

# ATF-1 Power Histories

B. J. Curnutt

December 2017



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# **ATF-1 Power Histories**

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**December 2017**

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**<http://www.inl.gov>**

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Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

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5. Building	NA	
6. Site Area	NA	
7. Introduction:  ATF-1 experiment power histories are tabulated in Appendix A of this Technical Evaluation (TEV). The current revision of this TEV (Revision 0) includes power histories through Advanced Test Reactor (ATR) Cycle 162A. The Cycle 162A power histories are based off projection calculations while all other cycles are based off as-run (core follow) simulations. No calculations are documented in this TEV. This TEV serves as a single source for ATF-1 experiment power history information and compiles results from multiple ATF-1 as-run and projection Engineering Calculations and Analysis Reports (ECARs), and will be updated after each cycle specific as-run and projection ECAR is released.		
8. Revision:  Revision 0 is a new document.		
9. Conclusions/Recommendations:  The tables in Appendix A of this TEV summarize the following results for each ATF-1 experiment: <ul style="list-style-type: none"> <li>• Cumulative Effective Full Power Days (EFPD)</li> <li>• <sup>235</sup>U Burnup (GWd/MTU)</li> <li>• Fission Density (fissions/cm<sup>3</sup>)</li> <li>• Linear Heat Generation Rate (LHGR W/cm)</li> <li>• Thermal Flux (n/cm<sup>2</sup>*s &lt; 0.625 eV)</li> <li>• Fast Flux (n/cm<sup>2</sup>*s &gt; 1.0 MeV)</li> <li>• Total Flux (n/cm<sup>2</sup>*s)</li> <li>• Fuel Centerline Temperature (°C)</li> <li>• Peak Internal Clad Temperature (PICT, °C)</li> </ul> The power histories for the Oak Ridge National Laboratory (ORNL) Fuel Chemical Clad Interaction (FCCI) experiments (ATF-73 through ATF-75) do not include fuel centerline temperatures or PICT,		

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as these results are not applicable to this experiment design. If necessary, the results for the FCCI experiments may be updated to include the temperatures at desired fuel-cladding interaction sites.

The results documented in Appendix A of this TEV are available in the spreadsheet shown. Note that this file has also been archived as an 'additional information' attachment to this TEV on EDMS.

//fswcb1/projects/usuf/irradiation testing/LWR ATF/ATF-1\_Neutronics/TEV-  
3119\_ATF-1\_Histories

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## PROJECT ROLES AND RESPONSIBILITIES

Project Role	Name (Typed)	Organization	Pages covered (if applicable)
Performer	B. J. Curnutt	C130	All
Checker <sup>a</sup>	J. R. Mitchell	C130	All
Independent Reviewer <sup>b</sup>	N/A		All
CUI Reviewer <sup>c</sup>	B. P. Durtschi	C660	All
Manager <sup>d</sup>	M. A. Lillo	C130	All
Requestor <sup>e</sup>	G. M. Core	C630	All
Nuclear Safety <sup>e</sup>	N/A		
Document Owner <sup>e</sup>	G. L. Povirk		All

### Responsibilities

a. Confirmation of completeness, mathematical accuracy, and correctness of data and appropriateness of assumptions.

b. Concurrence of method or approach. See definition, LWP-10106.

c. Concurrence with the document's markings in accordance with LWP-11202.

d. Concurrence of procedure compliance. Concurrence with method/approach and conclusion.

e. Concurrence with the document's assumptions and input information. See definition of Acceptance, LWP-10200.

**NOTE:** Delete or mark "N/A" for project roles not engaged. Include ALL personnel and their roles listed above in the eCR system. The list of the roles above is not all inclusive. If needed, the list can be extended or reduced.



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## INTRODUCTION

ATF-1 calculated power histories for irradiation during Advanced Test Reactor (ATR) Cycles 157C through 162A are tabulated in Appendix A of this Technical Evaluation (TEV). The ATR Cycle 162A power histories are based off projection calculations while all previous cycles are based off as-run (core follow) simulations. This TEV will serve as the single source for ATF-1 experiment power history information and will be updated after each cycle of operation.

Table 2 through Table 68 in Appendix A summarize the following results for each ATF-1 experiment:

- Cumulative Effective Full Power Days (EFPD)
- $^{235}\text{U}$  Burnup (GWd/MTU)
- Fission Density (fissions/cm<sup>3</sup>)
- Linear Heat Generation Rate (LHGR W/cm)
- Thermal Flux (n/cm<sup>2</sup>\*s < 0.625 eV)
- Fast Flux (n/cm<sup>2</sup>\*s > 1.0 MeV)
- Total Flux (n/cm<sup>2</sup>\*s)
- Fuel Centerline Temperature (°C)
- Peak Internal Clad Temperature (PICT, °C)

The power histories for the Oak Ridge National Laboratory (ORNL) Fuel Chemical Clad Interaction (FCCI) experiments (ATF-73 through ATF-75) do not include fuel centerline temperatures or Peak Internal Clad Temperature (PICT), as these results are not applicable to this experiment design. If necessary, the results for the FCCI experiments may be updated to include the temperatures at desired fuel-clad interaction sites. Due to the unique design of the FCCI experiments relative to the other ATF-1 experiments, the power histories for each individual fuel pellet in the FCCI experiments are provided. Pellets are labeled top to bottom, with the top pellet oriented upward in the core, 1 – 13.

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## ADDITIONAL INFORMATION

The ATF-1 power histories tabulated in Appendix A of this TEV were calculated and summarized in Reference 1.

The ATR as-operated lobe power histories (Cycles 157C through 161A) are documented in Reference 2. The projected lobe powers for Cycle 162A are documented in Section 4 of Reference 1.

The ATF-1 experiment dimensions and material compositions are provided in the References summarized in Table 1.

Table 1. ATF-1 Experiment Dimensions and Compositions

Vendor/Experiment Design	Capsule IDs	Reference
AREVA	ATF-00 through ATF-05	Reference 6
General Electric (GE)	ATF-06 through ATF-09	Reference 6
Westinghouse Electric Company (WEC-1A)	ATF-10 through ATF-15	Reference 6
Oak Ridge National Laboratory Loss of Coolant Accident (ORNL-LOCA)	ATF-17, ATF-18, and ATF-20	Reference 6
Westinghouse Electric Company (WEC-1B)	ATF-29 through ATF-34	Reference 5
Los Alamos National Laboratory (LANL)	ATF-41, ATF-44, and ATF-45	Reference 4
Oak Ridge National Laboratory Fuel Chemical Clad Interaction (ORNL-FCCI)	ATF-73 through ATF-75	Reference 3

### **ATF-13 Pellet Misload**

Neutron radiography during Post Irradiation Examination (PIE) of ATF-13 indicated a pellet misload from that which was actually modeled. An enriched pellet was erroneously loaded below the lower DU pellet. The erroneous loading, from top to bottom, is two DU pellets followed by a stack up of 11 enriched  $U_3Si_2$  pellets, then a single DU pellet above one enriched pellet.

Each pellet was not explicitly modeled in MCNP. The twelve enriched pellets were modeled as a single volume; therefore, the fluxes and LHGRs tallied and documented in this ECAR are values averaged over the entire enriched cell. Given the LHGR results are an average over the entire enriched stack up, and not pellet specific, it was expected and clearly shown in Reference 1 that the as-modeled average LHGR and flux results are essentially identical to those from a model of the misloaded experiment. The LHGR and flux results from the misloaded enriched pellet located below the lower DU pellet were found to be substantially different; therefore, the results documented in this TEV **DO NOT APPLY** to the misloaded enriched pellet in ATF-13.

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## **REFERENCES**

1. B. J. Curnutt, "ATR Cycle 160B Through 161A As-Run Analysis and Cycle 162A Bounding Physics Evaluation of the Accident Tolerant Fuels (ATF-1-21-4, ATF-1-23-2, and ATF-1-24-6 Basket Configurations," ECAR 3773, Revision 1, October 2017.
2. M. K. Morrison, Advanced Test Reactor Power History Through Cycle 161A-1, RE-12-17, June 2017.
3. C. T. Woolum, As-Built Dimensions of Capsules, Rodlets, and Rodlet Internals for the ORNL-FCCI Accident Tolerant Fuels (ATF-1) Experiment, TEV-2877, Revision 0, November 2016.
4. C. T. Woolum, "As-Built Dimensions of Capsules, Rodlets, and Fuel Pellets for the LANL-1 Accident Tolerant Fuels (ATF-1) Experiment," TEV-2796, Revision 1, November 2016.
5. G. M. Core, "As-Built Dimensions of Capsules, Rodlets, and Fuel Pellets for the Second Westinghouse Accident Tolerant Fuels (ATF-1) Experiment (ATF-1WB)," TEV-2779, Revision 0 August 2016.
6. C. T. Woolum, "As-Built Dimensions for Accident Tolerant Fuels (ATF-1) with AREVA, GE, Westinghouse, and ORNL Capsules, Rodlets, and Fuel Pellets, TEV-2451 Revision 0, May 2015.

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## Appendix A

### ATF-1 Power Histories

The results documented in Appendix A of this TEV are available in the spreadsheet shown. Note that this file has also been archived as an 'additional information' attachment to this TEV on EDMS.

//fswcb1/projects/usuf/irradiation testing/LWR ATF/ATF-1\_Neutronics/TEV-3119\_ATF-1\_Histories  
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### ATF-1 Power Histories

Table 2. ATF-00 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	329.4	4.16150E+13	2.29916E+13	9.76392E+13	0.00000E+00	1476.5	360.1
	EOC (2/15/2015, 0800)	5.4	0.40	333.2	4.25601E+13	2.32156E+13	9.91808E+13	1.01772E+19	1495.0	363.0
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.40	285.0	3.63128E+13	1.99583E+13	8.48195E+13	1.01772E+19	1262.7	327.1
		8.4	0.61	307.1	3.90791E+13	2.15061E+13	9.16634E+13	1.52959E+19	1369.6	343.7
		15.4	1.09	309.3	3.95190E+13	2.17563E+13	9.30586E+13	2.75205E+19	1380.1	345.3
		22.4	1.57	307.0	3.96217E+13	2.15503E+13	9.26586E+13	3.96248E+19	1369.3	343.6
		29.4	2.06	309.2	4.02697E+13	2.17638E+13	9.37430E+13	5.19096E+19	1379.8	345.2
		36.4	2.55	317.1	4.17802E+13	2.24745E+13	9.71848E+13	6.44354E+19	1417.5	351.1
		43.4	3.05	317.3	4.22509E+13	2.24701E+13	9.77579E+13	7.69009E+19	1418.8	351.3
		50.4	3.55	328.5	4.40805E+13	2.31118E+13	1.01151E+14	8.97278E+19	1472.6	359.5
		57.4	4.07	331.6	4.49978E+13	2.34362E+13	1.02864E+14	1.02675E+20	1487.1	361.8
		60.4	4.28	330.9	4.54526E+13	2.33176E+13	1.03400E+14	1.08035E+20	1484.0	361.3
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.63	331.5	4.59923E+13	2.34293E+13	1.04116E+14	1.16887E+20	1486.8	361.7

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Table 2. ATF-00 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.63	333.2	4.60454E+13	2.35449E+13	1.04337E+14	1.16887E+20	1494.9	363.0
		75.1	5.36	327.3	4.53500E+13	2.31771E+13	1.02900E+14	1.35435E+20	1466.5	358.6
		85.1	6.06	317.9	4.48150E+13	2.26774E+13	1.01253E+14	1.52959E+20	1421.6	351.7
		95.1	6.77	319.4	4.57104E+13	2.26969E+13	1.02611E+14	1.71085E+20	1428.9	352.8
		105.1	7.50	325.4	4.72804E+13	2.31034E+13	1.05136E+14	1.89392E+20	1457.5	357.2
		117.1	8.38	328.8	4.85328E+13	2.33759E+13	1.06755E+14	2.11553E+20	1473.9	359.7
	EOC* (1/2/2016, 0400)	117.3	8.39	323.5	4.87584E+13	2.30640E+13	1.06409E+14	2.11854E+20	1448.7	355.9

\* ATF-00 was discharged for PIE during the Cycle 158B outage.

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Table 3. ATF-01 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	328.9	4.19056E+13	2.29526E+13	9.80330E+13	0.00000E+00	1538.1	391.7
	EOC (2/15/2015, 0800)	5.4	0.41	333.6	4.28011E+13	2.33065E+13	9.96535E+13	1.02374E+19	1561.1	395.5
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.41	282.0	3.62657E+13	1.99026E+13	8.44703E+13	1.02374E+19	1303.9	352.9
		8.4	0.61	306.7	3.93691E+13	2.12920E+13	9.14791E+13	1.52959E+19	1428.2	373.6
		15.4	1.10	305.2	3.94287E+13	2.15902E+13	9.24171E+13	2.74001E+19	1420.9	372.4
		22.4	1.58	304.5	3.98316E+13	2.13302E+13	9.23683E+13	3.95645E+19	1417.2	371.8
		29.4	2.06	305.9	4.01296E+13	2.15614E+13	9.33074E+13	5.16688E+19	1424.2	372.9
		36.4	2.56	314.8	4.17403E+13	2.24274E+13	9.68865E+13	6.40741E+19	1468.7	380.3
		43.4	3.06	315.4	4.22548E+13	2.23100E+13	9.75163E+13	7.64794E+19	1471.6	380.8
		50.4	3.57	324.9	4.39665E+13	2.30542E+13	1.00746E+14	8.92460E+19	1518.4	388.5
		57.4	4.08	329.6	4.51703E+13	2.32773E+13	1.02895E+14	1.02133E+20	1541.6	392.3
		60.4	4.30	327.3	4.53723E+13	2.31153E+13	1.02775E+14	1.07493E+20	1530.5	390.5
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.65	331.0	4.64228E+13	2.32935E+13	1.04339E+14	1.16345E+20	1548.5	393.5
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.65	330.1	4.61435E+13	2.34161E+13	1.04078E+14	1.16345E+20	1544.0	392.7
		75.1	5.36	325.3	4.55498E+13	2.30535E+13	1.02821E+14	1.34230E+20	1520.3	388.8
		85.1	6.06	313.8	4.46677E+13	2.23225E+13	1.00736E+14	1.51514E+20	1463.7	379.5
		95.1	6.77	317.8	4.59707E+13	2.26276E+13	1.02607E+14	1.69519E+20	1483.6	382.8
		105.1	7.50	322.7	4.74664E+13	2.30155E+13	1.04976E+14	1.87766E+20	1507.7	386.7
		117.1	8.38	326.1	4.85997E+13	2.31702E+13	1.06575E+14	2.09806E+20	1524.5	389.5
	EOC (1/2/2016, 0400)	117.3	8.40	321.0	4.88207E+13	2.28731E+13	1.06218E+14	2.10108E+20	1499.2	385.3
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	8.45	286.8	4.34082E+13	1.85988E+13	8.80276E+13	2.11493E+20	1328.6	357.0
		119.3	8.51	320.1	4.85112E+13	2.04156E+13	9.83399E+13	2.12998E+20	1494.9	384.6
		122.3	8.72	324.8	4.93509E+13	2.09298E+13	1.00245E+14	2.18237E+20	1518.2	388.5
		127.3	9.07	318.1	4.86504E+13	2.02254E+13	9.83377E+13	2.26969E+20	1485.1	383.0

