Data (kW/cc) in Fuel Plate 15 in Prototypic Conditions (continued).

Plate 15, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	1.84	1.55	1.38	1.41	1.38	1.40	1.37	1.48	1.79
1.5	1.60	1.38	1.21	1.17	1.17	1.19	1.27	1.33	1.56
2.5	1.88	1.62	1.51	1.46	1.40	1.41	1.46	1.63	1.86
3.5	2.25	1.89	1.76	1.69	1.62	1.72	1.80	1.93	2.24
4.5	2.50	2.07	1.89	1.89	1.87	1.93	1.99	2.13	2.57
5.5	2.72	2.25	2.19	2.11	2.00	2.12	2.19	2.39	2.75
6.5	3.02	2.60	2.34	2.28	2.20	2.28	2.37	2.58	2.99
7.5	3.24	2.66	2.45	2.41	2.32	2.43	2.50	2.69	3.24
8.5	3.38	2.76	2.60	2.58	2.47	2.55	2.64	2.79	3.41
9.5	3.32	2.96	2.80	2.64	2.51	2.63	2.72	2.97	3.58
10.5	3.49	3.04	2.79	2.67	2.56	2.68	2.78	3.00	3.53
11.5	3.49	3.03	2.83	2.73	2.63	2.70	2.77	3.04	3.56
12.5	3.55	3.00	2.85	2.71	2.68	2.70	2.81	3.06	3.54
13.5	3.61	2.98	2.91	2.71	2.61	2.71	2.78	3.07	3.52
14.5	3.59	3.04	2.78	2.71	2.58	2.65	2.80	3.00	3.48
15.5	3.41	2.90	2.72	2.63	2.52	2.60	2.73	2.91	3.40
16.5	3.29	2.73	2.59	2.48	2.42	2.45	2.61	2.83	3.21
17.5	3.11	2.68	2.42	2.35	2.29	2.38	2.47	2.63	3.10
18.5	2.84	2.53	2.27	2.25	2.15	2.19	2.28	2.38	2.86
19.5	2.63	2.27	2.03	2.05	1.98	2.03	2.12	2.26	2.74
20.5	2.43	2.09	1.89	1.87	1.81	1.88	1.98	2.14	2.41
21.5	2.15	1.81	1.66	1.63	1.57	1.64	1.69	1.82	2.26
22.5	1.92	1.61	1.45	1.37	1.32	1.37	1.51	1.58	1.97
23.5	2.48	1.96	1.84	1.76	1.73	1.80	1.96	2.03	2.45
Ax. Avg.	2.82	2.39	2.22	2.15	2.07	2.14	2.23	2.40	2.83

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.15. Power Density Data (kW/cc) in Fuel Plate 15 in Prototypic Conditions (continued).

Plate 15, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	1.72	1.50	1.43	1.32	1.31	1.34	1.43	1.50	1.74
1.5	1.56	1.32	1.21	1.18	1.13	1.17	1.23	1.34	1.58
2.5	1.84	1.66	1.44	1.40	1.37	1.41	1.49	1.59	1.80
3.5	2.17	1.84	1.72	1.69	1.56	1.65	1.76	1.80	2.13
4.5	2.48	2.10	1.99	1.85	1.81	1.87	1.95	2.07	2.46
5.5	2.81	2.28	2.12	2.05	1.99	2.06	2.15	2.29	2.79
6.5	2.91	2.43	2.36	2.21	2.19	2.21	2.36	2.55	2.91
7.5	3.13	2.69	2.43	2.36	2.28	2.34	2.48	2.66	3.13
8.5	3.25	2.75	2.60	2.45	2.36	2.44	2.61	2.81	3.33
9.5	3.30	2.84	2.64	2.56	2.45	2.51	2.71	2.77	3.38
10.5	3.49	2.95	2.69	2.61	2.52	2.61	2.62	2.98	3.56
11.5	3.46	2.97	2.75	2.66	2.54	2.59	2.73	2.97	3.49
12.5	3.65	2.97	2.85	2.62	2.50	2.62	2.79	2.88	3.58
13.5	3.40	2.93	2.75	2.65	2.55	2.65	2.74	2.93	3.35
14.5	3.36	2.81	2.69	2.60	2.47	2.52	2.68	2.86	3.40
15.5	3.25	2.81	2.62	2.51	2.43	2.44	2.53	2.78	3.30
16.5	3.25	2.71	2.53	2.37	2.27	2.41	2.39	2.57	3.23
17.5	2.95	2.53	2.43	2.25	2.20	2.25	2.36	2.46	2.98
18.5	2.89	2.38	2.25	2.20	2.03	2.12	2.26	2.45	2.85
19.5	2.57	2.24	2.06	1.97	1.89	1.93	2.02	2.24	2.58
20.5	2.42	1.94	1.84	1.81	1.71	1.73	1.88	1.97	2.37
21.5	2.09	1.78	1.63	1.59	1.50	1.57	1.63	1.77	2.05
22.5	1.96	1.58	1.43	1.34	1.31	1.35	1.39	1.51	1.89
23.5	2.51	1.97	1.85	1.77	1.67	1.72	1.83	1.94	2.42
Ax. Avg.	2.77	2.33	2.18	2.08	2.00	2.06	2.17	2.32	2.76

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.15. Power Density Data (kW/cc) in Fuel Plate 15 in Prototypic Conditions (continued).

Plate 15, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	1.80	1.47	1.35	1.29	1.25	1.28	1.38	1.45	1.71
1.5	1.53	1.32	1.17	1.14	1.09	1.16	1.21	1.33	1.54
2.5	1.84	1.58	1.42	1.39	1.35	1.42	1.46	1.56	1.87
3.5	2.12	1.87	1.78	1.66	1.62	1.69	1.79	1.81	2.24
4.5	2.44	2.10	1.93	1.88	1.83	1.89	1.99	2.05	2.47
5.5	2.71	2.26	2.16	2.05	1.96	2.08	2.12	2.39	2.72
6.5	2.90	2.49	2.34	2.17	2.15	2.22	2.25	2.46	2.91
7.5	3.00	2.61	2.56	2.33	2.25	2.40	2.50	2.68	3.17
8.5	3.22	2.79	2.58	2.38	2.34	2.43	2.58	2.71	3.29
9.5	3.40	2.87	2.69	2.59	2.48	2.55	2.70	2.88	3.35
10.5	3.35	2.83	2.68	2.57	2.52	2.64	2.65	2.91	3.41
11.5	3.44	2.94	2.73	2.65	2.53	2.55	2.84	2.90	3.58
12.5	3.51	2.97	2.70	2.66	2.56	2.63	2.77	2.96	3.51
13.5	3.49	2.90	2.72	2.64	2.54	2.60	2.82	2.93	3.37
14.5	3.49	2.90	2.82	2.60	2.51	2.57	2.72	2.84	3.39
15.5	3.26	2.76	2.59	2.48	2.41	2.52	2.60	2.85	3.32
16.5	3.18	2.70	2.50	2.42	2.36	2.38	2.51	2.81	3.16
17.5	2.98	2.63	2.37	2.32	2.22	2.30	2.33	2.53	3.03
18.5	2.79	2.42	2.28	2.21	2.07	2.15	2.23	2.40	2.83
19.5	2.64	2.25	2.10	2.01	1.87	1.97	2.07	2.28	2.59
20.5	2.34	2.02	1.92	1.75	1.72	1.76	1.92	2.03	2.37
21.5	2.10	1.81	1.60	1.60	1.53	1.55	1.64	1.81	2.08
22.5	1.92	1.54	1.49	1.34	1.29	1.34	1.45	1.60	1.88
23.5	2.41	2.02	1.84	1.78	1.65	1.79	1.83	1.96	2.51
Ax. Avg.	2.74	2.33	2.18	2.08	2.00	2.08	2.18	2.34	2.76

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.15. Power Density Data (kW/cc) in Fuel Plate 15 in Prototypic Conditions (continued).

Plate 15, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.260 inches	1.260 to 1.929 inches	1.929 to 2.597 inches	2.597 to 2.794 inches	2.794 to 2.991 inches	2.991 to 3.188 inches
0.5	1.69	1.47	1.40	1.29	1.28	1.32	1.32	1.42	1.69
1.5	1.44	1.23	1.18	1.14	1.10	1.15	1.16	1.26	1.50
2.5	1.85	1.51	1.37	1.40	1.30	1.39	1.42	1.53	1.84
3.5	2.16	1.83	1.72	1.61	1.54	1.64	1.68	1.84	2.13
4.5	2.41	2.02	1.85	1.82	1.75	1.84	1.90	2.09	2.32
5.5	2.66	2.26	2.06	2.03	1.95	2.01	2.01	2.18	2.63
6.5	2.94	2.39	2.21	2.14	2.09	2.16	2.25	2.44	2.87
7.5	3.07	2.57	2.35	2.30	2.20	2.26	2.37	2.62	3.02
8.5	3.09	2.67	2.44	2.41	2.29	2.39	2.50	2.59	3.18
9.5	3.21	2.74	2.57	2.46	2.36	2.48	2.56	2.74	3.20
10.5	3.35	2.82	2.62	2.53	2.38	2.47	2.69	2.82	3.40
11.5	3.50	2.93	2.76	2.56	2.41	2.56	2.67	2.78	3.34
12.5	3.42	2.83	2.65	2.51	2.45	2.53	2.64	2.91	3.33
13.5	3.38	2.80	2.74	2.53	2.41	2.53	2.63	2.88	3.31
14.5	3.27	2.82	2.58	2.46	2.35	2.48	2.55	2.76	3.31
15.5	3.13	2.69	2.49	2.42	2.30	2.44	2.55	2.69	3.15
16.5	2.99	2.53	2.44	2.31	2.21	2.32	2.50	2.66	3.07
17.5	2.88	2.53	2.34	2.22	2.12	2.24	2.24	2.48	2.91
18.5	2.74	2.33	2.14	2.06	2.04	2.06	2.22	2.35	2.75
19.5	2.48	2.12	2.02	1.91	1.82	1.92	1.95	2.15	2.48
20.5	2.25	1.92	1.85	1.74	1.69	1.78	1.86	2.04	2.34
21.5	2.10	1.72	1.57	1.53	1.48	1.57	1.69	1.74	1.99
22.5	1.81	1.52	1.46	1.34	1.30	1.32	1.43	1.59	1.82
23.5	2.38	1.94	1.78	1.67	1.65	1.76	1.74	1.92	2.37
Ax. Avg.	2.68	2.26	2.11	2.02	1.94	2.03	2.11	2.27	2.66

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.16. Power Density Data (kW/cm^3) in Fuel Plate 16 in Prototypic Core.

Fuel core width: 3.295 inches / Fuel core thickness: 20 mil

Plate 16, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	1.08	0.94	0.90	0.88	0.87	0.87	0.87	0.90	1.08
1.5	0.94	0.83	0.76	0.76	0.77	0.77	0.76	0.75	0.90
2.5	1.09	1.01	0.93	0.94	0.91	0.92	0.97	0.96	1.09
3.5	1.26	1.16	1.12	1.08	1.07	1.10	1.08	1.21	1.30
4.5	1.49	1.36	1.27	1.30	1.25	1.27	1.28	1.41	1.55
5.5	1.77	1.62	1.62	1.50	1.45	1.50	1.46	1.64	1.79
6.5	1.99	1.77	1.71	1.68	1.65	1.74	1.76	1.88	2.00
7.5	2.46	2.10	2.02	1.97	1.90	1.92	1.93	2.07	2.39
8.5	2.82	2.48	2.31	2.23	2.16	2.22	2.30	2.51	2.89
9.5	3.31	2.82	2.54	2.48	2.39	2.46	2.66	2.72	3.22
10.5	3.62	3.02	2.86	2.74	2.60	2.70	2.83	3.04	3.53
11.5	3.80	3.34	3.07	2.90	2.77	2.85	3.05	3.25	3.84
12.5	3.92	3.33	3.15	2.99	2.91	3.04	3.22	3.44	3.98
13.5	4.07	3.45	3.29	3.10	2.99	3.14	3.28	3.56	4.10
14.5	4.27	3.59	3.41	3.16	3.06	3.19	3.45	3.55	4.20
15.5	4.14	3.62	3.40	3.19	3.08	3.24	3.39	3.57	4.08
16.5	4.13	3.42	3.30	3.12	2.99	3.12	3.29	3.60	4.09
17.5	4.04	3.47	3.24	3.07	2.90	3.06	3.16	3.37	4.03
18.5	3.84	3.11	3.02	2.83	2.74	2.83	3.07	3.23	3.77
19.5	3.59	3.01	2.79	2.66	2.62	2.71	2.85	3.00	3.55
20.5	3.21	2.82	2.58	2.48	2.33	2.48	2.65	2.76	3.37
21.5	3.01	2.44	2.28	2.24	2.10	2.18	2.38	2.42	3.01
22.5	2.63	2.18	1.94	1.88	1.81	1.93	2.05	2.20	2.67
23.5	3.33	2.67	2.56	2.52	2.35	2.43	2.48	2.78	3.44
Ax. Avg.	2.91	2.48	2.34	2.24	2.15	2.24	2.34	2.49	2.91

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.16. Power Density Data (kW/cc) in Fuel Plate 16 in Prototypic Conditions (continued).

Plate 16, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	1.77	1.48	1.42	1.40	1.37	1.35	1.42	1.44	1.75
1.5	1.58	1.36	1.23	1.19	1.16	1.20	1.24	1.30	1.54
2.5	1.93	1.60	1.45	1.44	1.42	1.42	1.51	1.56	1.93
3.5	2.17	1.89	1.77	1.70	1.63	1.73	1.70	1.89	2.25
4.5	2.55	2.15	2.01	1.91	1.86	1.91	2.01	2.14	2.58
5.5	2.74	2.33	2.28	2.14	2.04	2.13	2.28	2.38	2.79
6.5	2.99	2.57	2.36	2.33	2.18	2.29	2.42	2.65	3.06
7.5	3.26	2.63	2.55	2.44	2.31	2.48	2.59	2.68	3.24
8.5	3.45	2.76	2.66	2.54	2.46	2.56	2.69	2.93	3.32
9.5	3.54	2.92	2.80	2.64	2.56	2.67	2.85	3.00	3.53
10.5	3.52	3.05	2.83	2.69	2.64	2.72	2.83	3.00	3.62
11.5	3.54	3.04	2.80	2.71	2.62	2.71	2.86	3.09	3.67
12.5	3.78	3.10	2.87	2.72	2.71	2.76	2.98	3.12	3.63
13.5	3.69	3.09	2.86	2.68	2.60	2.74	2.89	3.11	3.71
14.5	3.58	3.04	2.76	2.68	2.57	2.68	2.82	2.98	3.51
15.5	3.48	2.90	2.74	2.64	2.53	2.57	2.76	2.95	3.56
16.5	3.36	2.85	2.58	2.51	2.47	2.51	2.70	2.79	3.29
17.5	3.19	2.62	2.52	2.39	2.30	2.35	2.55	2.66	3.16
18.5	2.97	2.55	2.37	2.27	2.17	2.23	2.34	2.46	2.98
19.5	2.72	2.31	2.14	2.05	1.96	2.05	2.17	2.34	2.85
20.5	2.47	2.09	1.94	1.88	1.82	1.88	2.01	2.14	2.54
21.5	2.24	1.85	1.64	1.65	1.59	1.67	1.74	1.86	2.23
22.5	1.93	1.63	1.45	1.43	1.37	1.43	1.46	1.62	1.98
23.5	2.50	2.06	1.90	1.79	1.72	1.81	1.93	2.11	2.51
Ax. Avg.	2.87	2.41	2.25	2.16	2.09	2.16	2.28	2.42	2.88

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.16. Power Density Data (kW/cc) in Fuel Plate 16 in Prototypic Conditions (continued).