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Table 3. ATF-01 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	9.43	328.6	5.07356E+13	2.11446E+13	1.02446E+14	2.35942E+20	1536.6	391.5
		137.3	9.78	318.1	4.94676E+13	2.05029E+13	9.94962E+13	2.44614E+20	1484.7	382.9
		147.3	10.52	333.4	5.23717E+13	2.15015E+13	1.05200E+14	2.63282E+20	1560.4	395.4
		157.3	11.26	328.3	5.23696E+13	2.10220E+13	1.03936E+14	2.81649E+20	1535.1	391.2
	EOC (4/1/2016, 0900)	168.7	12.10	321.5	5.34315E+13	2.09657E+13	1.04793E+14	3.02726E+20	1501.7	385.7
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	12.12	135.3	2.24154E+13	8.73419E+12	4.40615E+13	3.03388E+20	523.8	220.3
		170.7	12.15	140.6	2.33184E+13	9.05996E+12	4.58136E+13	3.03991E+20	553.2	225.3
		174.6	12.26	120.5	2.00357E+13	7.73583E+12	3.92044E+13	3.06821E+20	440.8	205.9
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	12.29	174.5	2.93925E+13	1.16091E+13	5.96705E+13	3.07483E+20	739.2	257.4
	EOC (6/28/2016, 1800)	176.2	12.30	191.7	3.23394E+13	1.28777E+13	6.74108E+13	3.07724E+20	832.3	273.3
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	12.38	319.4	5.32350E+13	2.07524E+13	1.04207E+14	3.09832E+20	1491.3	384.0
		179.2	12.53	317.0	5.30294E+13	2.07675E+13	1.03954E+14	3.13445E+20	1479.2	382.0
		186.2	13.01	317.3	5.31914E+13	2.06310E+13	1.04346E+14	3.25489E+20	1481.0	382.3
		196.2	13.71	314.1	5.33709E+13	2.04044E+13	1.04046E+14	3.43013E+20	1465.3	379.7
		206.2	14.40	309.1	5.36591E+13	2.03955E+13	1.03815E+14	3.60236E+20	1440.4	375.6
		216.2	15.09	311.3	5.50867E+13	2.03848E+13	1.05772E+14	3.77519E+20	1451.0	377.4
		222.2	15.49	301.3	5.42256E+13	1.97981E+13	1.03600E+14	3.87636E+20	1401.1	369.1
		223.8	15.60	282.4	5.13623E+13	1.84406E+13	9.75564E+13	3.90346E+20	1306.4	353.3
		226.2	15.74	276.6	5.05538E+13	1.83344E+13	9.64759E+13	3.93959E+20	1276.6	348.4
	EOC (11/8/2016, 1100)	228.9	15.90	263.1	4.85674E+13	1.73313E+13	9.28213E+13	3.97753E+20	1207.6	336.8
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	15.95	290.5	5.35675E+13	1.91078E+13	1.02287E+14	3.99078E+20	1347.2	360.1
		231.9	16.08	290.3	5.36484E+13	1.91490E+13	1.02460E+14	4.02330E+20	1346.3	360.0
		238.9	16.52	287.0	5.32997E+13	1.89057E+13	1.01235E+14	4.13290E+20	1329.4	357.2
		248.9	17.13	273.9	5.15512E+13	1.80595E+13	9.77562E+13	4.28646E+20	1263.1	346.1
		258.1	17.67	265.2	5.16782E+13	1.74760E+13	9.69189E+13	4.42195E+20	1218.7	338.7

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 3. ATF-01 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	18.32	270.5	5.30232E+13	1.79249E+13	9.88843E+13	4.58334E+20	1245.6	343.2
		278.9	18.90	258.5	5.15486E+13	1.74719E+13	9.83743E+13	4.72908E+20	1184.0	332.8
	EOC (2/23/2017, 1400)	288.4	19.48	270.4	5.58047E+13	1.81352E+13	1.03758E+14	4.87481E+20	1245.2	343.1
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	19.57	220.7	4.53742E+13	1.47075E+13	8.36143E+13	4.89769E+20	987.0	299.6
		290.4	19.58	197.9	4.08490E+13	1.32625E+13	7.52197E+13	4.90010E+20	865.9	279.0
		292.4	19.68	202.6	4.18700E+13	1.36382E+13	7.69968E+13	4.92419E+20	891.1	283.3
		294.4	19.78	205.6	4.25100E+13	1.38262E+13	7.82987E+13	4.94828E+20	906.8	286.0
		296.4	19.87	204.5	4.25542E+13	1.37368E+13	7.79612E+13	4.97297E+20	900.9	285.0
		298.4	19.97	210.1	4.37191E+13	1.40881E+13	8.00622E+13	4.99766E+20	930.6	290.0
		300.4	20.07	213.7	4.46350E+13	1.42959E+13	8.15814E+13	5.02235E+20	949.9	293.3
	EOC (6/11/2017, 1600)	300.9	20.09	217.5	4.57229E+13	1.46087E+13	8.33799E+13	5.02777E+20	970.1	296.8
162A	Cycle 162A Outage									
	BOC	301.9	20.17	297.3	6.07881E+13	1.94962E+13	1.11421E+14	5.04644E+20	1381.3	365.8
		303.9	20.29	282.5	5.85138E+13	1.87762E+13	1.07544E+14	5.07775E+20	1306.6	353.4
		310.9	20.73	281.4	5.85679E+13	1.87395E+13	1.07656E+14	5.18675E+20	1300.8	352.4
		320.9	21.32	277.8	5.77489E+13	1.81717E+13	1.05475E+14	5.33489E+20	1282.8	349.4
		330.9	21.92	281.2	5.99351E+13	1.85959E+13	1.08637E+14	5.48424E+20	1300.2	352.3
		340.9	22.51	278.8	6.03309E+13	1.83115E+13	1.08824E+14	5.63177E+20	1287.8	350.2
		350.9	23.13	281.6	6.31849E+13	1.89546E+13	1.13153E+14	5.78714E+20	1302.2	352.6
		359.9	23.66	271.0	6.19262E+13	1.81151E+13	1.10812E+14	5.91963E+20	1248.4	343.6
	EOC	362.9	23.84	265.8	6.22670E+13	1.78231E+13	1.10704E+14	5.96539E+20	1221.7	339.2



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 4. ATF-02 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	397.6	5.87400E+13	2.82076E+13	1.28827E+14	0.00000E+00	1796.5	447.9
	EOC (2/15/2015, 0800)	5.4	0.59	403.2	6.02479E+13	2.86737E+13	1.31244E+14	1.27064E+19	1821.4	451.9
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.59	341.8	5.10648E+13	2.42448E+13	1.10932E+14	1.27064E+19	1544.0	405.6
		8.4	0.87	369.9	5.52898E+13	2.61121E+13	1.20282E+14	1.87284E+19	1672.0	427.2
		15.4	1.54	368.3	5.52452E+13	2.62257E+13	1.20895E+14	3.30006E+19	1664.8	426.0
		22.4	2.19	362.9	5.52482E+13	2.58992E+13	1.20124E+14	4.70920E+19	1640.0	421.8
		29.4	2.85	364.5	5.62768E+13	2.60067E+13	1.21303E+14	6.12437E+19	1647.3	423.1
		36.4	3.52	376.5	5.89328E+13	2.68666E+13	1.26209E+14	7.57568E+19	1701.6	432.2
		43.4	4.20	375.2	5.96413E+13	2.67975E+13	1.27020E+14	9.02096E+19	1695.7	431.2
		50.4	4.90	381.7	6.13783E+13	2.73280E+13	1.29944E+14	1.05385E+20	1725.1	436.1
		57.4	5.61	383.3	6.26546E+13	2.75264E+13	1.31934E+14	1.20681E+20	1732.0	437.2
		60.4	5.92	375.3	6.23574E+13	2.70134E+13	1.30461E+14	1.27305E+20	1696.2	431.2
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	6.38	376.7	6.35970E+13	2.71109E+13	1.31976E+14	1.37181E+20	1702.6	432.3
158B	ATF-02 Withheld from Cycle 158A – 182 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	66.1	6.44	252.6	4.24237E+13	1.82762E+13	8.79948E+13	1.38386E+20	1130.6	332.9
		67.1	6.50	280.8	4.73433E+13	2.01998E+13	9.89695E+13	1.39771E+20	1262.8	356.6
		70.1	6.72	284.4	4.81632E+13	2.06537E+13	1.00795E+14	1.44408E+20	1279.5	359.5
		75.1	7.08	279.1	4.74483E+13	2.01633E+13	9.88876E+13	1.52296E+20	1254.8	355.1
		80.1	7.46	290.7	5.00020E+13	2.09036E+13	1.03357E+14	1.60426E+20	1308.5	364.7
		85.1	7.83	281.1	4.87084E+13	2.04816E+13	1.00954E+14	1.68315E+20	1264.0	356.8
		95.1	8.59	293.8	5.12850E+13	2.13642E+13	1.05362E+14	1.84635E+20	1322.9	367.2
		105.1	9.33	287.4	5.09403E+13	2.05445E+13	1.03610E+14	2.00533E+20	1293.2	361.9
	EOC (4/1/2016, 0900)	116.5	10.19	281.6	5.20076E+13	2.04939E+13	1.04777E+14	2.19080E+20	1266.3	357.2
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	117.5	10.22	118.5	2.18021E+13	8.76738E+12	4.40173E+13	2.19622E+20	484.7	211.5
		118.5	10.25	123.7	2.28130E+13	9.13679E+12	4.60874E+13	2.20225E+20	510.2	216.5

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 4. ATF-02 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		122.4	10.36	105.6	1.96027E+13	7.63556E+12	3.92603E+13	2.22754E+20	421.2	199.1
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		123.8	10.39	152.6	2.83953E+13	1.13748E+13	5.93813E+13	2.23356E+20	651.5	243.7
	EOC (6/28/2016, 1800)	124.0	10.40	166.3	3.11815E+13	1.26898E+13	6.70192E+13	2.23537E+20	718.3	256.4
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	125.0	10.46	278.5	5.16739E+13	2.02547E+13	1.03714E+14	2.24861E+20	1251.7	354.6
		127.0	10.61	277.0	5.15119E+13	2.00412E+13	1.03393E+14	2.28053E+20	1244.7	353.3
		134.0	11.11	276.4	5.16537E+13	2.01599E+13	1.03848E+14	2.38893E+20	1242.2	352.9
		144.0	11.82	273.4	5.17849E+13	2.00787E+13	1.03654E+14	2.54008E+20	1228.2	350.4
		154.0	12.52	273.0	5.25720E+13	2.01803E+13	1.04286E+14	2.69123E+20	1226.3	350.1
		164.0	13.23	274.8	5.39827E+13	2.03022E+13	1.06716E+14	2.84299E+20	1234.8	351.6
		170.0	13.65	263.3	5.26141E+13	1.94473E+13	1.03157E+14	2.93392E+20	1180.6	341.9
		171.6	13.76	246.6	4.98393E+13	1.81600E+13	9.70364E+13	2.95861E+20	1102.1	327.7
		174.0	13.92	241.3	4.89429E+13	1.77204E+13	9.55029E+13	2.99113E+20	1077.2	323.2
	EOC (11/8/2016, 1100)	176.7	14.07	229.9	4.70701E+13	1.70132E+13	9.21349E+13	3.02485E+20	1023.1	313.3
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	177.7	14.13	242.3	4.95478E+13	1.85467E+13	9.92743E+13	3.03629E+20	1081.9	324.0
		179.7	14.26	241.5	4.95628E+13	1.85035E+13	9.93290E+13	3.06460E+20	1078.3	323.4
		186.7	14.70	237.5	4.89876E+13	1.82730E+13	9.78828E+13	3.15914E+20	1059.1	319.9
		196.7	15.29	228.2	4.75838E+13	1.74769E+13	9.48257E+13	3.28681E+20	1015.2	311.8
		205.9	15.84	221.5	4.76673E+13	1.70569E+13	9.40347E+13	3.40484E+20	983.3	306.0
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		216.7	16.50	224.9	4.88201E+13	1.74330E+13	9.59784E+13	3.54575E+20	999.5	309.0
		226.7	17.06	215.0	4.73352E+13	1.70060E+13	9.52206E+13	3.66619E+20	952.2	300.2
	EOC (2/23/2017, 1400)	236.2	17.62	225.4	5.11749E+13	1.77142E+13	1.00230E+14	3.78724E+20	1001.6	309.4
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	237.9	17.71	178.9	4.05804E+13	1.38491E+13	7.84890E+13	3.80711E+20	779.2	268.0
		238.2	17.72	161.1	3.65805E+13	1.25116E+13	7.08951E+13	3.80952E+20	693.0	251.6
		240.2	17.82	164.9	3.75398E+13	1.28596E+13	7.28404E+13	3.83059E+20	711.3	255.1

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 4. ATF-02 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		242.2	17.92	167.3	3.82077E+13	1.30157E+13	7.40285E+13	3.85167E+20	723.2	257.4
		244.2	18.02	166.6	3.81485E+13	1.29223E+13	7.34862E+13	3.87275E+20	719.4	256.7
		246.2	18.11	170.0	3.89711E+13	1.32215E+13	7.51351E+13	3.89383E+20	736.2	259.8
		248.2	18.22	173.0	3.98123E+13	1.34222E+13	7.65381E+13	3.91550E+20	750.8	262.6
	EOC (6/11/2017, 1600)	248.7	18.23	176.4	4.06215E+13	1.36061E+13	7.81268E+13	3.91912E+20	767.0	265.7
162A	Cycle 162A Outage									
	BOC	249.7	18.29	252.9	5.67337E+13	1.90104E+13	1.09389E+14	3.93056E+20	1132.0	333.1
		251.7	18.41	238.5	5.42648E+13	1.82057E+13	1.04669E+14	3.95766E+20	1064.1	320.8
		258.7	18.83	237.9	5.43364E+13	1.82319E+13	1.04805E+14	4.04859E+20	1060.9	320.2
		268.7	19.43	239.5	5.46434E+13	1.79789E+13	1.04621E+14	4.17565E+20	1068.5	321.6
		278.7	20.01	237.3	5.53721E+13	1.80353E+13	1.05433E+14	4.30151E+20	1058.3	319.7
		288.7	20.62	236.6	5.60846E+13	1.78421E+13	1.06113E+14	4.43219E+20	1055.0	319.1
		298.7	21.24	239.2	5.86848E+13	1.83656E+13	1.10199E+14	4.56528E+20	1067.1	321.3
		307.7	21.76	230.3	5.73579E+13	1.77188E+13	1.07934E+14	4.67729E+20	1025.3	313.7
	EOC	310.7	21.92	226.2	5.76596E+13	1.74274E+13	1.07809E+14	4.71222E+20	1005.4	310.1

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 5. ATF-03 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	395.4	5.82731E+13	2.81429E+13	1.28367E+14	0.00000E+00	1748.7	400.6
	EOC (2/15/2015, 0800)	5.4	0.59	401.2	5.97438E+13	2.86128E+13	1.30817E+14	1.25860E+19	1775.1	404.5
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.59	341.2	5.06671E+13	2.43656E+13	1.10696E+14	1.25860E+19	1501.2	363.5
		8.4	0.87	370.3	5.50740E+13	2.63120E+13	1.20337E+14	1.86080E+19	1633.9	383.3
		15.4	1.53	369.3	5.53300E+13	2.65321E+13	1.21086E+14	3.28801E+19	1629.1	382.6
		22.4	2.19	364.7	5.53630E+13	2.60977E+13	1.20319E+14	4.70318E+19	1608.1	379.5
		29.4	2.84	363.5	5.59858E+13	2.60617E+13	1.21095E+14	6.10029E+19	1602.6	378.7
		36.4	3.51	374.3	5.84538E+13	2.68944E+13	1.25731E+14	7.53954E+19	1651.8	386.0
		43.4	4.17	374.2	5.92343E+13	2.68695E+13	1.26801E+14	8.97278E+19	1651.6	386.0
		50.4	4.88	379.6	6.09594E+13	2.73019E+13	1.29261E+14	1.04843E+20	1675.9	389.6
		57.4	5.58	382.0	6.21504E+13	2.74789E+13	1.31813E+14	1.20018E+20	1687.1	391.3
		60.4	5.89	375.3	6.20567E+13	2.69797E+13	1.30259E+14	1.26582E+20	1656.6	386.7
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC <sup>†</sup> (8/12/2015, 0400)	65.1	6.34	375.0	6.29634E+13	2.69455E+13	1.31273E+14	1.36398E+20	1654.9	386.5

<sup>†</sup> ATF-03 was discharged for PIE following Cycle 157D irradiation prior to the generation of LHGR dependent temperature relationships.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 6. ATF-04 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	308.4	4.42556E+13	2.19585E+13	9.85835E+13	0.00000E+00	1147.0	378.2
	EOC (2/15/2015, 0800)	5.4	0.44	313.0	4.54146E+13	2.22518E+13	1.00195E+14	9.69542E+18	1163.3	381.9
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.44	265.5	3.84547E+13	1.87003E+13	8.46558E+13	9.69542E+18	997.4	342.9
		8.4	0.66	288.1	4.17514E+13	2.04524E+13	9.23636E+13	1.45130E+19	1076.1	361.7
		15.4	1.19	291.7	4.25636E+13	2.06289E+13	9.39089E+13	2.61957E+19	1088.7	364.6
		22.4	1.72	288.7	4.25669E+13	2.06076E+13	9.41889E+13	3.78182E+19	1078.3	362.2
		29.4	2.24	289.0	4.29878E+13	2.06739E+13	9.44116E+13	4.93202E+19	1079.2	362.4
		36.4	2.78	296.6	4.47047E+13	2.12388E+13	9.78088E+13	6.11835E+19	1105.8	368.6
		43.4	3.32	298.8	4.54548E+13	2.13223E+13	9.88474E+13	7.30469E+19	1113.4	370.4
		50.4	3.87	305.5	4.69618E+13	2.18352E+13	1.01654E+14	8.51511E+19	1136.8	375.8
		57.4	4.43	308.4	4.80520E+13	2.20208E+13	1.03346E+14	9.73155E+19	1147.1	378.2
		60.4	4.65	307.6	4.83315E+13	2.21201E+13	1.03750E+14	1.02314E+20	1144.4	377.6
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	5.03	309.6	4.93630E+13	2.21742E+13	1.04933E+14	1.10684E+20	1151.4	379.2
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	5.03	309.7	4.92932E+13	2.22904E+13	1.05220E+14	1.10684E+20	1151.6	379.2
		75.1	5.80	304.0	4.83212E+13	2.19912E+13	1.03821E+14	1.27546E+20	1131.6	374.6
		85.1	6.55	296.8	4.81067E+13	2.15029E+13	1.02964E+14	1.44046E+20	1106.6	368.8
		95.1	7.30	298.2	4.91862E+13	2.16859E+13	1.04370E+14	1.60547E+20	1111.3	369.9
		105.1	8.06	302.6	5.07420E+13	2.18675E+13	1.06409E+14	1.77227E+20	1126.9	373.5
		117.1	8.98	305.4	5.21317E+13	2.21699E+13	1.08466E+14	1.97461E+20	1136.6	375.8
	EOC <sup>‡</sup> (1/2/2016, 0400)	117.3	8.99	300.1	5.23950E+13	2.18539E+13	1.08155E+14	1.97702E+20	1118.1	371.5

<sup>‡</sup> ATF-04 was discharged for PIE following Cycle 158A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 7. ATF-05 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	309.8	4.43032E+13	2.18585E+13	9.84569E+13	0.00000E+00	1105.9	374.5
	EOC (2/15/2015, 0800)	5.4	0.44	314.6	4.53979E+13	2.22600E+13	1.00285E+14	9.63520E+18	1122.4	378.3
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.44	267.7	3.85925E+13	1.88266E+13	8.48387E+13	9.63520E+18	963.9	340.5
		8.4	0.65	287.6	4.15239E+13	2.05084E+13	9.22776E+13	1.44528E+19	1030.6	356.7
		15.4	1.18	291.6	4.22686E+13	2.08753E+13	9.38854E+13	2.61355E+19	1044.3	360.0
		22.4	1.70	288.3	4.23720E+13	2.05978E+13	9.35749E+13	3.76375E+19	1033.1	357.3
		29.4	2.23	289.5	4.28567E+13	2.06892E+13	9.44043E+13	4.92600E+19	1037.1	358.2
		36.4	2.76	297.0	4.44272E+13	2.12853E+13	9.76048E+13	6.10631E+19	1062.4	364.3
		43.4	3.30	298.6	4.51517E+13	2.13548E+13	9.85046E+13	7.29264E+19	1067.8	365.6
		50.4	3.85	307.6	4.70841E+13	2.19708E+13	1.01881E+14	8.50909E+19	1098.4	372.7
		57.4	4.40	310.1	4.80407E+13	2.21887E+13	1.03546E+14	9.73155E+19	1107.0	374.7
		60.4	4.63	309.8	4.84616E+13	2.22093E+13	1.04189E+14	1.02374E+20	1106.0	374.5
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	5.01	311.5	4.93785E+13	2.24053E+13	1.05265E+14	1.10745E+20	1111.6	375.8
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	5.01	312.0	4.93945E+13	2.23630E+13	1.05299E+14	1.10745E+20	1113.4	376.2
		75.1	5.78	307.3	4.86889E+13	2.19315E+13	1.04210E+14	1.27787E+20	1097.3	372.5
		85.1	6.53	298.8	4.82014E+13	2.15061E+13	1.02890E+14	1.44347E+20	1068.7	365.8
		95.1	7.28	300.8	4.94144E+13	2.16817E+13	1.04411E+14	1.61028E+20	1075.4	367.3
		105.1	8.04	304.2	5.07164E+13	2.18805E+13	1.06335E+14	1.77830E+20	1086.7	370.0
		117.1	8.96	308.0	5.22780E+13	2.22958E+13	1.08396E+14	1.98184E+20	1100.0	373.1
	EOC (1/2/2016, 0400)	117.3	8.97	302.6	5.25237E+13	2.19741E+13	1.08097E+14	1.98425E+20	1081.4	368.8
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	9.03	245.5	4.24652E+13	1.79406E+13	8.78051E+13	1.99629E+20	889.8	322.0
		119.3	9.08	272.4	4.72284E+13	1.99219E+13	9.81954E+13	2.00894E+20	979.7	344.4
		122.3	9.28	277.4	4.84343E+13	2.01595E+13	1.00276E+14	2.05350E+20	996.5	348.5
		127.3	9.63	271.6	4.75080E+13	1.96739E+13	9.82039E+13	2.12998E+20	977.1	343.7

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 7. ATF-05 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	9.99	283.9	5.01120E+13	2.04099E+13	1.02805E+14	2.20887E+20	1018.2	353.7
		137.3	10.33	274.0	4.89216E+13	1.99840E+13	1.00215E+14	2.28475E+20	985.0	345.7
		147.3	11.04	286.3	5.13248E+13	2.08036E+13	1.04937E+14	2.44192E+20	1026.3	355.7
		157.3	11.73	279.0	5.10179E+13	2.03989E+13	1.03353E+14	2.59548E+20	1001.8	349.7
	EOC (4/1/2016, 0900)	168.7	12.55	277.4	5.25512E+13	2.04075E+13	1.05218E+14	2.77494E+20	996.5	348.4
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	12.57	116.0	2.20065E+13	8.42861E+12	4.39577E+13	2.78036E+20	469.4	206.0
		170.7	12.59	121.4	2.30515E+13	8.93774E+12	4.60523E+13	2.78578E+20	486.7	211.2
		174.6	12.71	103.6	1.96983E+13	7.63819E+12	3.93839E+13	2.81047E+20	430.2	194.3
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	12.73	150.7	2.87434E+13	1.13507E+13	5.93999E+13	2.81649E+20	580.1	238.4
	EOC (6/28/2016, 1800)	176.2	12.74	166.2	3.19437E+13	1.27300E+13	6.75297E+13	2.81769E+20	630.1	252.6
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	12.80	273.7	5.21284E+13	2.01131E+13	1.04197E+14	2.83094E+20	983.8	345.4
		179.2	12.94	270.9	5.17974E+13	1.99510E+13	1.03763E+14	2.86165E+20	974.5	343.1
		186.2	13.41	270.7	5.19414E+13	1.98340E+13	1.03868E+14	2.96704E+20	974.0	343.0
		196.2	14.08	266.9	5.19827E+13	1.97999E+13	1.03521E+14	3.11337E+20	961.2	339.8
		206.2	14.74	267.3	5.29038E+13	1.98720E+13	1.04434E+14	3.25971E+20	962.6	340.2
		216.2	15.43	269.0	5.41755E+13	1.99042E+13	1.06132E+14	3.41207E+20	968.1	341.5
		222.2	15.82	255.6	5.26365E+13	1.90901E+13	1.02858E+14	3.49938E+20	923.4	330.4
		223.8	15.93	241.1	5.02397E+13	1.78851E+13	9.75121E+13	3.52347E+20	875.1	318.2
		226.2	16.07	237.8	4.95336E+13	1.77130E+13	9.64377E+13	3.55479E+20	864.2	315.4
	EOC (11/8/2016, 1100)	228.9	16.22	226.7	4.77562E+13	1.69666E+13	9.32071E+13	3.58791E+20	827.5	306.0
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	16.27	235.3	4.94735E+13	1.81270E+13	9.86549E+13	3.59875E+20	855.9	313.3
		231.9	16.39	234.6	4.94593E+13	1.81173E+13	9.87022E+13	3.62585E+20	853.5	312.7
		238.9	16.81	232.7	4.93299E+13	1.78936E+13	9.78136E+13	3.71738E+20	847.3	311.1
		248.9	17.37	222.9	4.78662E+13	1.71419E+13	9.48477E+13	3.84083E+20	815.0	302.7
		258.1	17.88	216.3	4.79521E+13	1.67735E+13	9.41059E+13	3.95525E+20	793.2	297.0

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 7. ATF-05 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	18.50	220.8	4.92202E+13	1.70725E+13	9.60666E+13	4.09135E+20	808.1	300.9
		278.9	19.03	210.0	4.75705E+13	1.66399E+13	9.50957E+13	4.20817E+20	772.6	291.5
	EOC (2/23/2017, 1400)	288.4	19.55	220.1	5.13893E+13	1.73558E+13	1.00160E+14	4.32500E+20	805.8	300.3
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	19.64	174.4	4.06234E+13	1.37155E+13	7.82592E+13	4.34427E+20	656.4	260.0
		290.4	19.65	157.3	3.67274E+13	1.21855E+13	7.04961E+13	4.34608E+20	601.2	244.4
		292.4	19.74	161.3	3.77088E+13	1.26963E+13	7.28729E+13	4.36655E+20	614.2	248.1
		294.4	19.83	163.8	3.84459E+13	1.27172E+13	7.37635E+13	4.38703E+20	622.1	250.4
		296.4	19.93	162.2	3.81510E+13	1.28180E+13	7.34690E+13	4.40750E+20	617.0	248.9
		298.4	20.02	166.4	3.92964E+13	1.30183E+13	7.54363E+13	4.42798E+20	630.5	252.7
		300.4	20.11	168.9	3.99865E+13	1.32019E+13	7.66708E+13	4.44905E+20	638.6	255.0
	EOC (6/11/2017, 1600)	300.9	20.13	171.8	4.08737E+13	1.34418E+13	7.79738E+13	4.45267E+20	647.9	257.6
162A	Cycle 162A Outage									
	BOC	301.9	20.18	246.1	5.67659E+13	1.86899E+13	1.08938E+14	4.46351E+20	891.7	322.4
		303.9	20.30	233.6	5.45834E+13	1.79920E+13	1.04870E+14	4.48940E+20	850.2	311.8
		310.9	20.70	233.2	5.47257E+13	1.79891E+13	1.04997E+14	4.57792E+20	848.8	311.5
		320.9	21.28	233.1	5.47018E+13	1.77700E+13	1.04424E+14	4.70619E+20	848.5	311.4
		330.9	21.85	231.0	5.55355E+13	1.77681E+13	1.05229E+14	4.83386E+20	841.6	309.6
		340.9	22.42	229.6	5.59865E+13	1.75405E+13	1.05491E+14	4.95972E+20	837.1	308.4
		350.9	23.00	233.4	5.88065E+13	1.82058E+13	1.10222E+14	5.08799E+20	849.6	311.7
		359.9	23.49	224.5	5.74786E+13	1.75204E+13	1.07906E+14	5.19578E+20	820.2	304.1
	EOC	362.9	23.64	220.6	5.78154E+13	1.72427E+13	1.07744E+14	5.22950E+20	807.5	300.7