Plate 16, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	1.69	1.46	1.36	1.33	1.29	1.36	1.36	1.43	1.67
1.5	1.57	1.32	1.21	1.17	1.12	1.20	1.28	1.33	1.52
2.5	1.92	1.58	1.48	1.41	1.35	1.41	1.48	1.65	1.93
3.5	2.22	1.87	1.74	1.67	1.60	1.66	1.73	1.87	2.26
4.5	2.53	2.16	2.00	1.88	1.81	1.88	2.00	2.15	2.49
5.5	2.78	2.40	2.13	2.08	2.02	2.06	2.13	2.27	2.85
6.5	2.96	2.51	2.39	2.29	2.20	2.24	2.39	2.53	2.95
7.5	3.17	2.71	2.55	2.38	2.28	2.37	2.38	2.68	3.18
8.5	3.41	2.75	2.59	2.47	2.36	2.49	2.56	2.82	3.34
9.5	3.38	2.89	2.71	2.62	2.50	2.60	2.65	2.89	3.41
10.5	3.50	2.90	2.76	2.65	2.56	2.65	2.66	2.93	3.61
11.5	3.49	3.01	2.79	2.66	2.54	2.63	2.80	3.11	3.55
12.5	3.62	3.01	2.85	2.62	2.53	2.70	2.73	2.96	3.54
13.5	3.57	2.94	2.80	2.66	2.48	2.63	2.77	2.99	3.51
14.5	3.48	2.77	2.68	2.63	2.49	2.56	2.71	2.85	3.45
15.5	3.38	2.78	2.63	2.54	2.43	2.45	2.54	2.82	3.27
16.5	3.22	2.73	2.58	2.44	2.31	2.36	2.52	2.68	3.27
17.5	3.10	2.60	2.44	2.29	2.22	2.25	2.31	2.56	3.05
18.5	2.92	2.39	2.22	2.20	2.05	2.16	2.21	2.30	2.85
19.5	2.68	2.18	2.12	1.95	1.88	1.95	2.05	2.16	2.63
20.5	2.46	2.02	1.87	1.80	1.73	1.79	1.82	2.02	2.44
21.5	2.14	1.84	1.74	1.58	1.52	1.58	1.67	1.78	2.16
22.5	1.93	1.62	1.43	1.37	1.32	1.34	1.41	1.53	1.87
23.5	2.53	2.08	1.93	1.78	1.73	1.73	1.84	1.92	2.38
Ax. Avg.	2.82	2.36	2.21	2.10	2.01	2.09	2.17	2.34	2.80

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.16. Power Density Data (kW/cc) in Fuel Plate 16 in Prototypic Conditions (continued).

Plate 16, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	1.67	1.39	1.33	1.25	1.21	1.30	1.31	1.37	1.64
1.5	1.51	1.28	1.30	1.13	1.09	1.14	1.18	1.32	1.52
2.5	1.83	1.53	1.49	1.41	1.36	1.44	1.48	1.57	1.88
3.5	2.17	1.84	1.85	1.68	1.62	1.69	1.73	1.85	2.28
4.5	2.48	2.13	1.96	1.88	1.83	1.90	1.97	2.11	2.52
5.5	2.67	2.31	2.19	2.09	2.00	2.08	2.20	2.30	2.73
6.5	3.03	2.46	2.37	2.22	2.17	2.26	2.35	2.60	2.97
7.5	3.17	2.63	2.50	2.36	2.28	2.42	2.44	2.63	3.08
8.5	3.24	2.82	2.56	2.46	2.40	2.50	2.69	2.72	3.37
9.5	3.34	2.82	2.66	2.54	2.52	2.58	2.63	2.90	3.48
10.5	3.48	2.93	2.75	2.62	2.50	2.63	2.69	2.95	3.52
11.5	3.43	3.04	2.81	2.68	2.55	2.64	2.82	3.04	3.60
12.5	3.55	2.96	2.79	2.65	2.55	2.63	2.85	3.04	3.65
13.5	3.48	3.01	2.75	2.63	2.54	2.66	2.75	3.03	3.51
14.5	3.51	3.00	2.74	2.63	2.53	2.61	2.69	2.84	3.42
15.5	3.35	2.83	2.59	2.50	2.43	2.49	2.65	2.79	3.38
16.5	3.29	2.73	2.60	2.42	2.34	2.38	2.59	2.75	3.20
17.5	3.05	2.57	2.40	2.30	2.22	2.29	2.35	2.60	3.08
18.5	2.92	2.43	2.34	2.18	2.09	2.18	2.25	2.40	2.88
19.5	2.70	2.29	2.16	1.96	1.90	2.01	2.14	2.30	2.63
20.5	2.37	2.05	1.92	1.78	1.74	1.82	1.95	2.01	2.35
21.5	2.17	1.79	1.65	1.57	1.54	1.57	1.65	1.80	2.14
22.5	1.91	1.57	1.46	1.38	1.33	1.33	1.45	1.55	1.89
23.5	2.51	1.95	1.89	1.78	1.76	1.73	1.92	2.04	2.34
Ax. Avg.	2.79	2.35	2.21	2.09	2.02	2.10	2.20	2.36	2.79

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.16. Power Density Data (kW/cc) in Fuel Plate 16 in Prototypic Conditions (continued).

Plate 16, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.295 inches	1.295 to 2.000 inches	2.000 to 2.704 inches	2.704 to 2.901 inches	2.901 to 3.098 inches	3.098 to 3.295 inches
0.5	1.66	1.43	1.33	1.26	1.21	1.28	1.31	1.42	1.62
1.5	1.46	1.22	1.18	1.15	1.08	1.15	1.17	1.29	1.51
2.5	1.88	1.56	1.39	1.42	1.35	1.37	1.41	1.52	1.85
3.5	2.16	1.81	1.71	1.60	1.62	1.62	1.71	1.86	2.21
4.5	2.42	2.12	1.94	1.84	1.79	1.87	1.93	2.01	2.39
5.5	2.66	2.30	2.05	2.02	1.95	2.07	2.13	2.21	2.64
6.5	3.04	2.45	2.27	2.19	2.12	2.18	2.31	2.41	2.92
7.5	3.06	2.57	2.40	2.36	2.25	2.28	2.42	2.58	3.02
8.5	3.26	2.69	2.52	2.39	2.29	2.39	2.51	2.74	3.23
9.5	3.31	2.75	2.60	2.50	2.35	2.45	2.62	2.75	3.28
10.5	3.35	2.80	2.67	2.55	2.44	2.54	2.72	2.92	3.40
11.5	3.41	2.94	2.75	2.57	2.47	2.58	2.70	2.95	3.47
12.5	3.38	2.93	2.71	2.52	2.49	2.60	2.70	2.99	3.56
13.5	3.49	2.89	2.66	2.56	2.46	2.55	2.70	2.79	3.31
14.5	3.27	2.68	2.64	2.52	2.41	2.54	2.71	2.88	3.35
15.5	3.22	2.78	2.55	2.42	2.36	2.47	2.57	2.79	3.22
16.5	3.03	2.67	2.41	2.33	2.27	2.37	2.38	2.62	3.16
17.5	2.84	2.51	2.31	2.22	2.15	2.24	2.35	2.57	3.05
18.5	2.92	2.33	2.22	2.13	2.03	2.12	2.21	2.39	2.87
19.5	2.64	2.16	2.06	1.90	1.84	1.92	1.98	2.14	2.62
20.5	2.28	1.95	1.80	1.78	1.73	1.76	1.89	1.99	2.40
21.5	2.02	1.70	1.58	1.50	1.48	1.54	1.65	1.77	2.09
22.5	1.96	1.56	1.45	1.31	1.31	1.36	1.47	1.57	1.91
23.5	2.33	1.90	1.84	1.71	1.70	1.71	1.83	2.03	2.33
Ax. Avg.	2.71	2.28	2.13	2.03	1.97	2.04	2.14	2.30	2.73

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.17. Power Density Data (kW/cm^3) in Fuel Plate 17 in Prototypic Core.

Fuel core width: 3.402 inches / Fuel core thickness: 20 mil

Plate 17, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	1.04	0.86	0.82	0.88	0.82	0.86	0.91	0.91	1.04
1.5	0.85	0.80	0.73	0.77	0.75	0.75	0.78	0.79	0.88
2.5	1.06	0.98	0.92	0.90	0.90	0.90	0.87	0.96	1.05
3.5	1.29	1.12	1.03	1.07	1.04	1.11	1.05	1.21	1.27
4.5	1.46	1.29	1.22	1.29	1.30	1.27	1.28	1.37	1.49
5.5	1.73	1.55	1.51	1.46	1.47	1.50	1.44	1.59	1.79
6.5	1.99	1.75	1.70	1.67	1.67	1.73	1.75	1.77	1.97
7.5	2.35	2.06	1.99	1.94	1.91	2.00	1.91	2.00	2.38
8.5	2.71	2.46	2.28	2.26	2.17	2.23	2.37	2.51	2.76
9.5	3.29	2.75	2.62	2.51	2.43	2.52	2.63	2.85	3.25
10.5	3.59	3.08	2.83	2.78	2.66	2.75	2.84	3.12	3.56
11.5	3.90	3.34	3.14	2.95	2.83	2.93	3.07	3.33	3.85
12.5	4.12	3.43	3.18	3.05	2.93	3.06	3.23	3.60	4.11
13.5	4.22	3.57	3.39	3.17	3.03	3.15	3.24	3.60	4.30
14.5	4.25	3.63	3.40	3.21	3.06	3.25	3.52	3.71	4.25
15.5	4.27	3.58	3.38	3.20	3.13	3.21	3.48	3.67	4.27
16.5	4.27	3.61	3.34	3.16	3.06	3.23	3.37	3.58	4.26
17.5	4.07	3.53	3.27	3.08	2.99	3.09	3.33	3.54	4.17
18.5	3.90	3.23	3.09	2.92	2.79	2.97	3.14	3.35	4.08
19.5	3.63	3.11	2.85	2.74	2.71	2.73	2.86	3.20	3.70
20.5	3.26	2.83	2.67	2.50	2.40	2.48	2.65	2.83	3.34
21.5	2.97	2.50	2.37	2.23	2.17	2.19	2.36	2.50	3.00
22.5	2.79	2.21	2.01	1.94	1.86	1.92	2.10	2.26	2.71
23.5	3.50	2.84	2.68	2.51	2.41	2.45	2.54	2.79	3.49
Ax. Avg.	2.94	2.50	2.35	2.26	2.19	2.26	2.36	2.54	2.96

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.17. Power Density Data (kW/cc) in Fuel Plate 17 in Prototypic Conditions (continued).

Plate 17, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	1.76	1.53	1.40	1.38	1.33	1.34	1.34	1.41	1.68
1.5	1.62	1.34	1.27	1.21	1.19	1.19	1.22	1.26	1.61
2.5	1.90	1.64	1.59	1.46	1.36	1.48	1.56	1.63	1.96
3.5	2.29	1.97	1.79	1.73	1.67	1.74	1.75	1.91	2.35
4.5	2.58	2.16	2.04	1.91	1.88	1.95	2.02	2.17	2.59
5.5	2.94	2.44	2.27	2.16	2.07	2.18	2.28	2.43	2.89
6.5	3.19	2.68	2.45	2.36	2.25	2.31	2.39	2.72	3.14
7.5	3.35	2.67	2.59	2.48	2.38	2.47	2.66	2.87	3.32
8.5	3.47	2.94	2.74	2.58	2.51	2.61	2.71	2.91	3.56
9.5	3.64	3.01	2.89	2.71	2.63	2.70	2.83	3.04	3.65
10.5	3.75	3.14	2.89	2.73	2.66	2.74	2.95	3.22	3.73
11.5	3.74	2.97	2.88	2.76	2.67	2.78	2.98	3.14	3.75
12.5	3.76	3.09	2.95	2.77	2.72	2.84	2.94	3.18	3.79
13.5	3.77	3.11	2.97	2.79	2.71	2.79	2.94	3.19	3.77
14.5	3.72	3.10	2.89	2.75	2.63	2.69	2.78	3.08	3.66
15.5	3.54	2.99	2.73	2.63	2.58	2.67	2.77	3.00	3.65
16.5	3.42	2.87	2.67	2.52	2.49	2.55	2.65	2.81	3.44
17.5	3.27	2.72	2.56	2.46	2.34	2.44	2.47	2.75	3.23
18.5	3.03	2.46	2.38	2.29	2.22	2.24	2.33	2.55	3.05
19.5	2.86	2.33	2.18	2.10	2.03	2.14	2.16	2.35	2.80
20.5	2.53	2.11	1.97	1.89	1.85	1.91	1.97	2.18	2.55
21.5	2.33	1.91	1.75	1.68	1.60	1.68	1.79	1.95	2.23
22.5	2.02	1.67	1.52	1.44	1.41	1.45	1.47	1.64	1.98
23.5	2.52	2.08	1.94	1.81	1.75	1.84	1.85	2.08	2.50
Ax. Avg.	2.96	2.46	2.30	2.19	2.12	2.20	2.28	2.48	2.95

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.17. Power Density Data (kW/cc) in Fuel Plate 17 in Prototypic Conditions (continued).