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 8. ATF-06 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	279.4	3.61853E+13	1.96765E+13	8.50784E+13	0.00000E+00	1341.2	385.8
	EOC (2/15/2015, 0800)	5.4	0.36	290.4	3.77759E+13	2.03371E+13	8.77882E+13	9.03300E+18	1396.6	394.5
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.36	236.0	3.07754E+13	1.65398E+13	7.10765E+13	9.03300E+18	1123.1	349.5
		8.4	0.54	267.4	3.47342E+13	1.86357E+13	8.03864E+13	1.34893E+19	1280.9	376.1
		15.4	0.95	266.7	3.48056E+13	1.86553E+13	8.04174E+13	2.37267E+19	1277.4	375.5
		22.4	1.36	265.2	3.48553E+13	1.86008E+13	8.05316E+13	3.39039E+19	1269.9	374.3
		29.4	1.77	269.7	3.58098E+13	1.88885E+13	8.22649E+13	4.42015E+19	1292.4	377.9
		36.4	2.21	273.4	3.66144E+13	1.92394E+13	8.39788E+13	5.51615E+19	1311.3	381.0
		43.4	2.67	285.3	3.85019E+13	2.00359E+13	8.79229E+13	6.66033E+19	1371.1	390.5
		50.4	3.12	286.2	3.89630E+13	2.01253E+13	8.85830E+13	7.79849E+19	1375.5	391.2
		57.4	3.59	293.9	4.04522E+13	2.07424E+13	9.17658E+13	8.96074E+19	1414.5	397.3
		60.4	3.78	295.1	4.09848E+13	2.08532E+13	9.27577E+13	9.44852E+19	1420.1	398.1
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.10	298.3	4.18051E+13	2.10385E+13	9.37867E+13	1.02494E+20	1436.4	400.7
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.10	224.5	3.17479E+13	1.64268E+13	7.66419E+13	1.02494E+20	1065.1	339.4
		75.1	4.61	230.2	3.25153E+13	1.68291E+13	7.82048E+13	1.15141E+20	1093.8	344.5
		85.1	5.16	240.4	3.44024E+13	1.77725E+13	8.20119E+13	1.28811E+20	1144.8	353.3
		95.1	5.76	266.1	3.84133E+13	1.93305E+13	8.87910E+13	1.43745E+20	1274.4	375.0
		105.1	6.37	272.1	3.97845E+13	1.95536E+13	9.08111E+13	1.58981E+20	1304.8	379.9
		117.1	7.11	278.3	4.12014E+13	2.02484E+13	9.35253E+13	1.77589E+20	1335.9	384.9
	EOC (1/2/2016, 0400)	117.3	7.12	279.1	4.20113E+13	2.02784E+13	9.46274E+13	1.77890E+20	1339.8	385.6
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	7.17	255.1	3.82390E+13	1.83262E+13	8.61542E+13	1.79094E+20	1219.0	365.8
		119.3	7.22	234.0	3.52338E+13	1.71314E+13	8.06333E+13	1.80238E+20	1112.8	347.8
		122.3	7.37	225.6	3.41114E+13	1.65012E+13	7.77748E+13	1.84032E+20	1070.3	340.3
		127.3	7.63	231.1	3.51648E+13	1.69159E+13	7.96828E+13	1.90657E+20	1098.3	345.2

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 8. ATF-06 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	7.91	238.9	3.65881E+13	1.76258E+13	8.28620E+13	1.97461E+20	1137.6	352.0
		137.3	8.18	243.7	3.75331E+13	1.77539E+13	8.35563E+13	2.04387E+20	1161.8	356.2
		147.3	8.77	264.0	4.06074E+13	1.90307E+13	8.98553E+13	2.19080E+20	1263.9	373.3
		157.3	9.37	267.5	4.16651E+13	1.91923E+13	9.14995E+13	2.34015E+20	1281.6	376.2
	EOC (4/1/2016, 0900)	168.7	10.07	276.7	4.44616E+13	1.99777E+13	9.52156E+13	2.51539E+20	1327.7	383.6
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	10.10	127.9	2.04682E+13	9.14972E+12	4.33149E+13	2.52141E+20	577.5	246.0
		170.7	10.12	129.3	2.07216E+13	9.34064E+12	4.39813E+13	2.52683E+20	584.8	247.5
		174.6	10.22	106.9	1.71120E+13	7.61458E+12	3.63705E+13	2.55273E+20	471.3	223.7
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	10.25	204.8	3.31266E+13	1.48862E+13	7.13415E+13	2.55995E+20	965.5	321.5
	EOC (6/28/2016, 1800)	176.2	10.26	284.6	4.60275E+13	2.05611E+13	9.88419E+13	2.56296E+20	1367.4	389.9
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	10.31	271.4	4.39766E+13	1.97354E+13	9.56839E+13	2.57561E+20	1301.2	379.3
		179.2	10.43	262.2	4.25630E+13	1.93026E+13	9.32036E+13	2.60572E+20	1254.7	371.8
		186.2	10.86	271.3	4.41021E+13	1.95182E+13	9.57809E+13	2.71231E+20	1300.5	379.2
		196.2	11.48	284.8	4.67845E+13	2.04884E+13	1.00045E+14	2.86768E+20	1368.3	390.1
		206.2	12.17	308.1	5.13654E+13	2.24806E+13	1.09128E+14	3.03991E+20	1485.5	408.1
		216.2	12.84	297.3	5.04841E+13	2.15829E+13	1.06277E+14	3.20611E+20	1431.4	399.9
		222.2	13.25	309.1	5.33507E+13	2.23940E+13	1.11259E+14	3.30969E+20	1490.6	408.9
		223.8	13.37	311.6	5.43840E+13	2.24341E+13	1.12456E+14	3.33860E+20	1503.6	410.8
		226.2	13.53	317.2	5.54209E+13	2.29456E+13	1.14360E+14	3.37955E+20	1531.4	414.9
	EOC (11/8/2016, 1100)	228.9	13.71	310.0	5.48821E+13	2.25474E+13	1.12379E+14	3.42411E+20	1495.1	409.6
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	13.76	285.5	5.05178E+13	1.88353E+13	9.90471E+13	3.43736E+20	1372.1	390.7
		231.9	13.89	287.2	5.10117E+13	1.90701E+13	1.00351E+14	3.46988E+20	1380.7	392.0
		238.9	14.34	290.3	5.17137E+13	1.90830E+13	1.00215E+14	3.58068E+20	1396.3	394.4
		248.9	15.00	297.4	5.35724E+13	1.96637E+13	1.03522E+14	3.74629E+20	1431.8	399.9
		258.1	15.63	296.0	5.53288E+13	1.95820E+13	1.05067E+14	3.90286E+20	1425.0	398.9

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 8. ATF-06 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	16.38	310.3	5.83745E+13	2.04756E+13	1.10082E+14	4.09014E+20	1496.8	409.8
		278.9	17.04	303.1	5.78732E+13	1.99894E+13	1.08475E+14	4.25695E+20	1460.5	404.3
	EOC (2/23/2017, 1400)	288.4	17.68	298.6	5.92089E+13	1.98728E+13	1.09589E+14	4.41653E+20	1438.0	400.9
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	17.78	250.0	4.95666E+13	1.66061E+13	9.16610E+13	4.44183E+20	1193.3	361.5
		290.4	17.80	232.2	4.61761E+13	1.54949E+13	8.53209E+13	4.44544E+20	1103.9	346.2
		292.4	17.91	233.9	4.65262E+13	1.55216E+13	8.59421E+13	4.47254E+20	1112.5	347.7
		294.4	18.02	232.9	4.64418E+13	1.55792E+13	8.59108E+13	4.49964E+20	1107.1	346.8
		296.4	18.12	237.1	4.74024E+13	1.57642E+13	8.74421E+13	4.52674E+20	1128.2	350.4
		298.4	18.24	239.5	4.80751E+13	1.59530E+13	8.84477E+13	4.55444E+20	1140.5	352.6
		300.4	18.35	241.0	4.85382E+13	1.61041E+13	8.93295E+13	4.58214E+20	1148.3	353.9
	EOC <sup>§</sup> (6/11/2017, 1600)	300.9	18.37	244.2	4.93429E+13	1.62880E+13	9.04484E+13	4.58756E+20	1164.1	356.6

<sup>§</sup> ATF-06 was discharged for PIE following Cycle 161A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 9. ATF-07 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	283.6	3.66547E+13	1.99526E+13	8.61525E+13	0.00000E+00	1354.7	373.5
	EOC (2/15/2015, 0800)	5.4	0.37	295.8	3.85405E+13	2.06664E+13	8.93277E+13	9.15344E+18	1415.5	382.6
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.37	238.5	3.10234E+13	1.65283E+13	7.14775E+13	9.15344E+18	1128.8	338.1
		8.4	0.55	271.2	3.53047E+13	1.88811E+13	8.17212E+13	1.36699E+19	1292.3	364.0
		15.4	0.96	272.0	3.54756E+13	1.88988E+13	8.20536E+13	2.40880E+19	1296.3	364.6
		22.4	1.38	268.9	3.53304E+13	1.89424E+13	8.18796E+13	3.43856E+19	1280.7	362.2
		29.4	1.82	274.4	3.64489E+13	1.92400E+13	8.37060E+13	4.54059E+19	1308.4	366.4
		36.4	2.26	277.0	3.71368E+13	1.95242E+13	8.52369E+13	5.65466E+19	1321.5	368.5
		43.4	2.72	289.9	3.91888E+13	2.02128E+13	8.91294E+13	6.81088E+19	1386.2	378.2
		50.4	3.19	291.4	3.97115E+13	2.03521E+13	8.98919E+13	7.97313E+19	1393.8	379.4
		57.4	3.66	298.1	4.10159E+13	2.09755E+13	9.30735E+13	9.15344E+19	1427.2	384.3
		60.4	3.86	298.5	4.14909E+13	2.10957E+13	9.37494E+13	9.64122E+19	1429.2	384.6
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.18	301.3	4.22843E+13	2.13107E+13	9.49488E+13	1.04542E+20	1443.4	386.7
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.18	227.0	3.22262E+13	1.66680E+13	7.76276E+13	1.04542E+20	1071.8	328.7
		75.1	4.69	233.2	3.31033E+13	1.70738E+13	7.92463E+13	1.17309E+20	1102.4	333.8
		85.1	5.25	242.6	3.47460E+13	1.78581E+13	8.24535E+13	1.31159E+20	1149.5	341.4
		95.1	5.84	266.1	3.84801E+13	1.95947E+13	8.95641E+13	1.46034E+20	1267.0	360.1
		105.1	6.45	275.1	4.03414E+13	1.97836E+13	9.20713E+13	1.61390E+20	1311.9	367.0
		117.1	7.21	280.9	4.16312E+13	2.02773E+13	9.41699E+13	1.80178E+20	1341.1	371.4
	EOC (1/2/2016, 0400)	117.3	7.22	281.7	4.24822E+13	2.03990E+13	9.54082E+13	1.80419E+20	1344.8	372.0
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	7.27	255.7	3.85434E+13	1.85404E+13	8.68688E+13	1.81684E+20	1215.0	351.9
		119.3	7.31	236.4	3.56414E+13	1.71989E+13	8.10675E+13	1.82768E+20	1118.3	336.4
		122.3	7.46	228.3	3.44610E+13	1.66320E+13	7.83665E+13	1.86622E+20	1078.2	329.8
		127.3	7.73	234.4	3.55563E+13	1.72522E+13	8.06022E+13	1.93306E+20	1108.4	334.8

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 9. ATF-07 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	8.01	243.6	3.71610E+13	1.79682E+13	8.37691E+13	2.00171E+20	1154.3	342.2
		137.3	8.28	243.7	3.75214E+13	1.76248E+13	8.39465E+13	2.07097E+20	1154.7	342.3
		147.3	8.88	267.4	4.11767E+13	1.94489E+13	9.10138E+13	2.21911E+20	1273.6	361.1
		157.3	9.47	268.3	4.18968E+13	1.95355E+13	9.22324E+13	2.36785E+20	1278.1	361.8
	EOC (4/1/2016, 0900)	168.7	10.17	278.8	4.48180E+13	2.00899E+13	9.61503E+13	2.54369E+20	1330.5	369.8
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	10.20	128.8	2.06620E+13	9.27864E+12	4.38422E+13	2.54971E+20	583.7	241.9
		170.7	10.22	129.6	2.08509E+13	9.41490E+12	4.43248E+13	2.55574E+20	587.7	242.7
		174.6	10.33	108.8	1.75057E+13	7.62730E+12	3.69042E+13	2.58163E+20	484.8	222.8
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	10.35	206.4	3.34725E+13	1.49191E+13	7.20710E+13	2.58886E+20	968.8	311.4
	EOC (6/28/2016, 1800)	176.2	10.37	286.9	4.65878E+13	2.07767E+13	9.99557E+13	2.59187E+20	1371.3	376.0
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	10.42	275.2	4.45516E+13	2.02074E+13	9.73118E+13	2.60452E+20	1312.7	367.1
		179.2	10.54	264.1	4.29534E+13	1.93551E+13	9.42272E+13	2.63463E+20	1256.8	358.5
		186.2	10.97	274.3	4.47960E+13	1.99864E+13	9.75982E+13	2.74182E+20	1308.0	366.4
		196.2	11.61	284.4	4.69507E+13	2.09079E+13	1.01189E+14	2.90260E+20	1358.6	374.1
		206.2	12.31	314.4	5.24932E+13	2.27109E+13	1.10495E+14	3.07724E+20	1509.2	396.2
		216.2	12.98	299.9	5.11758E+13	2.17101E+13	1.07292E+14	3.24465E+20	1436.2	385.6
		222.2	13.39	311.6	5.41398E+13	2.26115E+13	1.12330E+14	3.34823E+20	1494.9	394.2
		223.8	13.51	313.8	5.50415E+13	2.28385E+13	1.13565E+14	3.37834E+20	1505.9	395.8
		226.2	13.67	317.2	5.57048E+13	2.31758E+13	1.15205E+14	3.41869E+20	1523.1	398.2
	EOC (11/8/2016, 1100)	228.9	13.85	312.9	5.55299E+13	2.27430E+13	1.14083E+14	3.46325E+20	1501.5	395.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	13.93	319.8	5.66809E+13	2.37102E+13	1.18930E+14	3.48373E+20	1536.4	400.1
		231.9	14.07	321.1	5.71256E+13	2.38595E+13	1.19813E+14	3.51865E+20	1542.7	401.0
		238.9	14.58	325.0	5.79652E+13	2.39216E+13	1.20392E+14	3.64632E+20	1562.6	403.8
		248.9	15.33	335.9	6.07087E+13	2.46480E+13	1.24899E+14	3.83421E+20	1617.1	411.4
		258.1	16.01	332.3	6.26123E+13	2.44363E+13	1.26196E+14	4.00403E+20	1599.1	408.9

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 9. ATF-07 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	16.83	345.9	6.56075E+13	2.54792E+13	1.31504E+14	4.20817E+20	1667.4	418.3
		278.9	17.58	338.4	6.52001E+13	2.48618E+13	1.29563E+14	4.39486E+20	1629.8	413.2
	EOC (2/23/2017, 1400)	288.4	18.30	335.3	6.76126E+13	2.47567E+13	1.31674E+14	4.57491E+20	1614.0	411.0
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	18.41	278.6	5.60594E+13	2.07070E+13	1.09466E+14	4.60201E+20	1329.6	369.7
		290.4	18.42	261.0	5.26648E+13	1.92153E+13	1.02635E+14	4.60623E+20	1241.5	356.1
		292.4	18.54	261.8	5.28926E+13	1.93940E+13	1.03249E+14	4.63513E+20	1245.6	356.7
		294.4	18.65	259.5	5.26462E+13	1.91831E+13	1.02633E+14	4.66404E+20	1234.1	354.9
		296.4	18.77	265.2	5.40116E+13	1.97087E+13	1.04960E+14	4.69415E+20	1262.6	359.4
		298.4	18.89	268.9	5.48735E+13	1.99059E+13	1.06424E+14	4.72366E+20	1281.0	362.2
		300.4	19.01	271.6	5.56171E+13	2.00660E+13	1.07578E+14	4.75437E+20	1294.2	364.3
	EOC (6/11/2017, 1600)	300.9	19.04	273.9	5.64602E+13	2.03094E+13	1.09186E+14	4.76039E+20	1306.2	366.1
162A	Cycle 162A Outage									
	BOC	301.9	19.12	303.0	6.34470E+13	2.29400E+13	1.23673E+14	4.78026E+20	1451.6	387.9
		303.9	19.24	280.7	5.80836E+13	2.07559E+13	1.13734E+14	4.81098E+20	1340.0	371.3
		310.9	19.68	281.9	5.79180E+13	2.06614E+13	1.13371E+14	4.92118E+20	1345.9	372.2
		320.9	20.32	288.9	6.02335E+13	2.11776E+13	1.16866E+14	5.08197E+20	1381.0	377.5
		330.9	20.92	281.3	5.94975E+13	2.05407E+13	1.14381E+14	5.23191E+20	1343.0	371.7
		340.9	21.51	276.3	5.96298E+13	2.02871E+13	1.14140E+14	5.37945E+20	1318.1	367.9
		350.9	22.14	277.4	6.18157E+13	2.05894E+13	1.17061E+14	5.53482E+20	1323.3	368.7
		359.9	22.69	281.9	6.48011E+13	2.11817E+13	1.21418E+14	5.67393E+20	1345.8	372.2
	EOC	362.9	22.89	276.1	6.48820E+13	2.07720E+13	1.20713E+14	5.72210E+20	1317.1	367.8

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 10. ATF-08 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	273.3	3.54013E+13	2.04703E+13	8.69853E+13	0.00000E+00	1324.0	401.8
	EOC (2/15/2015, 0800)	5.4	0.35	284.3	3.71006E+13	2.12741E+13	9.01168E+13	8.79212E+18	1379.9	411.1
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.35	232.2	3.01984E+13	1.74344E+13	7.33555E+13	8.79212E+18	1116.3	365.6
		8.4	0.53	265.2	3.44983E+13	1.98174E+13	8.37632E+13	1.31882E+19	1282.8	394.8
		15.4	0.93	262.4	3.43209E+13	1.95481E+13	8.29758E+13	2.32449E+19	1269.0	392.5
		22.4	1.33	262.0	3.45238E+13	1.95922E+13	8.34357E+13	3.32414E+19	1267.0	392.1
		29.4	1.74	266.2	3.54056E+13	1.99399E+13	8.49919E+13	4.34186E+19	1288.0	395.7
		36.4	2.17	269.5	3.61281E+13	2.01664E+13	8.65441E+13	5.42582E+19	1305.1	398.6
		43.4	2.62	280.1	3.78630E+13	2.09206E+13	9.02011E+13	6.54591E+19	1358.7	407.6
		50.4	3.07	281.6	3.84393E+13	2.11124E+13	9.12768E+13	7.66601E+19	1366.1	408.8
		57.4	3.53	289.8	3.99043E+13	2.19039E+13	9.49293E+13	8.81621E+19	1407.7	415.7
		60.4	3.72	291.0	4.03889E+13	2.17927E+13	9.53466E+13	9.29195E+19	1413.5	416.7
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.03	293.3	4.11010E+13	2.19068E+13	9.63426E+13	1.00869E+20	1425.3	418.6
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.03	219.4	3.10253E+13	1.72018E+13	7.84923E+13	1.00869E+20	1051.3	353.8
		75.1	4.53	225.3	3.18022E+13	1.76139E+13	8.00280E+13	1.13214E+20	1081.2	359.3
		85.1	5.07	235.9	3.37925E+13	1.84230E+13	8.39689E+13	1.26643E+20	1134.9	369.0
		95.1	5.65	259.9	3.75160E+13	2.00201E+13	9.06495E+13	1.41216E+20	1256.2	390.3
		105.1	6.24	262.7	3.83468E+13	2.01534E+13	9.16764E+13	1.55910E+20	1270.6	392.7
		117.1	6.96	266.8	3.93874E+13	2.04139E+13	9.28515E+13	1.73915E+20	1291.0	396.2
	EOC (1/2/2016, 0400)	117.3	6.97	267.3	4.02294E+13	2.04640E+13	9.40979E+13	1.74156E+20	1293.8	396.7
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	7.01	250.1	3.76357E+13	1.93512E+13	8.90821E+13	1.75300E+20	1206.4	381.6
		119.3	7.06	229.5	3.45092E+13	1.78350E+13	8.20460E+13	1.76384E+20	1102.6	363.2
		122.3	7.20	222.7	3.34635E+13	1.73915E+13	7.99813E+13	1.80118E+20	1068.1	356.9
		127.3	7.47	229.3	3.45713E+13	1.79605E+13	8.24418E+13	1.86682E+20	1101.4	362.9

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 10. ATF-08 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	7.74	238.1	3.61983E+13	1.84690E+13	8.53433E+13	1.93427E+20	1145.8	370.9
		137.3	8.01	240.8	3.67717E+13	1.84498E+13	8.56317E+13	2.00292E+20	1159.6	373.4
		147.3	8.59	260.0	3.98435E+13	2.01174E+13	9.23357E+13	2.14745E+20	1256.7	390.3
		157.3	9.17	261.6	4.06486E+13	2.02628E+13	9.33506E+13	2.29378E+20	1264.9	391.7
	EOC (4/1/2016, 0900)	168.7	9.86	266.0	4.27211E+13	2.04492E+13	9.55355E+13	2.46601E+20	1287.2	395.6
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	9.89	126.7	2.02375E+13	9.71019E+12	4.47664E+13	2.47203E+20	582.5	261.8
		170.7	9.91	129.0	2.05303E+13	9.83762E+12	4.53561E+13	2.47805E+20	594.4	264.3
		174.6	10.01	106.6	1.69318E+13	8.16361E+12	3.74572E+13	2.50335E+20	480.7	240.3
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	10.04	201.2	3.23629E+13	1.55053E+13	7.27531E+13	2.51057E+20	959.4	336.7
	EOC (6/28/2016, 1800)	176.2	10.05	280.2	4.50594E+13	2.15554E+13	1.00751E+14	2.51358E+20	1358.9	407.7
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	10.10	269.2	4.33684E+13	2.09902E+13	9.93022E+13	2.52623E+20	1303.4	398.3
		179.2	10.23	259.1	4.19132E+13	2.03908E+13	9.62564E+13	2.55634E+20	1252.2	389.6
		186.2	10.64	267.3	4.33076E+13	2.09152E+13	9.86194E+13	2.66052E+20	1293.7	396.7
		196.2	11.28	280.5	4.58149E+13	2.18089E+13	1.02804E+14	2.81950E+20	1360.5	407.9
		206.2	11.96	306.2	5.07579E+13	2.37270E+13	1.12353E+14	2.99053E+20	1490.3	429.1
		216.2	12.61	288.7	4.87670E+13	2.25079E+13	1.07360E+14	3.15252E+20	1402.1	414.8
		222.2	13.01	298.1	5.10727E+13	2.31516E+13	1.11252E+14	3.25248E+20	1449.4	422.5
		223.8	13.13	301.7	5.21411E+13	2.34632E+13	1.13104E+14	3.28139E+20	1467.5	425.4
		226.2	13.28	307.7	5.33287E+13	2.38359E+13	1.14975E+14	3.32113E+20	1497.9	430.3
	EOC (11/8/2016, 1100)	228.9	13.46	301.3	5.27393E+13	2.33919E+13	1.13269E+14	3.36389E+20	1465.8	425.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	13.51	285.5	4.96528E+13	1.90538E+13	9.84823E+13	3.37714E+20	1385.6	412.1
		231.9	13.64	286.6	5.01139E+13	1.90887E+13	9.94197E+13	3.40966E+20	1391.4	413.0
		238.9	14.08	289.0	5.06278E+13	1.91961E+13	9.97403E+13	3.52046E+20	1403.4	415.0
		248.9	14.76	305.2	5.41406E+13	2.02439E+13	1.05669E+14	3.68968E+20	1485.2	428.3
		258.1	15.40	308.5	5.67465E+13	2.05451E+13	1.09279E+14	3.85047E+20	1502.3	431.0



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 10. ATF-08 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	16.19	329.6	6.10307E+13	2.18393E+13	1.16521E+14	4.04678E+20	1608.7	447.5
		278.9	16.92	325.6	6.12403E+13	2.14826E+13	1.15908E+14	4.22925E+20	1588.4	444.4
	EOC (2/23/2017, 1400)	288.4	17.59	322.0	6.31549E+13	2.14765E+13	1.17769E+14	4.39847E+20	1570.2	441.6
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	17.70	275.7	5.37580E+13	1.81425E+13	1.00046E+14	4.42557E+20	1336.0	403.8
		290.4	17.71	254.3	4.99263E+13	1.70320E+13	9.32446E+13	4.42858E+20	1227.8	385.3
		292.4	17.83	255.8	5.02764E+13	1.70635E+13	9.38428E+13	4.45809E+20	1235.3	386.7
		294.4	17.95	254.7	5.03266E+13	1.69342E+13	9.37506E+13	4.48699E+20	1230.1	385.7
		296.4	18.06	257.6	5.10109E+13	1.72285E+13	9.50580E+13	4.51590E+20	1244.7	388.3
		298.4	18.18	261.7	5.19539E+13	1.73938E+13	9.63758E+13	4.54541E+20	1265.1	391.8
		300.4	18.30	264.4	5.27022E+13	1.75938E+13	9.76877E+13	4.57552E+20	1278.9	394.2
	EOC** (6/11/2017, 1600)	300.9	18.33	267.9	5.36474E+13	1.77428E+13	9.92188E+13	4.58154E+20	1296.5	397.2

\*\* ATF-08 was discharged for PIE following Cycle 161A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 11. ATF-09 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	275.2	3.56706E+13	2.06256E+13	8.75926E+13	0.00000E+00	1309.2	386.2
	EOC (2/15/2015, 0800)	5.4	0.35	285.6	3.72892E+13	2.13207E+13	9.03467E+13	8.85234E+18	1361.2	394.8
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.35	232.3	3.02550E+13	1.74768E+13	7.33663E+13	8.85234E+18	1094.8	348.7
		8.4	0.53	266.6	3.46545E+13	1.99226E+13	8.38934E+13	1.32484E+19	1266.1	378.9
		15.4	0.93	263.1	3.44046E+13	1.96085E+13	8.34810E+13	2.33654E+19	1248.7	375.9
		22.4	1.34	262.9	3.46297E+13	1.96465E+13	8.33981E+13	3.34221E+19	1247.7	375.7
		29.4	1.77	269.0	3.57158E+13	2.01643E+13	8.58527E+13	4.42015E+19	1277.9	380.9
		36.4	2.20	270.2	3.62286E+13	2.03149E+13	8.68403E+13	5.51013E+19	1283.9	381.9
		43.4	2.65	281.1	3.80732E+13	2.11671E+13	9.07787E+13	6.63022E+19	1338.4	391.1
		50.4	3.10	282.4	3.85501E+13	2.13516E+13	9.18085E+13	7.75634E+19	1345.0	392.2
		57.4	3.57	291.4	4.00860E+13	2.20410E+13	9.55690E+13	8.91256E+19	1389.8	399.5
		60.4	3.76	292.6	4.06284E+13	2.20860E+13	9.60055E+13	9.38830E+19	1395.9	400.5
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	4.07	295.2	4.14524E+13	2.21232E+13	9.69029E+13	1.01772E+20	1409.1	402.6
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	4.07	219.0	3.10725E+13	1.73249E+13	7.88290E+13	1.01772E+20	1028.6	336.5
		75.1	4.57	224.8	3.18320E+13	1.76978E+13	8.04178E+13	1.14117E+20	1057.2	341.8
		85.1	5.10	235.4	3.36963E+13	1.83619E+13	8.38399E+13	1.27546E+20	1110.2	351.5
		95.1	5.69	260.5	3.76810E+13	1.98743E+13	9.08441E+13	1.42179E+20	1235.8	373.7
		105.1	6.28	263.3	3.85380E+13	2.03235E+13	9.20596E+13	1.56933E+20	1249.6	376.1
		117.1	7.00	267.5	3.95364E+13	2.05271E+13	9.35012E+13	1.74939E+20	1270.6	379.7
	EOC (1/2/2016, 0400)	117.3	7.01	268.5	4.03556E+13	2.05856E+13	9.46650E+13	1.75240E+20	1275.6	380.5
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	7.06	251.6	3.77506E+13	1.94585E+13	8.93041E+13	1.76384E+20	1191.4	366.0
		119.3	7.10	228.2	3.44369E+13	1.78522E+13	8.21661E+13	1.77468E+20	1074.4	345.0
		122.3	7.25	223.6	3.36857E+13	1.74480E+13	8.02634E+13	1.81202E+20	1051.5	340.8
		127.3	7.51	228.7	3.47012E+13	1.79099E+13	8.22213E+13	1.87706E+20	1076.7	345.4