Plate 17, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	1.68	1.43	1.32	1.28	1.24	1.28	1.38	1.34	1.62
1.5	1.59	1.30	1.16	1.19	1.14	1.20	1.23	1.32	1.55
2.5	1.98	1.64	1.50	1.42	1.39	1.45	1.50	1.67	1.96
3.5	2.28	1.94	1.87	1.74	1.64	1.67	1.82	1.91	2.28
4.5	2.53	2.18	2.06	1.97	1.82	1.89	2.01	2.17	2.53
5.5	2.92	2.35	2.17	2.16	2.07	2.09	2.17	2.40	2.85
6.5	3.12	2.57	2.44	2.35	2.24	2.25	2.31	2.59	3.11
7.5	3.44	2.92	2.59	2.46	2.30	2.41	2.59	2.73	3.29
8.5	3.52	2.93	2.65	2.56	2.45	2.55	2.70	2.89	3.47
9.5	3.64	2.91	2.73	2.71	2.54	2.63	2.77	3.02	3.58
10.5	3.62	3.11	2.86	2.67	2.61	2.65	2.76	3.03	3.74
11.5	3.79	3.10	2.84	2.73	2.58	2.73	2.81	2.99	3.65
12.5	3.72	3.06	2.83	2.71	2.64	2.71	2.89	3.04	3.62
13.5	3.68	3.01	2.86	2.71	2.60	2.63	2.82	3.00	3.59
14.5	3.54	2.93	2.82	2.67	2.52	2.63	2.73	2.99	3.51
15.5	3.42	2.87	2.60	2.53	2.40	2.50	2.60	2.85	3.48
16.5	3.36	2.78	2.69	2.47	2.39	2.43	2.52	2.67	3.31
17.5	3.15	2.64	2.35	2.32	2.26	2.28	2.41	2.62	3.19
18.5	3.07	2.48	2.30	2.19	2.12	2.15	2.25	2.41	2.97
19.5	2.71	2.32	2.09	1.98	1.95	1.99	2.09	2.20	2.69
20.5	2.42	2.08	1.91	1.86	1.75	1.76	1.89	2.01	2.45
21.5	2.18	1.79	1.75	1.59	1.55	1.56	1.74	1.86	2.18
22.5	2.00	1.58	1.45	1.39	1.33	1.40	1.45	1.59	1.98
23.5	2.42	2.03	1.91	1.79	1.71	1.76	1.86	1.98	2.47
Ax. Avg.	2.91	2.41	2.24	2.14	2.05	2.11	2.22	2.39	2.88

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.17. Power Density Data (kW/cc) in Fuel Plate 17 in Prototypic Conditions (continued).

Plate 17, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	1.62	1.36	1.27	1.26	1.19	1.25	1.30	1.37	1.68
1.5	1.57	1.28	1.18	1.15	1.07	1.12	1.19	1.28	1.58
2.5	1.87	1.61	1.50	1.41	1.39	1.46	1.49	1.63	1.96
3.5	2.24	1.92	1.75	1.73	1.65	1.71	1.78	1.90	2.32
4.5	2.51	2.18	1.96	1.89	1.85	1.89	2.05	2.07	2.58
5.5	2.80	2.33	2.23	2.11	2.08	2.15	2.26	2.37	2.86
6.5	3.00	2.57	2.42	2.28	2.21	2.29	2.41	2.67	3.12
7.5	3.26	2.74	2.51	2.42	2.37	2.47	2.50	2.85	3.25
8.5	3.35	2.91	2.63	2.54	2.41	2.55	2.67	2.95	3.38
9.5	3.48	2.92	2.78	2.61	2.56	2.61	2.73	2.95	3.58
10.5	3.50	3.06	2.77	2.65	2.60	2.66	2.81	3.08	3.59
11.5	3.62	3.06	2.93	2.72	2.58	2.72	2.94	3.12	3.61
12.5	3.76	3.07	2.88	2.76	2.64	2.74	2.87	3.06	3.73
13.5	3.66	3.11	2.78	2.69	2.59	2.68	2.77	3.10	3.61
14.5	3.63	3.07	2.79	2.63	2.55	2.67	2.78	2.88	3.54
15.5	3.48	2.87	2.69	2.59	2.46	2.55	2.68	2.94	3.54
16.5	3.31	2.78	2.59	2.45	2.42	2.48	2.65	2.83	3.29
17.5	3.06	2.57	2.53	2.31	2.25	2.33	2.48	2.64	3.21
18.5	2.90	2.42	2.34	2.26	2.11	2.24	2.31	2.49	2.99
19.5	2.73	2.33	2.19	2.03	1.99	2.07	2.10	2.38	2.67
20.5	2.50	2.16	1.95	1.86	1.80	1.83	1.92	2.10	2.47
21.5	2.26	1.85	1.71	1.62	1.59	1.62	1.69	1.83	2.16
22.5	1.95	1.59	1.50	1.45	1.37	1.39	1.53	1.61	1.98
23.5	2.50	2.00	1.90	1.80	1.76	1.80	1.97	2.05	2.45
Ax. Avg.	2.86	2.41	2.24	2.13	2.06	2.14	2.25	2.42	2.88

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.17. Power Density Data (kW/cc) in Fuel Plate 17 in Prototypic Conditions (continued).

Plate 17, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.331 inches	1.331 to 2.071 inches	2.071 to 2.811 inches	2.811 to 3.008 inches	3.008 to 3.205 inches	3.205 to 3.402 inches
0.5	1.58	1.39	1.35	1.20	1.20	1.21	1.30	1.41	1.72
1.5	1.53	1.20	1.17	1.12	1.09	1.11	1.17	1.23	1.51
2.5	1.94	1.59	1.48	1.44	1.39	1.41	1.50	1.52	1.84
3.5	2.24	1.94	1.69	1.67	1.62	1.66	1.76	1.88	2.25
4.5	2.52	2.16	1.99	1.89	1.83	1.88	1.93	2.05	2.50
5.5	2.86	2.36	2.24	2.07	2.01	2.10	2.16	2.29	2.78
6.5	2.99	2.49	2.36	2.22	2.16	2.23	2.36	2.49	2.90
7.5	3.25	2.61	2.45	2.36	2.30	2.36	2.46	2.60	3.21
8.5	3.31	2.85	2.70	2.45	2.34	2.45	2.61	2.83	3.24
9.5	3.47	2.95	2.72	2.57	2.46	2.51	2.70	2.88	3.36
10.5	3.58	3.00	2.75	2.62	2.52	2.66	2.76	2.99	3.51
11.5	3.56	3.03	2.72	2.63	2.51	2.66	2.84	3.08	3.53
12.5	3.46	2.96	2.81	2.62	2.56	2.68	2.83	3.03	3.52
13.5	3.49	2.91	2.73	2.61	2.51	2.60	2.67	3.00	3.45
14.5	3.35	2.89	2.71	2.57	2.46	2.60	2.74	2.87	3.37
15.5	3.36	2.79	2.60	2.50	2.42	2.48	2.64	2.84	3.45
16.5	3.20	2.66	2.46	2.41	2.31	2.45	2.55	2.71	3.17
17.5	3.09	2.54	2.36	2.25	2.19	2.29	2.42	2.65	3.06
18.5	2.86	2.42	2.26	2.13	2.09	2.15	2.30	2.47	2.96
19.5	2.71	2.26	2.11	1.98	1.90	1.92	2.01	2.24	2.59
20.5	2.47	2.03	1.89	1.80	1.73	1.80	1.87	1.99	2.44
21.5	2.13	1.84	1.66	1.56	1.56	1.62	1.70	1.85	2.15
22.5	1.96	1.58	1.43	1.34	1.31	1.39	1.47	1.51	1.93
23.5	2.44	2.00	1.82	1.72	1.72	1.80	1.83	2.02	2.42
Ax. Avg.	2.81	2.35	2.19	2.07	2.01	2.08	2.19	2.35	2.79

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.18. Power Density Data (kW/cm^3) in Fuel Plate 18 in Prototypic Core.

Fuel core width: 3.508 inches / Fuel core thickness: 20 mil

Plate 18, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	1.03	0.88	0.84	0.84	0.85	0.86	0.89	0.91	1.07
1.5	0.85	0.77	0.73	0.76	0.74	0.76	0.79	0.78	0.87
2.5	1.02	1.00	0.94	0.89	0.91	0.89	0.89	0.93	1.06
3.5	1.23	1.15	1.06	1.09	1.07	1.07	1.04	1.11	1.25
4.5	1.48	1.25	1.26	1.25	1.28	1.29	1.30	1.26	1.46
5.5	1.74	1.49	1.50	1.49	1.48	1.51	1.50	1.48	1.66
6.5	1.98	1.70	1.69	1.71	1.69	1.73	1.72	1.79	1.88
7.5	2.32	2.09	1.98	1.91	1.95	1.96	2.05	2.07	2.42
8.5	2.96	2.42	2.30	2.28	2.16	2.31	2.44	2.52	2.90
9.5	3.43	2.84	2.74	2.56	2.48	2.56	2.69	2.87	3.52
10.5	3.85	3.16	2.93	2.80	2.68	2.81	2.95	3.19	3.76
11.5	4.11	3.50	3.15	3.01	2.89	3.00	3.22	3.47	4.19
12.5	4.33	3.62	3.30	3.12	2.98	3.16	3.41	3.56	4.39
13.5	4.49	3.66	3.42	3.25	3.10	3.29	3.40	3.71	4.42
14.5	4.48	3.78	3.50	3.31	3.15	3.35	3.46	3.73	4.50
15.5	4.54	3.75	3.40	3.32	3.21	3.37	3.52	3.67	4.53
16.5	4.44	3.63	3.40	3.24	3.13	3.25	3.44	3.74	4.51
17.5	4.33	3.71	3.32	3.16	3.08	3.21	3.33	3.60	4.46
18.5	4.01	3.33	3.14	2.98	2.92	3.03	3.19	3.58	4.20
19.5	3.85	3.25	2.95	2.83	2.78	2.83	3.07	3.25	3.76
20.5	3.52	2.91	2.75	2.60	2.47	2.60	2.77	2.93	3.45
21.5	3.19	2.61	2.41	2.29	2.22	2.29	2.47	2.58	3.11
22.5	2.82	2.24	2.11	2.02	1.94	2.00	2.11	2.33	2.90
23.5	3.53	2.92	2.69	2.55	2.46	2.51	2.65	2.86	3.69
Ax. Avg.	3.06	2.57	2.40	2.30	2.23	2.32	2.43	2.58	3.08

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.18. Power Density Data (kW/cc) in Fuel Plate 18 in Prototypic Conditions (continued).

Plate 18, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	1.70	1.44	1.37	1.38	1.32	1.34	1.30	1.44	1.61
1.5	1.58	1.33	1.26	1.20	1.20	1.19	1.27	1.32	1.64
2.5	2.01	1.74	1.59	1.49	1.42	1.50	1.60	1.74	2.11
3.5	2.44	1.97	1.85	1.74	1.71	1.76	1.88	2.01	2.35
4.5	2.66	2.29	2.10	1.99	1.92	2.02	2.13	2.23	2.72
5.5	2.93	2.46	2.33	2.19	2.13	2.24	2.40	2.51	2.98
6.5	3.23	2.75	2.59	2.38	2.29	2.37	2.55	2.77	3.23
7.5	3.52	2.95	2.66	2.53	2.44	2.56	2.77	2.92	3.46
8.5	3.72	3.07	2.84	2.63	2.58	2.67	2.71	3.05	3.67
9.5	3.75	3.15	2.97	2.79	2.68	2.75	2.91	3.16	3.77
10.5	3.89	3.20	2.93	2.80	2.73	2.83	2.98	3.21	3.91
11.5	3.79	3.22	3.02	2.83	2.74	2.93	3.07	3.30	4.07
12.5	3.92	3.20	2.98	2.89	2.80	2.94	3.00	3.36	3.88
13.5	3.99	3.26	3.07	2.82	2.76	2.89	3.01	3.26	4.00
14.5	3.81	3.09	3.07	2.84	2.74	2.80	2.99	3.17	3.94
15.5	3.80	3.11	2.89	2.66	2.64	2.78	2.90	3.02	3.67
16.5	3.57	3.00	2.79	2.64	2.54	2.60	2.79	2.89	3.54
17.5	3.35	2.89	2.78	2.52	2.44	2.49	2.60	2.88	3.41
18.5	3.19	2.59	2.42	2.35	2.31	2.32	2.49	2.73	3.26
19.5	3.00	2.43	2.31	2.14	2.08	2.22	2.26	2.44	2.95
20.5	2.64	2.16	2.06	1.96	1.90	1.95	2.05	2.18	2.75
21.5	2.50	1.90	1.79	1.74	1.67	1.73	1.80	2.01	2.36
22.5	2.19	1.79	1.61	1.47	1.43	1.49	1.59	1.65	2.18
23.5	2.63	2.07	1.97	1.86	1.81	1.88	1.96	2.10	2.57
Ax. Avg.	3.08	2.54	2.38	2.24	2.18	2.26	2.37	2.56	3.08

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.18. Power Density Data (kW/cc) in Fuel Plate 18 in Prototypic Conditions (continued).

Plate 18, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	1.66	1.37	1.27	1.29	1.27	1.29	1.28	1.37	1.59
1.5	1.58	1.35	1.29	1.20	1.15	1.21	1.24	1.29	1.61
2.5	2.08	1.67	1.57	1.47	1.44	1.48	1.54	1.65	2.00
3.5	2.40	1.97	1.79	1.79	1.70	1.74	1.86	1.97	2.36
4.5	2.72	2.30	2.10	1.99	1.90	1.95	2.02	2.26	2.73
5.5	3.06	2.42	2.31	2.22	2.12	2.14	2.23	2.46	3.06
6.5	3.27	2.73	2.54	2.42	2.31	2.34	2.45	2.69	3.27
7.5	3.43	2.76	2.65	2.52	2.42	2.51	2.65	2.82	3.46
8.5	3.65	2.97	2.78	2.64	2.53	2.64	2.76	3.02	3.65
9.5	3.72	3.00	2.81	2.75	2.64	2.73	2.77	3.12	3.75
10.5	3.81	3.18	2.96	2.79	2.68	2.77	2.94	3.10	3.88
11.5	3.79	3.19	2.97	2.83	2.70	2.83	2.94	3.12	3.90
12.5	3.99	3.17	2.97	2.81	2.73	2.79	2.95	3.15	3.86
13.5	3.84	3.24	2.95	2.74	2.68	2.79	2.89	3.10	3.83
14.5	3.75	3.09	2.85	2.70	2.65	2.73	2.85	3.07	3.65
15.5	3.62	3.05	2.72	2.63	2.50	2.58	2.71	2.94	3.54
16.5	3.45	2.86	2.72	2.52	2.47	2.51	2.64	2.77	3.47
17.5	3.29	2.81	2.58	2.42	2.29	2.39	2.48	2.81	3.33
18.5	3.13	2.57	2.37	2.25	2.18	2.24	2.33	2.57	3.20
19.5	2.93	2.40	2.20	2.10	1.98	2.04	2.19	2.36	2.86
20.5	2.62	2.11	1.92	1.91	1.81	1.86	1.96	2.08	2.56
21.5	2.26	1.83	1.69	1.65	1.59	1.62	1.71	1.88	2.30
22.5	2.12	1.63	1.54	1.39	1.38	1.43	1.47	1.64	2.10
23.5	2.55	2.05	1.90	1.85	1.74	1.82	1.94	2.05	2.62
Ax. Avg.	3.03	2.49	2.31	2.20	2.12	2.18	2.28	2.47	3.02

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.18. Power Density Data (kW/cc) in Fuel Plate 18 in Prototypic Conditions (continued).