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 11. ATF-09 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	7.78	235.3	3.58960E+13	1.84919E+13	8.47021E+13	1.94390E+20	1110.0	351.4
		137.3	8.05	240.4	3.67007E+13	1.86092E+13	8.58434E+13	2.01195E+20	1135.0	356.0
		147.3	8.63	260.7	3.99765E+13	2.00791E+13	9.26049E+13	2.15708E+20	1236.5	373.8
		157.3	9.21	263.4	4.10141E+13	2.02306E+13	9.37494E+13	2.30342E+20	1250.0	376.1
	EOC (4/1/2016, 0900)	168.7	9.91	267.7	4.29769E+13	2.05926E+13	9.59255E+13	2.47625E+20	1271.4	379.8
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	9.93	127.9	2.04437E+13	9.82518E+12	4.51270E+13	2.48227E+20	573.8	245.2
		170.7	9.95	129.1	2.05623E+13	9.87082E+12	4.53847E+13	2.48829E+20	579.7	246.5
		174.6	10.05	104.9	1.67538E+13	8.12429E+12	3.73001E+13	2.51298E+20	458.8	220.0
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	10.08	201.0	3.23688E+13	1.57181E+13	7.31339E+13	2.52021E+20	938.5	319.5
	EOC (6/28/2016, 1800)	176.2	10.09	279.3	4.50353E+13	2.19366E+13	1.01487E+14	2.52322E+20	1329.7	389.6
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	10.14	271.6	4.37062E+13	2.13428E+13	9.98933E+13	2.53586E+20	1291.1	383.1
		179.2	10.27	261.3	4.21911E+13	2.04401E+13	9.62385E+13	2.56658E+20	1239.8	374.4
		186.2	10.68	268.1	4.34076E+13	2.10131E+13	9.90751E+13	2.67076E+20	1273.5	380.2
		196.2	11.32	280.4	4.58539E+13	2.17790E+13	1.02889E+14	2.82974E+20	1335.1	390.5
		206.2	12.00	303.7	5.04666E+13	2.36399E+13	1.11958E+14	2.99896E+20	1451.2	409.4
		216.2	12.65	290.1	4.88777E+13	2.24928E+13	1.07291E+14	3.16155E+20	1383.4	398.5
		222.2	13.05	299.4	5.13049E+13	2.31191E+13	1.11591E+14	3.26152E+20	1429.9	406.0
		223.8	13.16	302.5	5.24457E+13	2.34122E+13	1.13235E+14	3.29042E+20	1445.4	408.5
		226.2	13.32	307.9	5.35919E+13	2.37995E+13	1.15083E+14	3.33017E+20	1472.5	412.8
	EOC (11/8/2016, 1100)	228.9	13.50	302.8	5.31576E+13	2.35287E+13	1.13539E+14	3.37413E+20	1447.1	408.7
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	13.58	329.6	5.77303E+13	2.41097E+13	1.20546E+14	3.39460E+20	1580.7	429.4
		231.9	13.73	330.6	5.80906E+13	2.41137E+13	1.21168E+14	3.43134E+20	1585.7	430.2
		238.9	14.25	332.5	5.86234E+13	2.43313E+13	1.21705E+14	3.56201E+20	1595.5	431.6
		248.9	15.02	343.6	6.14152E+13	2.49845E+13	1.25978E+14	3.75351E+20	1651.1	439.9
		258.1	15.71	338.3	6.29831E+13	2.46737E+13	1.26902E+14	3.92634E+20	1624.5	436.0

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 11. ATF-09 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	16.54	353.2	6.62262E+13	2.57544E+13	1.32686E+14	4.13350E+20	1698.8	446.8
		278.9	17.29	344.2	6.55937E+13	2.51800E+13	1.30585E+14	4.32319E+20	1653.9	440.3
	EOC (2/23/2017, 1400)	288.4	18.03	343.0	6.84329E+13	2.50809E+13	1.32992E+14	4.50747E+20	1648.0	439.4
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	18.14	286.9	5.69315E+13	2.08042E+13	1.10749E+14	4.53517E+20	1367.3	395.8
		290.4	18.16	264.6	5.27902E+13	1.94925E+13	1.03200E+14	4.53938E+20	1256.2	377.2
		292.4	18.28	267.6	5.35177E+13	1.95401E+13	1.04147E+14	4.56889E+20	1271.0	379.7
		294.4	18.40	265.3	5.31438E+13	1.95284E+13	1.03661E+14	4.59900E+20	1259.5	377.8
		296.4	18.52	271.7	5.46970E+13	1.97695E+13	1.05945E+14	4.62911E+20	1291.4	383.2
		298.4	18.64	274.9	5.55980E+13	2.00350E+13	1.07444E+14	4.65922E+20	1307.7	385.9
		300.4	18.76	277.3	5.63006E+13	2.02741E+13	1.08768E+14	4.69054E+20	1319.5	387.9
	EOC (6/11/2017, 1600)	300.9	18.79	279.2	5.70106E+13	2.05056E+13	1.09807E+14	4.69656E+20	1329.1	389.5
162A	Cycle 162A Outage									
	BOC	301.9	18.87	310.2	6.41615E+13	2.30323E+13	1.24781E+14	4.71703E+20	1484.0	414.6
		303.9	19.00	286.0	5.85504E+13	2.11130E+13	1.14787E+14	4.74835E+20	1363.1	395.1
		310.9	19.44	288.0	5.85201E+13	2.09766E+13	1.14355E+14	4.86036E+20	1373.0	396.8
		320.9	20.10	293.6	6.05220E+13	2.14359E+13	1.17564E+14	5.02355E+20	1400.9	401.3
		330.9	20.71	284.9	5.96430E+13	2.07200E+13	1.14835E+14	5.17591E+20	1357.4	394.2
		340.9	21.33	280.0	5.97996E+13	2.04412E+13	1.14647E+14	5.33128E+20	1333.1	390.2
		350.9	21.96	282.9	6.23173E+13	2.08200E+13	1.18108E+14	5.48905E+20	1347.4	392.6
		359.9	22.52	285.7	6.50557E+13	2.12953E+13	1.22043E+14	5.62997E+20	1361.5	394.9
	EOC	362.9	22.72	280.0	6.51517E+13	2.07896E+13	1.21093E+14	5.67814E+20	1333.3	390.2

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 12. ATF-10 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	261.0	2.68221E+13	1.61986E+13	6.37269E+13	0.00000E+00	698.1	338.7
	EOC (2/15/2015, 0800)	5.4	0.30	264.7	2.73577E+13	1.64671E+13	6.48173E+13	8.49102E+18	704.3	342.0
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.30	203.8	2.11934E+13	1.41281E+13	5.42397E+13	8.49102E+18	597.2	287.1
		8.4	0.43	219.0	2.27144E+13	1.53081E+13	5.87153E+13	1.22849E+19	625.2	301.2
		15.4	0.74	224.1	2.33506E+13	1.55054E+13	5.98540E+13	2.11974E+19	634.3	305.9
		22.4	1.06	223.8	2.33337E+13	1.55773E+13	5.99953E+13	3.01702E+19	633.6	305.5
		29.4	1.37	225.7	2.37611E+13	1.57486E+13	6.10544E+13	3.90828E+19	637.1	307.3
		36.4	1.69	233.2	2.46727E+13	1.62132E+13	6.30319E+13	4.82964E+19	650.4	314.1
		43.4	2.02	235.9	2.50883E+13	1.63487E+13	6.38003E+13	5.75703E+19	655.2	316.5
		50.4	2.35	244.5	2.61873E+13	1.70210E+13	6.62068E+13	6.70851E+19	670.1	324.2
		57.4	2.69	247.6	2.66648E+13	1.71206E+13	6.75396E+13	7.68407E+19	675.5	327.0
		60.4	2.84	250.8	2.71687E+13	1.73491E+13	6.82187E+13	8.11163E+19	680.9	329.8
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	3.07	251.3	2.74238E+13	1.74640E+13	6.88090E+13	8.76803E+19	681.7	330.2
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	3.07	248.7	2.71116E+13	1.72550E+13	6.79694E+13	8.76803E+19	677.3	327.9
		75.1	3.55	243.3	2.65168E+13	1.69833E+13	6.68986E+13	1.01350E+20	668.1	323.1
		85.1	4.02	237.8	2.62117E+13	1.65386E+13	6.54284E+13	1.14719E+20	658.5	318.2
		95.1	4.49	239.3	2.65765E+13	1.66836E+13	6.64708E+13	1.28148E+20	661.1	319.5
		105.1	4.97	247.0	2.77174E+13	1.74314E+13	6.91606E+13	1.41999E+20	674.5	326.5
		117.1	5.57	255.4	2.89079E+13	1.77691E+13	7.11883E+13	1.59222E+20	688.8	333.9
	EOC (1/2/2016, 0400)	117.3	5.58	253.2	2.90008E+13	1.76457E+13	7.10389E+13	1.59463E+20	685.0	331.9
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	5.62	203.5	2.32778E+13	1.40691E+13	5.63807E+13	1.60426E+20	596.7	286.9
		119.3	5.66	224.0	2.56630E+13	1.56901E+13	6.25846E+13	1.61570E+20	634.0	305.7
		122.3	5.79	230.7	2.64216E+13	1.62814E+13	6.46310E+13	1.65545E+20	646.0	311.8
		127.3	6.01	225.5	2.58648E+13	1.57627E+13	6.30253E+13	1.71627E+20	636.7	307.1

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 12. ATF-10 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	6.25	231.9	2.68705E+13	1.62254E+13	6.57294E+13	1.78432E+20	648.1	312.9
		137.3	6.46	228.3	2.64945E+13	1.58333E+13	6.42974E+13	1.84574E+20	641.7	309.6
		147.3	6.93	237.5	2.76109E+13	1.65782E+13	6.70132E+13	1.97883E+20	657.9	317.9
		157.3	7.39	237.9	2.79478E+13	1.66050E+13	6.70813E+13	2.11192E+20	658.7	318.3
	EOC (4/1/2016, 0900)	168.7	7.94	240.6	2.88103E+13	1.68250E+13	6.87258E+13	2.26909E+20	663.3	320.7
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	7.96	103.6	1.24882E+13	7.22598E+12	2.96291E+13	2.27451E+20	395.2	188.8
		170.7	7.98	107.7	1.29295E+13	7.45748E+12	3.08054E+13	2.27933E+20	404.1	193.1
		174.6	8.04	92.7	1.11433E+13	6.52652E+12	2.65132E+13	2.29679E+20	371.3	177.5
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	8.06	133.7	1.62208E+13	9.33915E+12	3.95597E+13	2.30221E+20	459.2	219.4
	EOC (6/28/2016, 1800)	176.2	8.06	147.8	1.79684E+13	1.06619E+13	4.54704E+13	2.30402E+20	488.2	233.4
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	8.11	236.6	2.84252E+13	1.64223E+13	6.77262E+13	2.31546E+20	656.5	317.2
		179.2	8.21	235.1	2.83150E+13	1.63824E+13	6.75315E+13	2.34436E+20	653.8	315.8
		186.2	8.53	236.3	2.85716E+13	1.65794E+13	6.80370E+13	2.43590E+20	655.9	316.9
		196.2	8.99	235.8	2.87264E+13	1.65916E+13	6.80834E+13	2.56778E+20	655.1	316.5
		206.2	9.45	238.4	2.92805E+13	1.68954E+13	6.95366E+13	2.69966E+20	659.4	318.7
		216.2	9.92	241.5	3.00485E+13	1.72247E+13	7.12693E+13	2.83395E+20	664.9	321.5
		222.2	10.20	239.0	3.00402E+13	1.67576E+13	7.02962E+13	2.91465E+20	660.5	319.3
		223.8	10.28	223.8	2.83389E+13	1.59289E+13	6.62995E+13	2.93813E+20	633.7	305.5
		226.2	10.39	222.1	2.80200E+13	1.57672E+13	6.59043E+13	2.96945E+20	630.6	304.0
	EOC (11/8/2016, 1100)	228.9	10.51	211.0	2.67303E+13	1.50726E+13	6.30987E+13	3.00257E+20	610.4	293.8
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	10.55	224.2	2.84703E+13	1.58107E+13	6.66544E+13	3.01281E+20	634.3	305.9
		231.9	10.64	224.0	2.84625E+13	1.58057E+13	6.67581E+13	3.04051E+20	634.0	305.7
		238.9	10.94	221.0	2.82064E+13	1.55654E+13	6.58743E+13	3.12662E+20	628.8	303.0
		248.9	11.36	211.3	2.71984E+13	1.49174E+13	6.33244E+13	3.24586E+20	611.1	294.1
		258.1	11.75	210.6	2.76008E+13	1.48862E+13	6.37564E+13	3.35666E+20	609.7	293.4