Plate 18, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	1.64	1.39	1.33	1.21	1.14	1.19	1.21	1.30	1.56
1.5	1.57	1.34	1.17	1.16	1.11	1.17	1.27	1.31	1.59
2.5	1.95	1.65	1.50	1.48	1.44	1.46	1.49	1.70	2.06
3.5	2.39	1.90	1.81	1.78	1.69	1.75	1.82	1.99	2.41
4.5	2.70	2.28	2.12	1.95	1.94	2.01	2.09	2.22	2.74
5.5	2.87	2.40	2.26	2.18	2.14	2.23	2.27	2.50	3.04
6.5	3.22	2.64	2.45	2.35	2.30	2.39	2.53	2.69	3.29
7.5	3.38	2.80	2.66	2.52	2.45	2.56	2.71	2.86	3.42
8.5	3.56	2.99	2.71	2.62	2.55	2.63	2.78	3.05	3.65
9.5	3.69	3.04	2.79	2.76	2.66	2.71	2.97	3.14	3.70
10.5	3.78	3.18	2.92	2.76	2.72	2.75	2.97	3.08	3.81
11.5	3.81	3.19	2.91	2.81	2.74	2.81	2.93	3.21	3.88
12.5	3.78	3.20	3.02	2.85	2.74	2.90	2.93	3.30	3.90
13.5	3.79	3.15	2.98	2.78	2.69	2.78	3.00	3.24	3.86
14.5	3.79	3.06	2.91	2.74	2.64	2.73	2.80	3.14	3.74
15.5	3.57	2.99	2.82	2.68	2.60	2.65	2.69	2.98	3.72
16.5	3.59	2.88	2.82	2.56	2.51	2.61	2.70	2.92	3.49
17.5	3.30	2.74	2.50	2.44	2.38	2.44	2.57	2.80	3.26
18.5	3.08	2.60	2.37	2.33	2.24	2.30	2.39	2.58	3.11
19.5	2.87	2.44	2.24	2.14	2.06	2.13	2.20	2.36	2.88
20.5	2.62	2.17	2.01	1.95	1.86	1.91	1.97	2.23	2.68
21.5	2.36	1.92	1.77	1.69	1.66	1.67	1.73	1.93	2.35
22.5	2.08	1.72	1.59	1.46	1.42	1.47	1.61	1.73	2.18
23.5	2.50	2.02	1.89	1.85	1.78	1.87	1.89	2.13	2.58
Ax. Avg.	3.00	2.49	2.31	2.21	2.14	2.21	2.31	2.52	3.04

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.18. Power Density Data (kW/cc) in Fuel Plate 18 in Prototypic Conditions (continued).

Plate 18, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.366 inches	1.366 to 2.142 inches	2.142 to 2.918 inches	2.918 to 3.115 inches	3.115 to 3.312 inches	3.312 to 3.508 inches
0.5	1.58	1.32	1.25	1.19	1.14	1.21	1.30	1.34	1.56
1.5	1.52	1.28	1.14	1.13	1.11	1.15	1.19	1.26	1.50
2.5	1.94	1.59	1.55	1.46	1.39	1.45	1.53	1.63	1.90
3.5	2.29	1.97	1.84	1.71	1.62	1.75	1.83	1.94	2.38
4.5	2.67	2.23	2.02	1.95	1.85	1.95	2.04	2.25	2.57
5.5	2.90	2.41	2.34	2.16	2.11	2.15	2.27	2.51	2.82
6.5	3.15	2.58	2.42	2.33	2.21	2.36	2.41	2.60	3.08
7.5	3.45	2.70	2.47	2.48	2.39	2.42	2.62	2.84	3.26
8.5	3.54	2.92	2.77	2.57	2.44	2.53	2.66	2.90	3.46
9.5	3.64	3.10	2.88	2.66	2.55	2.66	2.71	2.95	3.45
10.5	3.65	3.08	2.85	2.72	2.64	2.73	2.91	3.07	3.64
11.5	3.83	3.10	2.85	2.83	2.65	2.78	2.96	3.07	3.77
12.5	3.76	3.04	2.94	2.77	2.65	2.76	2.99	3.17	3.75
13.5	3.63	3.04	2.75	2.68	2.59	2.74	2.86	3.00	3.57
14.5	3.49	3.01	2.79	2.66	2.58	2.68	2.81	3.06	3.67
15.5	3.46	2.89	2.72	2.58	2.51	2.61	2.69	2.93	3.48
16.5	3.28	2.78	2.56	2.48	2.39	2.54	2.68	2.82	3.43
17.5	3.10	2.70	2.46	2.40	2.26	2.39	2.46	2.62	3.32
18.5	3.08	2.54	2.38	2.26	2.17	2.27	2.37	2.61	3.11
19.5	2.75	2.33	2.13	2.09	2.00	2.01	2.17	2.28	2.74
20.5	2.56	2.11	1.97	1.89	1.85	1.85	2.01	2.13	2.54
21.5	2.25	1.87	1.73	1.65	1.62	1.69	1.77	1.83	2.31
22.5	2.12	1.65	1.56	1.41	1.37	1.44	1.52	1.60	2.04
23.5	2.49	2.11	1.91	1.84	1.77	1.82	1.91	2.06	2.44
Ax. Avg.	2.92	2.43	2.26	2.16	2.08	2.16	2.28	2.44	2.91

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.19. Power Density Data (kW/cm^3) in Fuel Plate 19 in Prototypic Core.

Fuel core width: 3.615 inches / Fuel core thickness: 20 mil

Plate 19, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	0.98	0.81	0.79	0.86	0.83	0.88	0.85	0.87	0.98
1.5	0.85	0.83	0.76	0.76	0.77	0.76	0.81	0.80	0.87
2.5	1.03	0.91	0.91	0.91	0.94	0.92	0.86	0.89	0.99
3.5	1.26	1.09	1.08	1.10	1.07	1.11	1.07	1.09	1.17
4.5	1.46	1.37	1.26	1.27	1.28	1.31	1.27	1.33	1.40
5.5	1.65	1.58	1.50	1.46	1.49	1.52	1.48	1.55	1.69
6.5	1.95	1.79	1.75	1.74	1.71	1.73	1.75	1.75	1.88
7.5	2.29	2.09	1.99	1.99	2.03	1.99	2.05	2.07	2.37
8.5	3.01	2.61	2.40	2.39	2.25	2.42	2.46	2.66	3.03
9.5	3.49	3.02	2.77	2.68	2.61	2.67	2.87	3.07	3.58
10.5	3.97	3.33	3.05	2.95	2.78	2.96	3.20	3.39	4.13
11.5	4.42	3.69	3.30	3.16	3.05	3.16	3.37	3.64	4.32
12.5	4.68	3.87	3.49	3.30	3.15	3.42	3.57	3.84	4.59
13.5	4.82	3.92	3.67	3.44	3.25	3.42	3.72	3.85	4.75
14.5	4.87	4.05	3.69	3.52	3.37	3.52	3.57	3.89	4.79
15.5	4.70	3.86	3.67	3.46	3.43	3.46	3.71	4.10	4.80
16.5	4.67	3.87	3.65	3.47	3.35	3.43	3.62	3.88	4.65
17.5	4.62	3.85	3.61	3.37	3.26	3.32	3.51	3.78	4.65
18.5	4.46	3.56	3.29	3.22	3.06	3.22	3.30	3.63	4.41
19.5	4.02	3.38	3.19	2.98	2.94	3.02	3.21	3.40	4.06
20.5	3.86	3.08	2.93	2.75	2.63	2.77	2.89	3.01	3.84
21.5	3.28	2.69	2.48	2.41	2.34	2.46	2.55	2.76	3.41
22.5	2.97	2.38	2.23	2.14	2.08	2.14	2.20	2.45	3.02
23.5	3.62	2.96	2.82	2.63	2.57	2.63	2.74	3.00	3.72
Ax. Avg.	3.21	2.69	2.51	2.42	2.34	2.43	2.53	2.70	3.21

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.19. Power Density Data (kW/cc) in Fuel Plate 19 in Prototypic Conditions (continued).

Plate 19, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	1.63	1.47	1.49	1.35	1.31	1.36	1.35	1.42	1.61
1.5	1.70	1.38	1.31	1.28	1.24	1.25	1.33	1.41	1.62
2.5	2.13	1.74	1.66	1.60	1.49	1.57	1.62	1.78	2.07
3.5	2.51	2.03	1.90	1.86	1.78	1.86	1.96	2.05	2.45
4.5	2.83	2.44	2.23	2.06	2.00	2.13	2.26	2.38	2.91
5.5	3.11	2.56	2.33	2.34	2.25	2.32	2.54	2.69	3.23
6.5	3.51	2.96	2.66	2.51	2.41	2.55	2.69	2.89	3.49
7.5	3.73	3.03	2.78	2.66	2.56	2.68	2.90	3.10	3.70
8.5	3.98	3.30	3.07	2.81	2.70	2.81	2.95	3.18	3.94
9.5	3.96	3.32	3.01	2.88	2.78	2.88	3.09	3.45	4.11
10.5	4.15	3.41	3.13	2.96	2.88	2.98	3.12	3.38	4.09
11.5	4.15	3.39	3.16	3.03	2.90	3.06	3.21	3.44	4.26
12.5	4.17	3.44	3.24	3.07	2.94	3.05	3.17	3.51	4.21
13.5	4.18	3.54	3.10	2.99	2.93	3.04	3.16	3.38	4.20
14.5	4.03	3.38	3.08	2.99	2.87	2.98	3.03	3.29	4.07
15.5	3.98	3.30	3.07	2.89	2.81	2.94	3.05	3.31	4.05
16.5	3.91	3.15	2.88	2.78	2.69	2.77	2.97	3.07	3.88
17.5	3.66	3.05	2.86	2.64	2.59	2.64	2.80	3.02	3.76
18.5	3.48	2.79	2.51	2.50	2.42	2.55	2.59	2.79	3.37
19.5	3.22	2.69	2.41	2.29	2.25	2.30	2.41	2.67	3.20
20.5	2.86	2.32	2.13	2.08	2.02	2.09	2.18	2.41	2.89
21.5	2.52	2.04	1.89	1.84	1.79	1.84	1.95	2.15	2.56
22.5	2.28	1.83	1.72	1.57	1.51	1.57	1.72	1.83	2.31
23.5	2.78	2.19	1.98	1.94	1.89	1.95	2.03	2.25	2.78
Ax. Avg.	3.27	2.70	2.48	2.37	2.29	2.38	2.50	2.70	3.28

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.19. Power Density Data (kW/cc) in Fuel Plate 19 in Prototypic Conditions (continued).

Plate 19, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	1.59	1.34	1.23	1.28	1.25	1.27	1.34	1.35	1.59
1.5	1.62	1.40	1.31	1.25	1.24	1.23	1.24	1.35	1.65
2.5	2.09	1.73	1.67	1.55	1.52	1.56	1.60	1.75	2.10
3.5	2.60	2.12	1.97	1.90	1.83	1.85	1.95	2.10	2.58
4.5	2.93	2.38	2.30	2.09	2.01	2.10	2.17	2.37	2.88
5.5	3.28	2.66	2.54	2.37	2.28	2.30	2.52	2.65	3.21
6.5	3.52	2.89	2.65	2.60	2.45	2.53	2.62	2.97	3.57
7.5	3.78	3.06	2.82	2.67	2.63	2.72	2.83	3.09	3.68
8.5	3.82	3.27	3.00	2.81	2.68	2.82	2.95	3.27	3.87
9.5	3.97	3.33	3.04	2.88	2.82	2.90	2.99	3.34	4.06
10.5	4.11	3.46	3.13	2.95	2.84	2.93	3.03	3.33	4.12
11.5	4.20	3.44	3.19	3.03	2.84	2.99	3.18	3.36	4.20
12.5	4.13	3.41	3.12	2.94	2.86	3.01	3.07	3.47	4.05
13.5	4.08	3.35	3.17	2.93	2.84	2.97	3.05	3.36	4.12
14.5	3.95	3.22	3.02	2.94	2.79	2.92	3.05	3.25	3.89
15.5	3.97	3.22	2.94	2.75	2.63	2.74	2.88	3.15	3.90
16.5	3.74	3.04	2.90	2.70	2.59	2.63	2.80	3.02	3.76
17.5	3.50	2.86	2.67	2.56	2.44	2.54	2.63	2.83	3.43
18.5	3.29	2.71	2.47	2.44	2.30	2.38	2.51	2.72	3.33
19.5	3.00	2.54	2.40	2.22	2.11	2.17	2.32	2.55	3.08
20.5	2.77	2.31	2.17	2.01	1.88	1.96	2.09	2.23	2.80
21.5	2.47	1.94	1.79	1.78	1.70	1.79	1.79	1.99	2.44
22.5	2.27	1.78	1.61	1.54	1.47	1.56	1.60	1.77	2.16
23.5	2.65	2.22	2.06	1.92	1.82	1.91	1.99	2.11	2.65
Ax. Avg.	3.22	2.65	2.47	2.34	2.24	2.32	2.43	2.64	3.21

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.19. Power Density Data (kW/cc) in Fuel Plate 19 in Prototypic Conditions (continued).

Plate 19, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	1.63	1.36	1.23	1.19	1.11	1.14	1.16	1.27	1.52
1.5	1.67	1.36	1.29	1.18	1.16	1.19	1.26	1.36	1.62
2.5	2.08	1.76	1.59	1.54	1.51	1.55	1.62	1.77	2.12
3.5	2.45	2.13	1.96	1.87	1.77	1.85	1.96	2.08	2.62
4.5	2.89	2.31	2.17	2.08	2.04	2.16	2.27	2.41	2.96
5.5	3.11	2.53	2.45	2.34	2.28	2.39	2.50	2.66	3.30
6.5	3.41	2.83	2.59	2.51	2.44	2.54	2.59	2.94	3.51
7.5	3.55	2.89	2.77	2.70	2.60	2.72	2.89	3.01	3.72
8.5	3.74	3.19	2.93	2.78	2.73	2.83	2.95	3.23	3.81
9.5	3.89	3.22	2.92	2.92	2.85	2.91	3.14	3.32	4.02
10.5	4.02	3.31	3.09	2.96	2.88	2.97	3.16	3.30	4.03
11.5	4.08	3.36	3.15	3.01	2.91	3.04	3.14	3.43	3.97
12.5	3.99	3.34	3.14	3.03	2.94	3.11	3.16	3.49	4.17
13.5	3.99	3.35	3.10	3.00	2.87	3.04	3.17	3.42	4.12
14.5	4.07	3.26	3.00	2.98	2.83	2.97	3.07	3.25	3.97
15.5	3.80	3.20	3.11	2.87	2.71	2.82	2.93	3.21	3.89
16.5	3.67	3.07	2.86	2.76	2.69	2.75	2.87	3.14	3.83
17.5	3.57	2.97	2.79	2.59	2.49	2.57	2.73	2.88	3.55
18.5	3.40	2.79	2.63	2.48	2.38	2.46	2.67	2.85	3.37
19.5	3.12	2.53	2.35	2.28	2.20	2.30	2.34	2.57	3.06
20.5	2.76	2.27	2.10	2.07	1.97	2.07	2.14	2.27	2.87
21.5	2.47	2.08	1.86	1.80	1.77	1.80	1.91	2.02	2.49
22.5	2.17	1.81	1.65	1.57	1.50	1.58	1.67	1.81	2.31
23.5	2.61	2.16	1.96	1.90	1.88	1.92	2.04	2.18	2.69
Ax. Avg.	3.17	2.63	2.44	2.35	2.27	2.36	2.47	2.66	3.23

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.19. Power Density Data (kW/cc) in Fuel Plate 19 in Prototypic Conditions (continued).

Plate 19, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.402 inches	1.402 to 2.213 inches	2.213 to 3.025 inches	3.025 to 3.222 inches	3.222 to 3.418 inches	3.418 to 3.615 inches
0.5	1.56	1.27	1.21	1.16	1.14	1.17	1.24	1.35	1.57
1.5	1.66	1.31	1.22	1.19	1.14	1.19	1.18	1.29	1.53
2.5	2.03	1.73	1.63	1.56	1.49	1.52	1.59	1.72	2.12
3.5	2.43	2.12	1.99	1.82	1.78	1.82	1.99	2.00	2.44
4.5	2.87	2.33	2.18	2.09	2.00	2.10	2.19	2.44	2.79
5.5	3.21	2.73	2.37	2.32	2.25	2.33	2.42	2.44	3.07
6.5	3.35	2.76	2.61	2.47	2.36	2.50	2.57	2.71	3.23
7.5	3.62	3.00	2.72	2.60	2.54	2.65	2.78	2.99	3.54
8.5	3.84	3.17	2.85	2.72	2.65	2.72	2.92	3.05	3.67
9.5	4.02	3.22	2.91	2.87	2.74	2.86	2.97	3.10	3.76
10.5	3.90	3.31	3.02	2.88	2.83	2.90	3.01	3.26	3.87
11.5	3.90	3.27	3.12	2.99	2.82	2.95	3.11	3.34	3.99
12.5	3.97	3.27	3.09	2.93	2.83	2.94	3.14	3.38	3.89
13.5	3.91	3.26	2.96	2.91	2.75	2.89	3.03	3.23	3.77
14.5	3.88	3.15	3.03	2.87	2.76	2.88	2.97	3.20	3.89
15.5	3.64	3.01	2.87	2.77	2.71	2.76	2.93	3.14	3.74
16.5	3.60	3.07	2.71	2.72	2.61	2.73	2.84	2.94	3.58
17.5	3.46	2.91	2.64	2.53	2.46	2.58	2.68	2.86	3.41
18.5	3.28	2.71	2.45	2.38	2.32	2.39	2.52	2.68	3.28
19.5	2.99	2.40	2.28	2.23	2.14	2.18	2.33	2.45	3.06
20.5	2.71	2.18	2.09	1.98	1.95	2.05	2.12	2.29	2.77
21.5	2.40	1.93	1.82	1.76	1.72	1.82	1.85	1.97	2.46
22.5	2.21	1.76	1.62	1.53	1.49	1.56	1.66	1.82	2.20
23.5	2.64	2.05	2.00	1.92	1.82	1.92	2.03	2.07	2.65
Ax. Avg.	3.13	2.58	2.39	2.30	2.22	2.31	2.42	2.57	3.09

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.20. Power Density Data (kW/cm^3) in Fuel Plate 20 in Prototypic Core.

Fuel core width: 3.723 inches / Fuel core thickness: 20 mil

Plate 20, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	0.93	0.82	0.78	0.88	0.86	0.88	0.86	0.88	0.96
1.5	0.89	0.75	0.81	0.79	0.79	0.78	0.75	0.72	0.91
2.5	1.05	1.00	0.95	0.94	0.95	0.97	0.88	0.89	0.98
3.5	1.18	1.12	1.15	1.13	1.16	1.13	1.09	1.09	1.19
4.5	1.43	1.30	1.26	1.32	1.36	1.31	1.25	1.32	1.50
5.5	1.63	1.58	1.50	1.52	1.54	1.54	1.44	1.53	1.72
6.5	1.99	1.74	1.79	1.77	1.77	1.80	1.72	1.74	1.90
7.5	2.36	2.12	2.09	2.06	2.10	2.09	2.08	2.15	2.46
8.5	3.15	2.76	2.52	2.51	2.43	2.53	2.66	2.73	3.16
9.5	3.77	3.18	3.07	2.90	2.78	2.86	3.09	3.24	3.92
10.5	4.45	3.68	3.36	3.16	3.04	3.23	3.39	3.59	4.41
11.5	4.83	3.95	3.57	3.39	3.29	3.45	3.73	3.94	4.87
12.5	4.91	4.17	3.82	3.60	3.41	3.62	3.77	4.27	4.95
13.5	5.08	4.28	3.88	3.70	3.56	3.72	3.86	4.10	5.12
14.5	5.05	4.35	3.98	3.72	3.57	3.79	3.98	4.33	5.21
15.5	5.15	4.31	3.99	3.81	3.64	3.76	4.02	4.26	5.25
16.5	5.16	4.26	3.99	3.82	3.65	3.78	3.92	4.28	5.08
17.5	5.06	4.31	3.96	3.66	3.59	3.64	3.80	4.20	4.98
18.5	4.81	4.03	3.60	3.48	3.36	3.49	3.75	3.98	4.81
19.5	4.41	3.68	3.53	3.26	3.21	3.30	3.42	3.62	4.41
20.5	4.11	3.39	3.06	3.03	2.90	3.04	3.17	3.41	4.20
21.5	3.64	3.05	2.79	2.68	2.60	2.70	2.86	3.01	3.71
22.5	3.27	2.68	2.49	2.33	2.27	2.35	2.44	2.68	3.37
23.5	3.90	3.20	2.89	2.86	2.73	2.79	2.97	3.21	3.94
Ax. Avg.	3.42	2.90	2.70	2.60	2.52	2.61	2.70	2.88	3.46

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.20. Power Density Data (kW/cc) in Fuel Plate 20 in Prototypic Conditions (continued).

Plate 20, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	1.61	1.48	1.37	1.40	1.40	1.40	1.36	1.40	1.55
1.5	1.74	1.51	1.38	1.33	1.32	1.33	1.34	1.43	1.69
2.5	2.23	1.86	1.75	1.68	1.62	1.72	1.80	1.97	2.32
3.5	2.78	2.29	2.13	2.00	1.93	2.03	2.17	2.27	2.74
4.5	3.15	2.54	2.43	2.25	2.18	2.25	2.43	2.58	3.21
5.5	3.41	2.88	2.68	2.51	2.44	2.54	2.71	2.89	3.48
6.5	3.78	3.16	2.91	2.69	2.57	2.74	2.91	3.09	3.78
7.5	4.06	3.39	3.00	2.93	2.77	2.91	3.09	3.41	4.08
8.5	4.19	3.56	3.29	3.04	2.98	3.05	3.19	3.48	4.29
9.5	4.38	3.57	3.45	3.20	3.03	3.14	3.35	3.64	4.44
10.5	4.62	3.74	3.43	3.27	3.13	3.29	3.36	3.77	4.49
11.5	4.65	3.61	3.49	3.34	3.19	3.36	3.51	3.76	4.67
12.5	4.74	3.78	3.53	3.30	3.25	3.32	3.46	3.85	4.51
13.5	4.67	3.79	3.45	3.30	3.24	3.35	3.53	3.80	4.55
14.5	4.46	3.62	3.43	3.27	3.13	3.26	3.45	3.69	4.43
15.5	4.38	3.63	3.34	3.18	3.18	3.22	3.28	3.59	4.28
16.5	4.29	3.48	3.12	3.07	3.03	3.04	3.25	3.49	4.21
17.5	4.00	3.30	3.08	2.91	2.81	2.92	3.06	3.35	4.09
18.5	3.88	3.15	2.87	2.73	2.64	2.74	2.88	3.18	3.74
19.5	3.49	2.85	2.61	2.54	2.45	2.52	2.71	2.85	3.55
20.5	3.12	2.55	2.29	2.23	2.24	2.30	2.45	2.58	3.05
21.5	2.94	2.29	2.16	2.01	1.91	2.06	2.10	2.23	2.75
22.5	2.57	2.01	1.86	1.78	1.66	1.73	1.84	2.00	2.50
23.5	2.94	2.38	2.28	2.08	2.00	2.10	2.23	2.36	2.91
Ax. Avg.	3.59	2.93	2.72	2.58	2.50	2.60	2.73	2.94	3.56

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.20. Power Density Data (kW/cc) in Fuel Plate 20 in Prototypic Conditions (continued).

Plate 20, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	1.54	1.34	1.31	1.29	1.26	1.30	1.30	1.31	1.51
1.5	1.73	1.48	1.37	1.33	1.32	1.30	1.31	1.43	1.67
2.5	2.31	1.90	1.77	1.69	1.68	1.74	1.76	1.85	2.38
3.5	2.87	2.31	2.09	2.04	2.00	2.04	2.14	2.38	2.91
4.5	3.26	2.75	2.52	2.38	2.26	2.33	2.46	2.68	3.17
5.5	3.61	2.93	2.81	2.60	2.51	2.58	2.67	2.88	3.57
6.5	3.87	3.20	2.96	2.86	2.69	2.84	2.97	3.17	3.89
7.5	4.01	3.22	3.08	3.04	2.86	2.95	3.04	3.38	4.11
8.5	4.22	3.56	3.28	3.09	2.96	3.14	3.34	3.56	4.16
9.5	4.32	3.61	3.41	3.23	3.11	3.23	3.33	3.67	4.34
10.5	4.47	3.66	3.46	3.25	3.18	3.30	3.41	3.69	4.48
11.5	4.35	3.75	3.48	3.31	3.18	3.32	3.38	3.70	4.48
12.5	4.40	3.72	3.53	3.28	3.18	3.29	3.38	3.70	4.52
13.5	4.46	3.72	3.45	3.25	3.16	3.26	3.45	3.54	4.66
14.5	4.37	3.67	3.39	3.22	3.10	3.21	3.32	3.56	4.34
15.5	4.24	3.45	3.15	3.12	2.90	3.07	3.15	3.46	4.31
16.5	4.08	3.37	3.19	2.98	2.80	2.93	3.15	3.31	4.03
17.5	3.87	3.22	3.01	2.83	2.66	2.81	2.98	3.13	3.79
18.5	3.69	3.04	2.70	2.65	2.56	2.61	2.74	3.03	3.60
19.5	3.35	2.70	2.58	2.44	2.30	2.40	2.55	2.70	3.40
20.5	3.01	2.47	2.36	2.21	2.11	2.18	2.29	2.49	3.05
21.5	2.68	2.22	2.01	1.98	1.88	1.91	2.02	2.27	2.73
22.5	2.57	1.99	1.76	1.70	1.67	1.72	1.75	1.97	2.36
23.5	2.82	2.31	2.16	2.07	2.00	2.07	2.12	2.29	2.90
Ax. Avg.	3.50	2.90	2.70	2.57	2.47	2.56	2.67	2.88	3.52

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.20. Power Density Data (kW/cc) in Fuel Plate 20 in Prototypic Conditions (continued).

Plate 20, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	1.60	1.31	1.25	1.15	1.11	1.18	1.15	1.27	1.48
1.5	1.65	1.39	1.34	1.26	1.22	1.25	1.27	1.44	1.70
2.5	2.28	1.85	1.79	1.71	1.65	1.72	1.79	1.92	2.30
3.5	2.66	2.24	2.10	2.06	2.01	2.09	2.20	2.34	2.71
4.5	3.08	2.61	2.40	2.35	2.30	2.39	2.52	2.68	3.19
5.5	3.44	2.81	2.73	2.58	2.55	2.63	2.74	3.08	3.54
6.5	3.58	3.09	2.96	2.79	2.76	2.81	2.97	3.14	3.77
7.5	3.95	3.21	3.04	2.98	2.90	2.99	3.20	3.40	3.94
8.5	4.08	3.44	3.27	3.12	3.06	3.12	3.21	3.51	4.08
9.5	4.29	3.54	3.28	3.24	3.20	3.23	3.36	3.63	4.34
10.5	4.38	3.65	3.39	3.22	3.25	3.32	3.45	3.67	4.51
11.5	4.53	3.72	3.53	3.34	3.19	3.32	3.52	3.72	4.47
12.5	4.44	3.67	3.53	3.38	3.27	3.41	3.52	3.83	4.51
13.5	4.35	3.64	3.51	3.34	3.22	3.36	3.52	3.67	4.57
14.5	4.25	3.55	3.36	3.27	3.13	3.23	3.41	3.66	4.42
15.5	4.24	3.62	3.32	3.19	3.06	3.12	3.19	3.55	4.32
16.5	4.09	3.44	3.34	3.07	2.96	3.03	3.23	3.43	4.15
17.5	3.84	3.31	3.06	2.86	2.84	2.90	2.99	3.12	3.84
18.5	3.64	3.05	2.83	2.73	2.68	2.72	2.80	3.05	3.60
19.5	3.46	2.85	2.57	2.51	2.46	2.54	2.66	2.79	3.27
20.5	3.05	2.51	2.36	2.27	2.22	2.35	2.36	2.51	2.95
21.5	2.68	2.24	2.20	2.05	1.93	2.05	2.15	2.23	2.71
22.5	2.38	1.98	1.87	1.75	1.71	1.78	1.87	2.01	2.49
23.5	2.82	2.32	2.21	2.11	2.02	2.08	2.22	2.38	2.81
Ax. Avg.	3.45	2.88	2.72	2.60	2.53	2.61	2.72	2.92	3.49

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.20. Power Density Data (kW/cc) in Fuel Plate 20 in Prototypic Conditions (continued).