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 12. ATF-10 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	12.20	215.0	2.82563E+13	1.51879E+13	6.52056E+13	3.48493E+20	617.8	297.5
		278.9	12.61	211.6	2.80803E+13	1.51990E+13	6.61314E+13	3.60296E+20	611.6	294.4
	EOC (2/23/2017, 1400)	288.4	13.03	224.2	3.02563E+13	1.60523E+13	6.98319E+13	3.72280E+20	634.4	305.9
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	13.09	192.7	2.59914E+13	1.37360E+13	5.94094E+13	3.73846E+20	576.4	276.7
		290.4	13.09	170.7	2.31170E+13	1.21403E+13	5.26857E+13	3.74087E+20	534.0	255.8
		292.4	13.17	175.8	2.37361E+13	1.24705E+13	5.43799E+13	3.76315E+20	544.0	260.7
		294.4	13.25	178.0	2.40495E+13	1.26955E+13	5.51149E+13	3.78663E+20	548.3	262.8
		296.4	13.33	177.6	2.40386E+13	1.25902E+13	5.47890E+13	3.80952E+20	547.4	262.4
		298.4	13.42	183.4	2.48901E+13	1.29494E+13	5.64520E+13	3.83300E+20	558.7	268.0
		300.4	13.50	187.6	2.54922E+13	1.32406E+13	5.79667E+13	3.85709E+20	566.7	271.9
	EOC (6/11/2017, 1600)	300.9	13.52	190.6	2.59666E+13	1.36670E+13	5.91667E+13	3.86191E+20	572.5	274.8
162A	Cycle 162A Outage									
	BOC	301.9	13.56	240.6	3.19463E+13	1.65836E+13	7.25094E+13	3.87275E+20	663.3	320.7
		303.9	13.65	227.8	3.06049E+13	1.60826E+13	6.96405E+13	3.89985E+20	640.9	309.2
		310.9	13.95	227.1	3.05735E+13	1.59909E+13	6.94096E+13	3.98596E+20	639.6	308.6
		320.9	14.37	223.8	2.99144E+13	1.54832E+13	6.76233E+13	4.10640E+20	633.8	305.6
		330.9	14.80	229.3	3.11163E+13	1.60603E+13	7.02075E+13	4.22925E+20	643.4	310.5
		340.9	15.24	231.5	3.15902E+13	1.59270E+13	7.05066E+13	4.35270E+20	647.4	312.5
		350.9	15.70	234.1	3.27978E+13	1.64109E+13	7.32052E+13	4.48458E+20	651.9	314.9
		359.9	16.09	227.2	3.20722E+13	1.60871E+13	7.17649E+13	4.59659E+20	639.7	308.6
	EOC	362.9	16.22	225.9	3.23364E+13	1.60542E+13	7.20324E+13	4.63393E+20	637.5	307.5

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 13. ATF-11 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157D	BOC (5/30/2015, 1100)	0.0	0.00	206.5	2.12949E+13	1.43074E+13	5.48688E+13	0.00000E+00	579.4	256.9
		3.0	0.14	224.4	2.31374E+13	1.53391E+13	5.92665E+13	3.91430E+18	610.2	271.2
		10.0	0.45	225.8	2.34967E+13	1.54564E+13	6.02803E+13	1.28871E+19	612.7	272.4
		17.0	0.77	226.0	2.35793E+13	1.56061E+13	6.05427E+13	2.19201E+19	613.0	272.5
		24.0	1.09	227.7	2.38570E+13	1.57189E+13	6.12561E+13	3.09531E+19	615.9	273.9
		31.0	1.41	236.4	2.49908E+13	1.62932E+13	6.34222E+13	4.02872E+19	630.4	280.7
		38.0	1.74	237.7	2.52605E+13	1.64334E+13	6.40669E+13	4.96815E+19	632.6	281.8
		45.0	2.08	245.8	2.62530E+13	1.68923E+13	6.65301E+13	5.93769E+19	645.9	288.1
		52.0	2.42	249.3	2.67867E+13	1.72622E+13	6.78812E+13	6.91326E+19	651.5	290.9
		55.0	2.57	250.0	2.70665E+13	1.74015E+13	6.81733E+13	7.34082E+19	652.8	291.4
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	59.7	2.80	253.8	2.77057E+13	1.76389E+13	6.93437E+13	7.99722E+19	658.8	294.3
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	59.7	2.80	250.5	2.71487E+13	1.75103E+13	6.83943E+13	7.99722E+19	653.5	291.8
		69.7	3.29	245.6	2.66795E+13	1.71466E+13	6.73544E+13	9.37625E+19	645.6	288.0
		79.7	3.76	239.2	2.62849E+13	1.66626E+13	6.61651E+13	1.07192E+20	635.0	282.9
		89.7	4.23	240.6	2.66506E+13	1.68814E+13	6.68670E+13	1.20681E+20	637.4	284.1
		99.7	4.72	249.1	2.78339E+13	1.73811E+13	6.93493E+13	1.34652E+20	651.2	290.7
		111.7	5.33	256.3	2.89654E+13	1.78525E+13	7.14742E+13	1.51935E+20	662.9	296.3
	EOC (1/2/2016, 0400)	111.9	5.34	254.0	2.90451E+13	1.77250E+13	7.13040E+13	1.52176E+20	659.2	294.5
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	112.9	5.37	202.5	2.31424E+13	1.42534E+13	5.65577E+13	1.53200E+20	572.2	253.5
		113.9	5.41	227.4	2.59924E+13	1.57178E+13	6.34317E+13	1.54284E+20	615.3	273.6
		116.9	5.55	229.6	2.62123E+13	1.60797E+13	6.48569E+13	1.58198E+20	619.1	275.4
		121.9	5.76	227.7	2.60671E+13	1.56173E+13	6.36818E+13	1.64340E+20	615.9	273.9
		126.9	5.98	234.9	2.70149E+13	1.62399E+13	6.61146E+13	1.70663E+20	627.9	279.6
		131.9	6.20	227.4	2.62656E+13	1.59743E+13	6.42712E+13	1.76806E+20	615.3	273.6
		141.9	6.67	238.6	2.76741E+13	1.64680E+13	6.72319E+13	1.90175E+20	634.1	282.5
		151.9	7.14	240.7	2.82942E+13	1.66913E+13	6.77946E+13	2.03664E+20	637.5	284.1



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 13. ATF-11 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
	EOC (4/1/2016, 0900)	163.3	7.70	241.2	2.89444E+13	1.67047E+13	6.87520E+13	2.19502E+20	638.3	284.5
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	164.3	7.71	105.0	1.25608E+13	7.28560E+12	2.98619E+13	2.19984E+20	384.6	170.3
		165.3	7.73	108.6	1.30538E+13	7.53821E+12	3.09637E+13	2.20465E+20	392.1	173.5
		169.2	7.79	93.3	1.11892E+13	6.53940E+12	2.67891E+13	2.22272E+20	360.1	159.8
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		170.6	7.81	136.4	1.64975E+13	9.83888E+12	4.04335E+13	2.22814E+20	448.3	197.9
	EOC (6/28/2016, 1800)	170.8	7.82	151.9	1.84647E+13	1.09402E+13	4.63572E+13	2.22995E+20	478.8	211.3
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	171.8	7.86	237.7	2.84801E+13	1.66129E+13	6.79736E+13	2.24139E+20	632.6	281.8
		173.8	7.96	236.3	2.83868E+13	1.64606E+13	6.76922E+13	2.27029E+20	630.3	280.7
		180.8	8.28	237.6	2.86692E+13	1.65924E+13	6.83243E+13	2.36243E+20	632.4	281.7
		190.8	8.75	236.4	2.87252E+13	1.63898E+13	6.78040E+13	2.49491E+20	630.3	280.7
		200.8	9.21	240.0	2.94452E+13	1.67805E+13	6.94233E+13	2.62800E+20	636.4	283.6
		210.8	9.69	243.5	3.02300E+13	1.72639E+13	7.13469E+13	2.76289E+20	642.1	286.3
		216.8	9.97	240.8	3.02131E+13	1.68504E+13	7.02939E+13	2.84419E+20	637.6	284.2
		218.4	10.06	226.9	2.86648E+13	1.57755E+13	6.64941E+13	2.86828E+20	614.4	273.2
		220.8	10.17	221.5	2.79424E+13	1.55837E+13	6.54477E+13	2.89959E+20	605.3	268.9
	EOC (11/8/2016, 1100)	223.5	10.28	211.7	2.67745E+13	1.49859E+13	6.29958E+13	2.93271E+20	588.4	261.0
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	224.5	10.32	226.9	2.86718E+13	1.59659E+13	6.72186E+13	2.94355E+20	614.5	273.3
		226.5	10.42	225.9	2.85663E+13	1.59079E+13	6.70902E+13	2.97125E+20	612.8	272.5
		233.5	10.72	221.4	2.82304E+13	1.55846E+13	6.58704E+13	3.05737E+20	605.1	268.9
		243.5	11.14	212.9	2.72743E+13	1.50270E+13	6.36090E+13	3.17721E+20	590.6	262.1
		252.7	11.53	211.5	2.75958E+13	1.49486E+13	6.38914E+13	3.28861E+20	588.1	260.9
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		263.5	11.99	217.9	2.84608E+13	1.52850E+13	6.56976E+13	3.41869E+20	599.1	266.0
		273.5	12.41	214.1	2.82666E+13	1.52895E+13	6.66699E+13	3.53793E+20	592.6	263.0

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 13. ATF-11 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
	EOC (2/23/2017, 1400)	283.0	12.83	226.9	3.04892E+13	1.61212E+13	7.02533E+13	3.65897E+20	614.4	273.2
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	284.7	12.88	193.9	2.61178E+13	1.38059E+13	5.96015E+13	3.67462E+20	557.0	246.6
		285.0	12.89	171.8	2.31335E+13	1.21264E+13	5.29002E+13	3.67703E+20	516.5	228.2
		287.0	12.97	177.0	2.38566E+13	1.25775E+13	5.46289E+13	3.69931E+20	526.2	232.5
		289.0	13.05	179.4	2.42558E+13	1.27231E+13	5.52763E+13	3.72280E+20	530.5	234.5
		291.0	13.13	179.8	2.43517E+13	1.27765E+13	5.54883E+13	3.74568E+20	531.4	234.9
		293.0	13.22	183.4	2.48695E+13	1.29822E+13	5.66937E+13	3.76917E+20	537.9	237.8
		295.0	13.30	188.7	2.56378E+13	1.33491E+13	5.83726E+13	3.79326E+20	547.6	242.3
	EOC (6/11/2017, 1600)	295.5	13.32	193.0	2.62038E+13	1.36208E+13	5.94270E+13	3.79808E+20	555.3	245.8
162A	Cycle 162A Outage									
	BOC	296.5	13.36	241.9	3.20481E+13	1.67104E+13	7.26668E+13	3.80892E+20	639.4	285.1
		298.5	13.45	229.9	3.08311E+13	1.61301E+13	7.00795E+13	3.83662E+20	619.6	275.7
		305.5	13.76	228.8	3.07364E+13	1.59780E+13	6.98131E+13	3.92333E+20	617.7	274.7
		315.5	14.18	225.7	3.01065E+13	1.54770E+13	6.79694E+13	4.04498E+20	612.4	272.3
		325.5	14.62	232.5	3.14585E+13	1.60128E+13	7.05376E+13	4.16903E+20	623.9	277.7
		335.5	15.05	232.7	3.16922E+13	1.60077E+13	7.08367E+13	4.29308E+20	624.3	277.9
		345.5	15.52	236.8	3.31265E+13	1.65714E+13	7.37776E+13	4.42617E+20	631.0	281.1
		354.5	15.91	229.8	3.23120E+13	1.61472E+13	7.22676E+13	4.53818E+20	619.4	275.5
	EOC	357.5	16.04	228.6	3.26005E+13	1.61182E+13	7.24869E+13	4.57552E+20	617.4	274.6

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 14. ATF-12 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	254.0	2.61036E+13	1.57324E+13	6.20242E+13	0.00000E+00	686.3	335.6
	EOC (2/15/2015, 0800)	5.4	0.29	257.8	2.66016E+13	1.60305E+13	6.30423E+13	8.31036E+18	692.5	338.7
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.29	216.5	2.23587E+13	1.37005E+13	5.33636E+13	8.31036E+18	621.6	302.5
		8.4	0.43	237.2	2.44768E+13	1.46833E+13	5.79139E+13	1.24053E+19	657.8	320.9
		15.4	0.77	240.6	2.49378E+13	1.50125E+13	5.93116E+13	2.19201E+19	663.7	323.9
		22.4	1.10	240.9	2.51177E+13	1.50287E+13	5.95301E+13	3.14951E+19	664.2	324.2
		29.4	1.44	242.4	2.53659E+13	1.50181E+13	5.98884E+13	4.10700E+19	666.8	325.5
		36.4	1.78	249.8	2.63571E+13	1.56363E+13	6.22463E+13	5.08859E+19	679.3	331.9
		43.4	2.13	250.9	2.66189E+13	1.57190E+13	6.27653E+13	6.07620E+19	681.1	332.8
		50.4	2.48	259.7	2.77067E+13	1.62996E+13	6.50065E+13	7.09392E+19	695.7	340.4
		57.4	2.84	263.7	2.84481E+13	1.64211E+13	6.63271E+13	8.12368E+19	702.3	343.8
		60.4	3.00	266.1	2.88528E+13	1.65486E+13	6.67282E+13	8.58135E+19	706.2	345.9
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	3.26	265.8	2.90774E+13	1.66109E+13	6.73276E+13	9.32808E+19	705.7	345.6
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	3.26	265.3	2.88994E+13	1.66328E+13	6.70087E+13	9.32808E+19	704.7	345.1
		75.1	3.77	261.2	2.84495E+13	1.64300E+13	6.62801E+13	1.07854E+20	698.1	341.6
		85.1	4.28	255.9	2.82776E+13	1.61001E+13	6.56922E+13	1.22186E+20	689.5	337.2
		95.1	4.78	258.2	2.87572E+13	1.62863E+13	6.65465E+13	1.36639E+20	693.3	339.2
		105.1	5.30	264.3	2.97122E+13	1.66025E+13	6.82129E+13	1.51333E+20	703.2	344.3
		117.1	5.93	270.3	3.06378E+13	1.69946E+13	6.97352E+13	1.69519E+20	712.9	349.4
	EOC (1/2/2016, 0400)	117.3	5.94	267.8	3.07457E+13	1.68435E+13	6.95983E+13	1.69760E+20	708.8	347.2
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	5.98	214.0	2.46240E+13	1.33584E+13	5.52480E+13	1.70844E+20	617.1	300.2
		119.3	6.02	238.0	2.74550E+13	1.49546E+13	6.21175E+13	1.71988E+20	659.3	321.6
		122.3	6.16	245.4	2.83160E+13	1.53329E+13	6.40046E+13	1.76144E+20	671.8	328.1
		127.3	6.41	239.5	2.77293E+13	1.49981E+13	6.28016E+13	1.83189E+20	661.8	322.9