Plate 20, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.438 inches	1.438 to 2.285 inches	2.285 to 3.132 inches	3.132 to 3.329 inches	3.329 to 3.526 inches	3.526 to 3.723 inches
0.5	1.49	1.31	1.13	1.13	1.11	1.13	1.22	1.33	1.55
1.5	1.71	1.41	1.31	1.24	1.22	1.22	1.26	1.34	1.67
2.5	2.30	1.89	1.72	1.67	1.62	1.69	1.86	1.94	2.21
3.5	2.77	2.36	2.12	2.05	1.99	2.04	2.24	2.26	2.68
4.5	3.05	2.59	2.36	2.33	2.30	2.33	2.41	2.66	3.02
5.5	3.42	2.92	2.71	2.54	2.48	2.54	2.65	2.73	3.28
6.5	3.69	3.02	2.90	2.74	2.63	2.76	2.86	2.95	3.51
7.5	4.07	3.30	3.03	2.93	2.86	2.89	3.05	3.27	3.80
8.5	4.07	3.44	3.22	3.04	3.00	3.07	3.18	3.31	4.05
9.5	4.22	3.55	3.34	3.18	3.09	3.16	3.26	3.60	4.19
10.5	4.38	3.55	3.41	3.24	3.17	3.26	3.36	3.60	4.22
11.5	4.29	3.63	3.45	3.33	3.19	3.30	3.41	3.61	4.27
12.5	4.34	3.60	3.49	3.27	3.18	3.30	3.42	3.68	4.31
13.5	4.20	3.52	3.41	3.23	3.10	3.24	3.43	3.51	4.11
14.5	4.23	3.50	3.30	3.19	3.02	3.20	3.40	3.58	4.25
15.5	4.03	3.38	3.20	3.11	2.96	3.06	3.15	3.34	4.10
16.5	3.95	3.36	3.09	2.97	2.89	3.06	3.06	3.31	3.91
17.5	3.75	3.16	2.87	2.83	2.71	2.84	2.96	3.14	3.70
18.5	3.55	3.01	2.72	2.67	2.60	2.65	2.80	2.98	3.57
19.5	3.20	2.69	2.58	2.49	2.39	2.45	2.53	2.73	3.22
20.5	2.91	2.57	2.34	2.23	2.20	2.26	2.33	2.52	2.99
21.5	2.59	2.15	2.00	1.99	1.94	2.01	2.06	2.19	2.63
22.5	2.39	1.93	1.83	1.70	1.68	1.77	1.82	1.97	2.35
23.5	2.81	2.28	2.11	2.05	2.05	2.07	2.11	2.23	2.79
Ax. Avg.	3.39	2.84	2.65	2.55	2.47	2.56	2.66	2.82	3.35

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.21. Power Density Data (kW/cm^3) in Fuel Plate 21 in Prototypic Core.

Fuel core width: 3.830 inches / Fuel core thickness: 20 mil

Plate 21, Core Position X1/X5, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	0.90	0.83	0.79	0.88	0.92	0.90	0.85	0.88	0.88
1.5	0.86	0.77	0.77	0.84	0.84	0.83	0.74	0.79	0.87
2.5	1.02	0.93	0.96	1.01	0.99	1.00	0.90	0.96	1.00
3.5	1.18	1.16	1.12	1.19	1.24	1.18	1.12	1.16	1.22
4.5	1.46	1.34	1.28	1.40	1.44	1.39	1.33	1.35	1.52
5.5	1.66	1.58	1.55	1.58	1.67	1.59	1.55	1.53	1.68
6.5	1.95	1.78	1.78	1.87	1.95	1.90	1.79	1.85	1.96
7.5	2.43	2.28	2.20	2.27	2.29	2.23	2.18	2.25	2.49
8.5	3.50	2.99	2.82	2.74	2.71	2.79	2.84	2.97	3.36
9.5	4.35	3.66	3.37	3.29	3.14	3.32	3.45	3.62	4.40
10.5	4.83	4.07	3.80	3.59	3.48	3.68	3.81	4.10	4.84
11.5	5.23	4.47	4.08	3.88	3.74	3.98	4.30	4.53	5.30
12.5	5.55	4.66	4.28	4.08	3.93	4.12	4.42	4.67	5.55
13.5	5.84	4.87	4.47	4.23	4.06	4.23	4.51	4.73	5.69
14.5	5.76	4.95	4.40	4.33	4.13	4.29	4.62	4.89	6.01
15.5	5.87	4.84	4.66	4.43	4.24	4.42	4.75	4.93	5.88
16.5	5.77	4.94	4.59	4.47	4.20	4.37	4.59	4.80	5.89
17.5	5.51	4.79	4.43	4.25	4.14	4.25	4.45	4.88	5.69
18.5	5.42	4.48	4.17	4.02	3.88	4.01	4.21	4.50	5.32
19.5	4.91	4.19	4.09	3.79	3.67	3.88	4.06	4.10	5.01
20.5	4.63	3.76	3.70	3.48	3.39	3.50	3.64	3.94	4.53
21.5	4.20	3.58	3.16	3.19	3.12	3.15	3.41	3.51	4.19
22.5	3.78	3.17	2.97	2.81	2.74	2.70	2.97	3.01	3.80
23.5	4.32	3.59	3.28	3.19	3.09	3.22	3.45	3.57	4.38
Ax. Avg.	3.79	3.24	3.03	2.95	2.88	2.95	3.08	3.23	3.81

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.21. Power Density Data (kW/cc) in Fuel Plate 21 in Prototypic Conditions (continued).

Plate 21, Core Position X1/X5, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	1.70	1.46	1.34	1.46	1.53	1.49	1.41	1.41	1.67
1.5	1.83	1.62	1.54	1.46	1.50	1.52	1.54	1.58	1.85
2.5	2.59	2.10	2.03	1.89	1.85	1.97	2.03	2.24	2.61
3.5	3.05	2.59	2.47	2.26	2.22	2.34	2.37	2.55	3.18
4.5	3.44	2.91	2.82	2.68	2.49	2.66	2.70	2.97	3.55
5.5	3.96	3.18	3.08	2.87	2.76	2.92	3.09	3.25	3.90
6.5	4.23	3.58	3.31	3.13	2.99	3.12	3.26	3.52	4.30
7.5	4.53	3.87	3.51	3.33	3.17	3.36	3.52	3.79	4.57
8.5	4.78	3.91	3.68	3.49	3.32	3.50	3.70	3.95	4.76
9.5	5.01	4.17	3.90	3.69	3.51	3.64	3.89	4.22	4.96
10.5	5.13	4.23	4.16	3.78	3.65	3.80	3.93	4.21	5.11
11.5	5.15	4.35	4.06	3.89	3.66	3.84	4.05	4.25	5.24
12.5	5.27	4.24	4.05	3.90	3.76	3.89	3.97	4.36	5.11
13.5	5.18	4.40	4.09	3.87	3.76	3.90	4.00	4.31	5.27
14.5	4.98	4.17	3.97	3.86	3.66	3.76	4.00	4.21	5.17
15.5	4.97	4.17	3.93	3.70	3.62	3.72	3.86	4.09	4.93
16.5	4.64	3.92	3.69	3.60	3.46	3.51	3.69	3.96	4.63
17.5	4.41	3.68	3.59	3.40	3.34	3.30	3.56	3.78	4.52
18.5	4.29	3.53	3.27	3.20	3.07	3.21	3.36	3.57	4.26
19.5	3.96	3.27	3.08	2.92	2.91	2.96	3.08	3.30	3.97
20.5	3.49	2.91	2.63	2.66	2.55	2.70	2.79	3.02	3.57
21.5	3.26	2.63	2.42	2.39	2.27	2.39	2.50	2.62	3.24
22.5	2.87	2.38	2.18	2.07	2.02	2.06	2.13	2.39	2.86
23.5	3.17	2.69	2.42	2.34	2.25	2.37	2.43	2.69	3.22
Ax. Avg.	4.00	3.33	3.13	2.99	2.89	3.00	3.12	3.34	4.02

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.21. Power Density Data (kW/cc) in Fuel Plate 21 in Prototypic Conditions (continued).

Plate 21, Core Position X3/X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	1.58	1.34	1.34	1.31	1.32	1.33	1.30	1.30	1.50
1.5	1.83	1.63	1.49	1.45	1.49	1.46	1.49	1.52	1.85
2.5	2.57	2.20	2.06	1.98	1.98	2.00	2.03	2.17	2.56
3.5	3.21	2.69	2.58	2.43	2.37	2.44	2.54	2.76	3.32
4.5	3.67	3.13	3.00	2.78	2.67	2.77	2.82	3.08	3.59
5.5	4.05	3.46	3.22	3.08	2.92	3.00	3.07	3.35	4.00
6.5	4.46	3.67	3.45	3.35	3.16	3.26	3.47	3.64	4.30
7.5	4.66	3.82	3.71	3.48	3.34	3.48	3.55	3.82	4.77
8.5	4.82	3.97	3.94	3.68	3.50	3.69	3.85	4.11	4.86
9.5	4.91	4.21	3.94	3.81	3.67	3.79	3.88	4.20	4.99
10.5	5.01	4.28	3.91	3.78	3.67	3.83	3.80	4.17	5.05
11.5	5.04	4.33	4.08	3.89	3.73	3.89	4.08	4.30	5.17
12.5	5.14	4.30	3.97	3.84	3.73	3.82	4.02	4.40	5.09
13.5	5.09	4.27	4.01	3.82	3.63	3.77	3.94	4.15	4.95
14.5	5.15	4.24	3.88	3.75	3.62	3.69	3.75	4.12	4.96
15.5	4.95	4.09	3.78	3.58	3.46	3.61	3.66	3.91	4.72
16.5	4.58	3.90	3.61	3.44	3.28	3.41	3.57	3.85	4.51
17.5	4.35	3.65	3.45	3.23	3.10	3.24	3.41	3.57	4.27
18.5	4.19	3.39	3.18	3.09	2.94	3.06	3.21	3.40	4.15
19.5	3.86	3.22	2.91	2.88	2.70	2.81	3.02	3.22	3.83
20.5	3.46	2.90	2.74	2.59	2.49	2.59	2.71	2.89	3.48
21.5	3.11	2.55	2.40	2.34	2.23	2.25	2.44	2.51	3.00
22.5	2.72	2.22	2.11	2.05	1.95	1.98	2.04	2.18	2.78
23.5	3.14	2.61	2.45	2.34	2.26	2.34	2.44	2.56	3.29
Ax. Avg.	3.98	3.34	3.13	3.00	2.88	2.98	3.09	3.30	3.96

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.21. Power Density Data (kW/cc) in Fuel Plate 21 in Prototypic Conditions (continued).

Plate 21, Core Position X2/X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	1.53	1.39	1.16	1.16	1.11	1.15	1.17	1.22	1.46
1.5	1.85	1.51	1.51	1.39	1.34	1.40	1.41	1.50	1.70
2.5	2.57	2.14	2.04	1.99	1.92	1.96	2.10	2.27	2.64
3.5	3.07	2.56	2.47	2.39	2.34	2.43	2.57	2.68	3.10
4.5	3.45	2.99	2.78	2.78	2.74	2.78	2.88	3.05	3.64
5.5	3.83	3.25	3.08	3.06	3.03	3.09	3.24	3.40	4.05
6.5	4.23	3.56	3.40	3.29	3.25	3.32	3.49	3.64	4.33
7.5	4.43	3.78	3.71	3.48	3.45	3.60	3.68	3.80	4.56
8.5	4.51	3.95	3.75	3.67	3.60	3.70	3.84	4.05	4.83
9.5	4.87	4.09	3.85	3.83	3.74	3.83	3.93	4.12	4.93
10.5	4.84	4.21	3.89	3.82	3.79	3.93	3.92	4.25	4.97
11.5	4.91	4.27	4.19	3.95	3.80	3.96	4.04	4.23	5.08
12.5	4.94	4.25	4.07	3.93	3.82	3.97	4.07	4.31	5.21
13.5	4.94	4.25	4.00	3.87	3.77	3.97	4.03	4.26	5.11
14.5	4.80	4.17	3.96	3.82	3.75	3.82	3.97	4.18	4.89
15.5	4.73	3.99	3.76	3.77	3.59	3.68	3.87	4.06	4.78
16.5	4.59	3.94	3.73	3.58	3.45	3.59	3.76	3.93	4.72
17.5	4.34	3.74	3.45	3.47	3.35	3.37	3.45	3.75	4.31
18.5	4.02	3.59	3.30	3.19	3.13	3.19	3.31	3.45	4.09
19.5	3.74	3.26	3.09	2.98	2.87	2.94	3.00	3.21	3.79
20.5	3.45	2.77	2.70	2.70	2.58	2.67	2.74	2.94	3.43
21.5	2.97	2.54	2.47	2.42	2.32	2.40	2.45	2.62	3.11
22.5	2.78	2.35	2.19	2.10	2.02	2.11	2.11	2.34	2.82
23.5	3.03	2.60	2.50	2.41	2.29	2.36	2.39	2.52	3.10
Ax. Avg.	3.85	3.30	3.13	3.05	2.96	3.05	3.14	3.32	3.94

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.21. Power Density Data (kW/cc) in Fuel Plate 21 in Prototypic Conditions (continued).

Plate 21, Core Position X4/X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.474 inches	1.474 to 2.357 inches	2.357 to 3.240 inches	3.240 to 3.437 inches	3.437 to 3.634 inches	3.634 to 3.830 inches
0.5	1.52	1.25	1.20	1.17	1.09	1.14	1.18	1.31	1.52
1.5	1.72	1.55	1.40	1.35	1.34	1.35	1.44	1.54	1.80
2.5	2.53	2.18	2.01	1.92	1.87	1.95	2.02	2.15	2.48
3.5	3.14	2.67	2.53	2.41	2.32	2.39	2.46	2.60	3.07
4.5	3.43	2.94	2.78	2.71	2.68	2.72	2.73	2.96	3.37
5.5	3.97	3.36	3.19	3.01	2.91	3.00	2.98	3.27	3.83
6.5	4.27	3.51	3.37	3.19	3.05	3.20	3.20	3.43	3.99
7.5	4.54	3.72	3.53	3.44	3.36	3.44	3.39	3.65	4.28
8.5	4.55	3.90	3.71	3.56	3.54	3.58	3.67	3.85	4.46
9.5	4.76	4.05	3.94	3.73	3.59	3.70	3.72	3.95	4.52
10.5	4.73	4.21	3.87	3.79	3.73	3.80	3.86	3.99	4.56
11.5	4.77	4.22	3.93	3.86	3.71	3.84	3.95	4.00	4.73
12.5	4.84	4.02	3.92	3.81	3.72	3.83	3.87	4.23	4.81
13.5	4.81	4.06	3.85	3.74	3.65	3.75	3.76	4.02	4.77
14.5	4.74	4.04	3.77	3.72	3.57	3.75	3.82	4.07	4.73
15.5	4.50	4.07	3.72	3.58	3.48	3.62	3.72	3.83	4.53
16.5	4.38	3.77	3.58	3.48	3.38	3.54	3.53	3.85	4.36
17.5	4.22	3.57	3.34	3.30	3.19	3.32	3.43	3.59	4.21
18.5	4.05	3.30	3.15	3.15	3.04	3.10	3.22	3.46	3.92
19.5	3.68	3.16	2.97	2.90	2.82	2.89	2.97	3.15	3.65
20.5	3.24	2.93	2.68	2.61	2.56	2.66	2.72	2.85	3.32
21.5	2.95	2.54	2.40	2.34	2.28	2.33	2.38	2.59	2.95
22.5	2.71	2.26	2.12	2.05	1.97	2.05	2.06	2.18	2.75
23.5	3.00	2.57	2.50	2.32	2.25	2.34	2.33	2.47	3.07
Ax. Avg.	3.79	3.24	3.06	2.97	2.88	2.97	3.02	3.21	3.74

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.22. Power Density Data (kW/cm^3) in Fuel Plate 22 in Prototypic Core.

Fuel core width: 3.938 inches / Fuel core thickness: 20 mil

Plate 22, Core Position X1, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	0.78	0.75	0.66	0.75	0.90	0.78	0.66	0.73	0.81
1.5	0.77	0.65	0.68	0.75	0.89	0.74	0.72	0.70	0.75
2.5	0.89	0.91	0.86	0.94	1.03	0.89	0.80	0.78	0.89
3.5	1.09	1.02	1.01	1.06	1.20	1.05	0.95	0.96	1.04
4.5	1.29	1.11	1.16	1.24	1.41	1.23	1.18	1.08	1.24
5.5	1.42	1.39	1.37	1.42	1.72	1.44	1.36	1.36	1.46
6.5	1.71	1.56	1.55	1.79	2.03	1.75	1.66	1.67	1.91
7.5	2.27	2.14	2.13	2.26	2.56	2.23	2.14	2.15	2.25
8.5	3.83	3.44	3.47	3.28	3.21	3.23	3.24	3.38	3.86
9.5	5.35	4.70	4.31	4.17	3.93	4.17	4.48	4.56	5.21
10.5	6.02	5.17	5.03	4.70	4.47	4.81	5.00	5.19	5.84
11.5	6.64	5.64	5.48	5.08	4.92	5.14	5.64	5.73	6.58
12.5	6.73	6.02	5.74	5.51	5.08	5.45	5.74	5.98	6.74
13.5	7.32	6.29	6.18	5.66	5.39	5.59	5.83	5.97	7.13
14.5	7.32	6.44	6.00	5.76	5.48	5.67	6.03	6.38	7.40
15.5	7.23	6.23	5.87	5.73	5.49	5.75	6.09	5.95	7.18
16.5	7.23	6.21	6.00	5.73	5.39	5.55	5.68	6.17	7.02
17.5	7.05	6.06	5.80	5.46	5.25	5.56	5.59	6.01	6.83
18.5	6.59	5.78	5.58	5.24	4.94	5.22	5.36	5.86	6.51
19.5	6.13	5.28	5.22	4.94	4.79	4.95	5.33	5.27	6.28
20.5	5.83	4.95	4.90	4.51	4.48	4.58	4.71	4.95	5.81
21.5	5.27	4.50	4.29	4.20	3.98	4.14	4.22	4.39	5.07
22.5	4.63	3.99	4.00	3.72	3.57	3.65	3.92	4.06	4.69
23.5	5.54	4.52	4.30	4.01	3.92	3.94	4.12	4.36	4.95
Ax. Avg.	4.54	3.95	3.82	3.66	3.58	3.65	3.77	3.90	4.48

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.22. Power Density Data (kW/cc) in Fuel Plate 22 in Prototypic Conditions (continued).

Plate 22, Core Position X1, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.66	1.40	1.34	1.42	1.68	1.41	1.22	1.39	1.55
1.5	2.08	1.79	1.74	1.77	1.88	1.79	1.64	1.74	2.13
2.5	3.12	2.82	2.58	2.51	2.51	2.53	2.65	2.73	3.07
3.5	3.93	3.33	3.15	3.06	2.98	3.12	3.15	3.42	3.78
4.5	4.42	3.87	3.75	3.54	3.39	3.49	3.60	3.89	4.27
5.5	5.09	4.19	4.01	3.92	3.75	3.89	4.15	4.20	4.77
6.5	5.62	4.67	4.38	4.21	4.08	4.19	4.49	4.54	5.53
7.5	5.89	4.90	4.73	4.56	4.32	4.53	4.73	5.01	5.71
8.5	6.06	5.32	5.04	4.71	4.51	4.80	4.84	5.23	5.95
9.5	6.20	5.55	5.12	4.89	4.67	4.98	5.20	5.26	6.10
10.5	6.32	5.60	5.48	4.98	4.77	5.08	5.23	5.73	6.33
11.5	6.65	5.76	5.42	5.10	4.84	5.03	5.30	5.59	6.39
12.5	6.36	5.51	5.41	5.04	4.79	5.05	5.15	5.62	6.35
13.5	6.42	5.52	5.36	5.11	4.90	5.11	5.17	5.44	6.36
14.5	6.21	5.36	5.32	4.95	4.74	4.91	5.19	5.37	6.17
15.5	6.19	5.23	4.89	4.83	4.64	4.78	4.87	5.35	5.88
16.5	6.03	5.13	4.93	4.66	4.45	4.55	4.76	5.06	5.82
17.5	5.44	5.01	4.66	4.45	4.21	4.37	4.53	4.76	5.38
18.5	5.34	4.60	4.32	4.20	3.93	4.12	4.33	4.56	5.31
19.5	4.93	4.30	4.08	3.94	3.78	3.89	4.02	4.32	4.92
20.5	4.43	3.77	3.59	3.51	3.37	3.47	3.71	4.05	4.30
21.5	4.13	3.50	3.39	3.21	3.03	3.16	3.22	3.55	3.97
22.5	3.63	3.13	2.99	2.87	2.70	2.72	2.97	3.08	3.66
23.5	3.89	3.35	3.24	3.02	2.87	3.07	3.28	3.44	3.91
Ax. Avg.	5.00	4.32	4.12	3.94	3.78	3.92	4.06	4.31	4.90

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.22. Power Density Data (kW/cc) in Fuel Plate 22 in Prototypic Conditions (continued).

Plate 22, Core Position X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.39	1.34	1.21	1.28	1.47	1.65	1.49	1.46	1.56
1.5	1.97	1.72	1.85	1.72	1.80	1.95	1.83	1.81	2.11
2.5	3.02	2.69	2.66	2.54	2.48	2.58	2.61	2.70	3.13
3.5	3.81	3.48	3.23	3.16	3.10	3.13	3.16	3.36	3.77
4.5	4.31	3.94	3.53	3.56	3.41	3.55	3.39	3.76	4.20
5.5	4.90	4.36	4.23	4.04	3.82	3.87	4.03	4.18	4.77
6.5	5.36	4.61	4.21	4.31	4.03	4.12	4.28	4.50	5.22
7.5	5.65	5.05	4.66	4.55	4.29	4.39	4.46	4.59	5.59
8.5	5.71	5.08	4.97	4.74	4.54	4.68	4.71	5.04	5.71
9.5	5.98	5.17	5.10	4.93	4.68	4.86	4.88	5.18	5.93
10.5	6.12	5.63	5.21	5.06	4.82	4.83	4.91	5.24	5.90
11.5	6.25	5.59	5.44	5.16	4.85	4.86	5.00	5.19	6.08
12.5	6.15	5.37	5.39	5.10	4.76	4.77	5.14	5.29	5.93
13.5	6.13	5.68	5.18	5.02	4.66	4.74	5.04	5.16	6.09
14.5	6.13	5.26	5.18	4.89	4.56	4.67	4.91	5.19	5.97
15.5	5.98	5.19	4.72	4.70	4.40	4.39	4.60	4.87	5.60
16.5	5.64	4.88	4.55	4.53	4.21	4.30	4.56	4.74	5.24
17.5	5.30	4.70	4.46	4.21	3.88	4.05	4.21	4.36	5.21
18.5	5.11	4.28	4.15	3.99	3.75	3.79	4.02	4.29	4.81
19.5	4.43	4.16	3.91	3.66	3.47	3.54	3.71	3.96	4.59
20.5	4.13	3.60	3.67	3.44	3.17	3.21	3.41	3.62	4.14
21.5	3.56	3.30	3.07	2.99	2.85	2.98	3.02	3.23	3.72
22.5	3.28	2.98	2.94	2.64	2.58	2.63	2.78	2.83	3.46
23.5	3.68	3.11	3.05	2.93	2.82	2.88	2.99	3.12	3.59
Ax. Avg.	4.75	4.22	4.02	3.88	3.68	3.77	3.88	4.07	4.68

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.22. Power Density Data (kW/cc) in Fuel Plate 22 in Prototypic Conditions (continued).

Plate 22, Core Position X6, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.57	1.35	1.24	1.18	1.12	1.17	1.29	1.27	1.49
1.5	1.96	1.89	1.80	1.61	1.55	1.62	1.61	1.74	1.95
2.5	3.07	2.44	2.55	2.44	2.38	2.48	2.60	2.67	3.07
3.5	3.53	3.11	3.09	3.01	3.00	3.12	3.26	3.37	3.75
4.5	4.03	3.71	3.36	3.47	3.43	3.54	3.63	3.81	4.20
5.5	4.38	3.90	3.89	3.80	3.75	3.88	4.02	4.39	4.99
6.5	4.80	4.37	4.28	4.08	4.18	4.26	4.40	4.57	5.32
7.5	5.01	4.56	4.39	4.44	4.42	4.48	4.61	4.91	5.51
8.5	5.33	4.88	4.65	4.65	4.52	4.84	4.94	5.00	5.76
9.5	5.31	4.90	4.89	4.79	4.81	4.99	4.95	5.33	5.97
10.5	5.35	4.92	4.78	4.83	4.81	4.94	5.32	5.15	5.88
11.5	5.73	5.16	4.99	4.99	4.82	5.07	5.11	5.47	6.15
12.5	5.69	5.14	4.99	4.96	4.93	5.10	5.41	5.32	6.17
13.5	5.79	5.11	4.86	4.88	4.89	4.96	5.15	5.43	6.09
14.5	5.61	5.05	4.82	4.91	4.80	4.96	5.19	5.44	6.21
15.5	5.49	5.07	4.56	4.77	4.57	4.79	4.98	5.06	5.86
16.5	5.18	4.82	4.60	4.52	4.53	4.67	4.69	5.00	5.70
17.5	5.06	4.50	4.44	4.33	4.27	4.30	4.39	4.51	5.24
18.5	4.75	4.19	4.13	4.07	4.00	4.13	4.07	4.25	4.84
19.5	4.33	3.94	3.70	3.74	3.77	3.69	3.79	3.94	4.54
20.5	4.05	3.59	3.47	3.43	3.31	3.42	3.37	3.70	4.05
21.5	3.55	3.09	3.07	3.01	2.94	3.07	3.05	3.35	3.65
22.5	3.18	2.82	2.75	2.71	2.63	2.73	2.71	2.84	3.48
23.5	3.57	2.98	2.87	2.87	2.81	2.86	2.87	3.07	3.64
Ax. Avg.	4.43	3.98	3.84	3.81	3.76	3.88	3.97	4.15	4.73

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.22. Power Density Data (kW/cc) in Fuel Plate 22 in Prototypic Conditions (continued).

Plate 22, Core Position X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.510 inches	1.510 to 2.429 inches	2.429 to 3.348 inches	3.348 to 3.544 inches	3.544 to 3.741 inches	3.741 to 3.938 inches
0.5	1.51	1.32	1.25	1.19	1.13	1.17	1.24	1.30	1.41
1.5	2.05	1.70	1.78	1.71	1.61	1.60	1.70	1.70	2.04
2.5	2.99	2.67	2.57	2.53	2.44	2.55	2.63	2.81	3.06
3.5	3.80	3.30	3.20	3.12	3.07	3.13	3.17	3.37	3.76
4.5	4.13	3.67	3.65	3.47	3.40	3.49	3.59	3.69	4.27
5.5	4.73	4.10	3.96	3.92	3.86	3.92	3.91	4.22	4.67
6.5	4.80	4.39	4.12	4.18	4.03	4.14	4.36	4.44	4.87
7.5	5.38	4.68	4.52	4.35	4.33	4.45	4.38	4.69	5.18
8.5	5.35	4.79	4.59	4.50	4.52	4.50	4.78	5.10	5.51
9.5	5.59	4.95	4.86	4.68	4.71	4.75	4.87	5.10	5.81
10.5	5.66	5.11	4.89	4.87	4.70	4.84	4.72	5.03	5.61
11.5	5.50	5.06	4.81	4.81	4.72	4.93	5.00	5.14	5.83
12.5	5.63	4.90	4.81	4.80	4.74	4.85	5.02	5.06	5.65
13.5	5.43	4.92	4.65	4.69	4.64	4.83	4.91	5.08	5.71
14.5	5.32	4.71	4.56	4.60	4.49	4.83	4.99	5.17	5.68
15.5	5.28	4.66	4.46	4.60	4.47	4.62	4.72	4.90	5.39
16.5	5.13	4.46	4.46	4.41	4.31	4.54	4.46	4.74	5.32
17.5	5.00	4.40	4.24	4.12	4.15	4.29	4.47	4.48	5.06
18.5	4.63	4.23	4.09	4.02	3.98	3.94	3.96	4.36	4.84
19.5	4.39	3.94	3.77	3.63	3.62	3.66	3.79	3.94	4.41
20.5	3.76	3.70	3.44	3.41	3.33	3.46	3.40	3.54	3.98
21.5	3.57	3.22	3.12	2.99	3.00	3.04	3.23	3.24	3.49
22.5	3.26	2.93	2.67	2.67	2.68	2.79	2.80	2.86	3.32
23.5	3.65	3.18	3.04	2.90	2.79	2.97	3.02	3.04	3.56
Ax. Avg.	4.44	3.96	3.81	3.76	3.70	3.80	3.88	4.04	4.52

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.23. Power Density Data (kW/cm^3) in Fuel Plate 23 in Prototypic Core.

Fuel core width: 4.048 inches / Fuel core thickness: 17 mil

Plate 23, Core Position X1, 0 MWd Burnup, Xenon-Free Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	0.82	0.69	0.67	0.87	1.10	0.89	0.76	0.84	0.80
1.5	0.75	0.65	0.73	0.88	1.15	0.85	0.73	0.75	0.75
2.5	0.95	0.85	0.88	1.03	1.30	1.01	0.81	0.85	0.89
3.5	1.12	1.02	1.06	1.23	1.59	1.17	0.98	1.07	1.14
4.5	1.25	1.19	1.20	1.43	1.81	1.51	1.18	1.17	1.24
5.5	1.62	1.47	1.47	1.61	2.23	1.69	1.40	1.35	1.48
6.5	1.84	1.72	1.75	2.11	2.63	2.05	1.82	1.79	1.83
7.5	2.66	2.48	2.56	2.80	3.32	2.67	2.56	2.47	2.52
8.5	4.79	4.56	4.43	4.50	4.56	4.40	4.25	4.42	4.70
9.5	6.76	6.42	6.12	5.96	5.66	5.86	6.12	6.21	6.58
10.5	8.07	7.53	7.04	6.88	6.48	6.80	7.14	7.30	7.77
11.5	8.57	8.08	8.06	7.43	7.00	7.35	7.87	8.14	8.48
12.5	9.06	8.48	8.31	7.93	7.44	7.87	8.31	8.37	9.03
13.5	9.43	8.98	8.52	8.27	7.74	8.08	8.55	8.56	9.12
14.5	9.32	8.97	8.68	8.31	7.93	8.18	8.62	8.62	9.45
15.5	9.69	8.78	8.73	8.32	8.02	8.40	8.67	8.77	9.57
16.5	9.62	8.95	8.74	8.19	7.93	8.17	8.55	9.06	9.17
17.5	9.25	8.66	8.16	7.98	7.49	8.01	8.33	8.54	9.13
18.5	8.61	8.39	8.00	7.57	7.20	7.48	8.00	8.47	8.79
19.5	8.12	7.56	7.39	7.21	6.79	7.25	7.55	7.52	8.29
20.5	7.77	7.13	6.76	6.74	6.50	6.72	6.94	7.35	7.65
21.5	7.03	6.56	6.35	6.13	5.87	6.13	6.38	6.26	6.80
22.5	6.25	5.76	5.91	5.56	5.31	5.55	5.51	5.86	6.11
23.5	6.69	6.08	5.99	5.73	5.53	5.59	5.68	6.15	6.63
Ax. Avg.	5.83	5.46	5.31	5.19	5.11	5.16	5.28	5.41	5.74

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.23. Power Density Data (kW/cc) in Fuel Plate 23 in Prototypic Conditions (continued).

Plate 23, Core Position X1, 3 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	1.77	1.60	1.55	1.70	2.11	1.69	1.41	1.50	1.75
1.5	2.59	2.33	2.35	2.45	2.66	2.41	2.37	2.32	2.54
2.5	4.23	3.88	3.65	3.69	3.61	3.63	3.72	3.84	4.14
3.5	5.21	4.71	4.87	4.50	4.44	4.59	4.69	4.78	5.23
4.5	6.12	5.66	5.44	5.22	4.91	5.14	5.29	5.36	5.99
5.5	6.53	6.21	5.92	5.80	5.49	5.75	5.72	5.99	6.72
6.5	7.26	6.65	6.66	6.24	5.99	6.18	6.49	6.79	7.27
7.5	7.82	7.20	7.19	6.69	6.44	6.77	6.95	7.18	7.63
8.5	8.29	7.54	7.30	7.00	6.60	7.04	7.23	7.44	8.02
9.5	8.55	7.97	7.61	7.24	6.87	7.27	7.57	7.66	8.46
10.5	8.45	8.00	7.84	7.30	7.05	7.41	7.47	8.05	8.76
11.5	8.80	8.00	7.56	7.43	7.14	7.48	7.83	8.05	8.55
12.5	8.66	7.85	7.82	7.42	7.15	7.39	7.74	8.13	8.41
13.5	8.88	7.97	7.77	7.37	7.20	7.46	7.61	7.77	8.40
14.5	8.39	7.85	7.46	7.29	6.97	7.31	7.71	7.69	8.43
15.5	8.09	7.60	7.18	7.03	6.83	7.03	7.30	7.64	8.40
16.5	7.55	7.29	6.90	6.85	6.59	6.71	7.18	7.28	7.86
17.5	7.54	7.00	6.60	6.52	6.32	6.42	6.70	6.90	7.23
18.5	6.94	6.66	6.37	6.17	5.80	5.98	6.44	6.72	7.21
19.5	6.55	6.09	5.93	5.78	5.47	5.61	5.89	6.14	6.36
20.5	6.18	5.69	5.25	5.27	5.01	5.13	5.43	5.52	5.88
21.5	5.35	5.08	4.83	4.75	4.55	4.73	4.88	4.99	5.47
22.5	4.97	4.38	4.52	4.31	4.12	4.26	4.40	4.44	5.01
23.5	4.96	4.72	4.30	4.43	4.16	4.35	4.55	4.71	4.95
Ax. Avg.	6.65	6.16	5.95	5.77	5.56	5.74	5.94	6.12	6.61

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.23. Power Density Data (kW/cc) in Fuel Plate 23 in Prototypic Conditions (continued).

Plate 23, Core Position X7, 80 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	1.55	1.44	1.39	1.43	1.91	2.15	1.83	1.68	1.72
1.5	2.42	2.30	2.40	2.32	2.61	2.79	2.53	2.54	2.81
2.5	4.09	3.67	3.58	3.63	3.62	3.69	3.67	3.88	4.28
3.5	4.97	4.63	4.61	4.55	4.38	4.55	4.54	4.71	5.01
4.5	5.67	5.49	5.18	5.18	4.94	5.07	5.00	5.38	5.58
5.5	6.53	6.09	5.96	5.76	5.44	5.52	5.81	5.82	6.33
6.5	7.00	6.38	6.34	6.09	5.78	5.95	6.03	6.46	6.72
7.5	7.21	6.83	6.58	6.60	6.18	6.33	6.22	6.61	7.28
8.5	7.55	7.08	6.92	6.74	6.38	6.63	6.68	6.79	7.48
9.5	7.65	7.23	7.13	7.00	6.62	6.80	6.71	6.99	7.57
10.5	7.95	7.62	7.21	7.06	6.73	6.79	7.11	7.34	7.85
11.5	7.96	7.60	7.46	7.08	6.68	6.85	7.01	7.12	7.61
12.5	7.96	7.44	7.24	7.11	6.54	6.77	6.98	7.11	7.55
13.5	8.13	7.55	7.28	6.95	6.51	6.63	6.75	7.32	7.65
14.5	7.63	7.20	6.88	6.82	6.31	6.48	6.60	6.82	7.37
15.5	7.50	7.03	6.54	6.44	6.15	6.11	6.51	6.73	6.98
16.5	7.15	6.69	6.46	6.37	5.78	6.01	6.34	6.60	6.87
17.5	6.99	6.50	5.99	5.99	5.48	5.60	5.88	6.14	6.46
18.5	6.35	5.89	5.86	5.57	5.26	5.31	5.33	5.86	6.15
19.5	5.89	5.57	5.46	5.15	4.85	4.99	5.11	5.44	5.95
20.5	5.34	5.02	4.88	4.73	4.53	4.63	4.87	5.04	5.21
21.5	4.86	4.46	4.46	4.28	4.12	4.23	4.27	4.52	4.92
22.5	4.51	4.16	3.96	3.93	3.75	3.83	4.03	4.14	4.35
23.5	4.55	4.29	4.25	4.04	3.95	3.94	4.10	4.22	4.59
Ax. Avg.	6.14	5.76	5.58	5.45	5.19	5.32	5.41	5.64	6.01

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.23. Power Density Data (kW/cc) in Fuel Plate 23 in Prototypic Conditions (continued).

Plate 23, Core Position X2, 99 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	1.63	1.35	1.33	1.30	1.21	1.34	1.27	1.51	1.78
1.5	2.50	2.24	2.27	2.20	2.17	2.24	2.26	2.37	2.70
2.5	3.69	3.56	3.61	3.51	3.52	3.59	3.61	3.76	3.76
3.5	4.83	4.66	4.60	4.56	4.51	4.59	4.58	4.66	5.10
4.5	5.58	5.37	5.14	5.07	5.08	5.14	5.14	5.37	5.80
5.5	6.08	5.88	5.59	5.64	5.52	5.74	5.98	5.94	6.47
6.5	6.19	6.13	5.99	6.05	5.90	6.11	5.87	6.08	6.56
7.5	6.94	6.50	6.32	6.44	6.28	6.54	6.72	6.48	6.92
8.5	7.18	6.86	6.65	6.56	6.51	6.72	6.59	6.76	7.31
9.5	7.43	7.07	6.86	6.77	6.64	6.82	7.07	7.10	7.41
10.5	7.84	7.12	7.01	6.78	6.62	6.87	7.12	7.05	7.76
11.5	7.74	7.30	7.02	6.90	6.77	6.98	6.88	6.93	7.49
12.5	7.52	7.05	6.96	6.89	6.78	6.93	7.04	7.29	7.49
13.5	7.32	7.03	7.00	6.77	6.65	6.83	6.78	7.02	7.31
14.5	7.36	6.88	6.79	6.80	6.57	6.60	6.98	6.91	7.28
15.5	7.38	7.00	6.67	6.61	6.34	6.52	6.52	6.58	7.14
16.5	6.84	6.67	6.64	6.35	6.03	6.27	6.44	6.51	6.66
17.5	6.58	6.33	6.13	6.08	5.96	5.91	6.11	6.29	6.60
18.5	6.34	5.87	5.95	5.79	5.62	5.85	5.66	5.84	6.20
19.5	5.84	5.49	5.51	5.43	5.16	5.37	5.34	5.63	5.63
20.5	5.38	5.11	5.04	5.02	4.84	4.91	4.93	4.99	5.24
21.5	4.70	4.50	4.48	4.50	4.41	4.38	4.38	4.56	4.74
22.5	4.64	4.17	4.29	4.05	3.95	4.00	4.04	4.17	4.44
23.5	4.53	4.20	4.23	4.11	4.09	4.21	4.10	4.26	4.64
Ax. Avg.	5.92	5.59	5.50	5.43	5.30	5.44	5.47	5.59	5.93

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

Table B.23. Power Density Data (kW/cc) in Fuel Plate 23 in Prototypic Conditions (continued).

Plate 23, Core Position X8, 173 MWd Burnup, Equilibrium Xenon Conditions

Axial position from top of fuel (inches)	0.000 to 0.197 inches	0.197 to 0.394 inches	0.394 to 0.591 inches	0.591 to 1.546 inches	1.546 to 2.502 inches	2.502 to 3.457 inches	3.457 to 3.654 inches	3.654 to 3.851 inches	3.851 to 4.048 inches
0.5	1.59	1.44	1.30	1.31	1.28	1.30	1.36	1.47	1.52
1.5	2.60	2.44	2.31	2.24	2.09	2.16	2.14	2.20	2.46
2.5	3.84	3.60	3.45	3.47	3.37	3.48	3.44	3.53	3.87
3.5	4.65	4.62	4.55	4.46	4.30	4.39	4.33	4.58	4.67
4.5	5.38	5.06	4.97	4.73	4.78	4.72	4.68	4.84	5.25
5.5	5.84	5.72	5.49	5.38	5.31	5.34	5.36	5.56	5.82
6.5	5.84	5.53	5.42	5.51	5.38	5.46	5.51	5.77	6.08
7.5	6.51	6.12	5.99	5.81	5.82	5.93	5.96	6.07	6.44
8.5	6.52	6.23	6.23	6.07	5.93	6.00	6.07	6.29	6.34
9.5	6.69	6.57	6.27	6.33	6.06	6.21	6.04	6.30	6.86
10.5	6.90	6.33	6.40	6.21	6.08	6.29	6.23	6.38	6.70
11.5	6.92	6.36	6.27	6.34	6.15	6.36	6.28	6.32	6.80
12.5	6.40	6.30	6.19	6.09	6.16	6.27	6.52	6.52	6.81
13.5	6.74	6.26	6.05	6.12	6.00	6.31	6.48	6.22	6.77
14.5	6.51	6.10	6.09	6.10	5.90	6.23	6.39	6.38	6.70
15.5	6.35	5.91	5.80	5.81	5.78	5.96	5.99	6.14	6.38
16.5	6.11	5.87	5.84	5.77	5.71	5.87	6.05	6.14	6.28
17.5	5.75	5.40	5.49	5.39	5.46	5.52	5.60	5.57	5.89
18.5	5.65	5.38	5.27	5.30	5.32	5.34	5.50	5.50	5.71
19.5	5.27	4.91	5.21	4.89	4.80	4.97	5.09	5.22	5.40
20.5	4.91	4.56	4.76	4.61	4.52	4.77	4.73	4.75	5.05
21.5	4.34	4.28	4.07	4.17	4.09	4.12	4.25	4.22	4.44
22.5	4.22	3.92	3.77	3.77	3.70	3.75	3.89	3.93	4.11
23.5	4.30	3.99	3.90	3.89	3.75	3.89	3.94	4.07	4.36
Ax. Avg.	5.41	5.12	5.04	4.99	4.91	5.03	5.07	5.16	5.45

POWER DENSITY VALUES NORMALIZED TO A CORE POWER OF 11.57 MW AND ASSUME ALL FISSION ENERGY (EXCLUDING GAMMA-HEATING OF EX-CORE COMPONENTS) IS DEPOSITED IN THE FUEL

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