Title: ATF-1 Power Histories

TEV No.: 3119      Rev. No.: 0      Project No.: 31418      Date: 12/01/2017

Table 14. ATF-12 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	6.66	250.0	2.90057E+13	1.58043E+13	6.58343E+13	1.90476E+20	679.6	332.1
		137.3	6.92	244.8	2.86168E+13	1.55497E+13	6.47709E+13	1.97642E+20	670.8	327.5
		147.3	7.41	255.2	2.99882E+13	1.60354E+13	6.72986E+13	2.11854E+20	688.2	336.5
		157.3	7.90	249.3	2.95010E+13	1.57939E+13	6.62397E+13	2.25705E+20	678.5	331.5
	EOC (4/1/2016, 0900)	168.7	8.47	250.9	3.03763E+13	1.59519E+13	6.74149E+13	2.42145E+20	681.1	332.9
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	8.49	109.8	1.32662E+13	6.99830E+12	2.96078E+13	2.42747E+20	411.3	199.2
		170.7	8.51	113.6	1.37653E+13	7.20340E+12	3.06218E+13	2.43289E+20	419.4	203.0
		174.6	8.60	96.8	1.17531E+13	6.08498E+12	2.59973E+13	2.45698E+20	383.1	185.7
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	8.62	141.0	1.73083E+13	9.04627E+12	3.94127E+13	2.46300E+20	476.7	230.7
	EOC (6/28/2016, 1800)	176.2	8.62	155.9	1.92759E+13	1.00524E+13	4.47133E+13	2.46480E+20	506.9	245.5
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	8.67	288.7	3.50708E+13	1.84353E+13	7.81469E+13	2.47866E+20	742.0	364.7
		179.2	8.79	279.4	3.40809E+13	1.76395E+13	7.59687E+13	2.51178E+20	727.3	356.9
		186.2	9.19	286.9	3.50359E+13	1.80932E+13	7.79607E+13	2.62680E+20	739.1	363.2
		196.2	9.77	293.5	3.61563E+13	1.86173E+13	7.97206E+13	2.79180E+20	749.3	368.6
		206.2	10.35	296.2	3.68748E+13	1.86476E+13	8.10698E+13	2.95801E+20	753.4	370.7
		216.2	10.93	295.5	3.72746E+13	1.87939E+13	8.20419E+13	3.12361E+20	752.3	370.1
		222.2	11.31	315.8	4.04030E+13	2.01112E+13	8.78103E+13	3.23261E+20	782.5	386.4
		223.8	11.41	287.4	3.70873E+13	1.83422E+13	8.00652E+13	3.26152E+20	739.9	363.6
		226.2	11.55	286.0	3.70474E+13	1.82628E+13	8.00805E+13	3.30066E+20	737.8	362.4
	EOC (11/8/2016, 1100)	228.9	11.69	274.7	3.57456E+13	1.75512E+13	7.76072E+13	3.34161E+20	720.0	353.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	11.74	289.1	3.78315E+13	2.03526E+13	8.82972E+13	3.35546E+20	742.6	365.0
		231.9	11.85	281.8	3.69640E+13	1.98427E+13	8.62784E+13	3.38798E+20	731.2	359.0
		238.9	12.24	278.9	3.67159E+13	1.96276E+13	8.54356E+13	3.49818E+20	726.7	356.6
		248.9	12.78	275.6	3.65701E+13	1.92786E+13	8.47128E+13	3.65234E+20	721.4	353.8
		258.1	13.29	275.0	3.73580E+13	1.93586E+13	8.58147E+13	3.79687E+20	720.4	353.3

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 14. ATF-12 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	13.89	283.0	3.86284E+13	2.00243E+13	8.86391E+13	3.97091E+20	733.1	360.0
		278.9	14.45	289.1	3.98678E+13	2.04488E+13	9.08826E+13	4.13049E+20	742.5	364.9
	EOC (2/23/2017, 1400)	288.4	15.00	295.5	4.18213E+13	2.08920E+13	9.37923E+13	4.28766E+20	752.3	370.2
162A	Withheld from Cycle 161A PALM									
	BOC	289.4	15.04	252.6	3.62946E+13	1.82557E+13	8.22129E+13	4.29971E+20	684.0	334.3
		291.4	15.14	241.7	3.36729E+13	1.68725E+13	7.63277E+13	4.32741E+20	665.6	324.9
		298.4	15.48	245.3	3.45328E+13	1.74330E+13	7.85021E+13	4.42497E+20	671.6	328.0
		308.4	15.98	252.6	3.63533E+13	1.80657E+13	8.16911E+13	4.56769E+20	683.9	334.3
		318.4	16.47	247.5	3.60806E+13	1.77975E+13	8.10033E+13	4.70740E+20	675.4	329.9
		328.4	16.97	251.0	3.75436E+13	1.81771E+13	8.34426E+13	4.84952E+20	681.2	332.9
		338.4	17.46	248.3	3.72767E+13	1.79263E+13	8.25657E+13	4.98923E+20	676.8	330.6
		347.4	17.92	255.4	3.93864E+13	1.86961E+13	8.67134E+13	5.12171E+20	688.6	336.7
	EOC	350.4	18.07	254.4	3.99654E+13	1.86178E+13	8.73965E+13	5.16387E+20	686.9	335.9

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

The results documented in Table 15 **DO NOT APPLY** to the misloaded enriched pellet in ATF-13.

Table 15. ATF-13 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	467.8	4.84993E+13	3.22515E+13	1.24189E+14	0.00000E+00	945.4	445.6
	EOC (2/15/2015, 0800)	5.4	0.52	472.2	4.94263E+13	3.26452E+13	1.25858E+14	1.47539E+19	950.6	448.5
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.52	403.8	4.21560E+13	2.78514E+13	1.06830E+14	1.47539E+19	868.6	402.8
		8.4	0.79	435.0	4.54068E+13	3.02968E+13	1.16105E+14	2.23416E+19	906.7	423.9
		15.4	1.39	433.4	4.56461E+13	3.01510E+13	1.16678E+14	3.96248E+19	904.8	422.8
		22.4	2.00	427.8	4.54671E+13	2.95845E+13	1.15283E+14	5.67272E+19	898.0	419.1
		29.4	2.60	432.6	4.65389E+13	2.99491E+13	1.17330E+14	7.38899E+19	903.8	422.3
		36.4	3.22	445.0	4.83366E+13	3.08469E+13	1.21293E+14	9.15344E+19	918.6	430.6
		43.4	3.84	445.5	4.89632E+13	3.10589E+13	1.22284E+14	1.09179E+20	919.2	430.9
		50.4	4.48	457.5	5.08002E+13	3.16607E+13	1.25989E+14	1.27185E+20	933.4	438.8
		57.4	5.11	459.8	5.17102E+13	3.19413E+13	1.27265E+14	1.45251E+20	936.0	440.3
		60.4	5.38	454.4	5.17848E+13	3.16206E+13	1.26786E+14	1.53019E+20	929.8	436.8
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	5.82	456.5	5.26536E+13	3.16360E+13	1.27650E+14	1.65485E+20	932.2	438.2
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	5.82	468.6	5.39904E+13	3.25788E+13	1.30769E+14	1.65485E+20	946.4	446.2
		75.1	6.73	458.6	5.28976E+13	3.18898E+13	1.28672E+14	1.91199E+20	934.7	439.5
		85.1	7.61	444.8	5.24015E+13	3.11095E+13	1.26719E+14	2.16190E+20	918.3	430.4
		95.1	8.49	445.8	5.34202E+13	3.10830E+13	1.27809E+14	2.41181E+20	919.6	431.1
		105.1	9.37	450.7	5.49446E+13	3.15437E+13	1.29960E+14	2.66353E+20	925.4	434.4
		117.1	10.43	453.4	5.63337E+13	3.16194E+13	1.31500E+14	2.96463E+20	928.6	436.1
	EOC (1/2/2016, 0400)	117.3	10.44	445.8	5.67266E+13	3.11475E+13	1.31094E+14	2.96824E+20	919.6	431.1
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	10.53	374.1	4.74922E+13	2.64676E+13	1.10168E+14	2.99233E+20	831.3	382.3
		119.3	10.62	413.6	5.26017E+13	2.90224E+13	1.22013E+14	3.01823E+20	880.7	409.4
		122.3	10.87	418.5	5.33041E+13	2.93809E+13	1.23755E+14	3.09049E+20	886.6	412.7

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 15. ATF-13 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		127.3	11.28	410.1	5.27394E+13	2.88654E+13	1.22102E+14	3.20672E+20	876.4	407.1
		132.3	11.70	424.8	5.50680E+13	2.98124E+13	1.26432E+14	3.32595E+20	894.3	417.0
		137.3	12.11	407.8	5.32749E+13	2.88815E+13	1.22706E+14	3.44097E+20	873.6	405.5
		147.3	12.94	427.6	5.64024E+13	3.03549E+13	1.29044E+14	3.67884E+20	897.7	418.9
		157.3	13.77	420.5	5.66711E+13	2.96218E+13	1.28025E+14	3.91249E+20	889.1	414.1
	EOC (4/1/2016, 0900)	168.7	14.70	406.4	5.70131E+13	2.89322E+13	1.26727E+14	4.17806E+20	871.9	404.6
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	14.73	167.9	2.35342E+13	1.18566E+13	5.21099E+13	4.18589E+20	542.9	230.7
		170.7	14.76	175.0	2.45309E+13	1.22975E+13	5.41805E+13	4.19432E+20	553.8	236.3
		174.6	14.88	150.1	2.11032E+13	1.06789E+13	4.67086E+13	4.22805E+20	515.6	216.9
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	14.91	215.8	3.05054E+13	1.54792E+13	6.97963E+13	4.23648E+20	614.5	267.5
	EOC (6/28/2016, 1800)	176.2	14.92	237.9	3.37237E+13	1.73610E+13	7.90789E+13	4.23889E+20	646.5	284.1
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	15.00	411.6	5.81256E+13	2.91495E+13	1.28402E+14	4.26418E+20	878.3	408.1
		179.2	15.16	404.6	5.74027E+13	2.87885E+13	1.27196E+14	4.30814E+20	869.6	403.3
		186.2	15.71	402.7	5.71880E+13	2.86476E+13	1.26440E+14	4.46411E+20	867.2	402.0
		196.2	16.49	397.3	5.72733E+13	2.84374E+13	1.25925E+14	4.68512E+20	860.6	398.4
		206.2	17.24	386.2	5.66622E+13	2.74635E+13	1.23536E+14	4.90010E+20	846.6	390.7
		216.2	18.00	388.7	5.81633E+13	2.80151E+13	1.25683E+14	5.11569E+20	849.7	392.4
		222.2	18.45	369.3	5.64453E+13	2.63096E+13	1.20700E+14	5.24215E+20	825.1	379.0
		223.8	18.56	345.0	5.33514E+13	2.45861E+13	1.13560E+14	5.27407E+20	793.6	362.0
		226.2	18.71	341.6	5.30752E+13	2.45853E+13	1.12786E+14	5.31743E+20	789.2	359.6
	EOC <sup>††</sup> (11/8/2016, 1100)	228.9	18.87	325.6	5.10610E+13	2.33930E+13	1.08608E+14	5.36380E+20	768.1	348.2

<sup>††</sup> ATF-13 was discharged for PIE following Cycle 160A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 16. ATF-14 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	467.6	4.83991E+13	3.21796E+13	1.23985E+14	0.00000E+00	986.3	494.7
	EOC (2/15/2015, 0800)	5.4	0.52	473.5	4.94705E+13	3.24277E+13	1.25599E+14	1.48141E+19	993.5	498.7
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.52	403.8	4.20210E+13	2.77615E+13	1.06852E+14	1.48141E+19	905.8	449.7
		8.4	0.79	435.0	4.53652E+13	2.99454E+13	1.15638E+14	2.24621E+19	945.9	472.0
		15.4	1.39	437.1	4.58092E+13	3.03043E+13	1.17102E+14	3.98054E+19	948.6	473.5
		22.4	2.00	431.1	4.56635E+13	2.98203E+13	1.16016E+14	5.69681E+19	940.9	469.2
		29.4	2.60	434.3	4.66267E+13	2.99332E+13	1.17245E+14	7.42513E+19	945.0	471.5
		36.4	3.22	444.9	4.83073E+13	3.10328E+13	1.21574E+14	9.18355E+19	958.4	479.0
		43.4	3.84	445.8	4.89430E+13	3.11520E+13	1.22464E+14	1.09480E+20	959.5	479.6
		50.4	4.47	456.3	5.05704E+13	3.17023E+13	1.25553E+14	1.27426E+20	972.5	486.9
		57.4	5.10	459.1	5.15722E+13	3.19461E+13	1.27328E+14	1.45431E+20	976.0	488.9
		60.4	5.37	454.7	5.16806E+13	3.15657E+13	1.26327E+14	1.53260E+20	970.4	485.8
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	5.81	455.7	5.25431E+13	3.17176E+13	1.27543E+14	1.65725E+20	971.7	486.5
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	5.81	468.4	5.38053E+13	3.27546E+13	1.30693E+14	1.65725E+20	987.3	495.2
		75.1	6.71	460.1	5.27918E+13	3.21537E+13	1.28563E+14	1.91500E+20	977.2	489.5
		85.1	7.59	445.4	5.23055E+13	3.11412E+13	1.26299E+14	2.16551E+20	958.9	479.3
		95.1	8.46	446.8	5.33203E+13	3.13694E+13	1.27953E+14	2.41542E+20	960.6	480.3
		105.1	9.35	450.8	5.47970E+13	3.16763E+13	1.29863E+14	2.66775E+20	965.7	483.1
		117.1	10.40	454.1	5.62608E+13	3.18370E+13	1.31673E+14	2.96885E+20	969.8	485.4
	EOC (1/2/2016, 0400)	117.3	10.42	446.4	5.66516E+13	3.13548E+13	1.31253E+14	2.97306E+20	960.2	480.0
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	10.50	375.4	4.74203E+13	2.61442E+13	1.09405E+14	2.99715E+20	868.1	428.9
		119.3	10.59	415.3	5.26626E+13	2.89973E+13	1.22008E+14	3.02244E+20	920.6	458.0
		122.3	10.85	419.4	5.34331E+13	2.96992E+13	1.23993E+14	3.09471E+20	926.0	461.0
		127.3	11.25	409.4	5.24828E+13	2.87891E+13	1.21746E+14	3.21033E+20	913.0	453.7



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 16. ATF-14 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	11.66	419.3	5.42037E+13	2.96102E+13	1.25268E+14	3.32836E+20	925.9	460.9
		137.3	12.07	409.9	5.34953E+13	2.89307E+13	1.22564E+14	3.44398E+20	913.7	454.1
		147.3	12.90	426.0	5.60310E+13	3.00084E+13	1.28135E+14	3.68125E+20	934.4	465.6
		157.3	13.72	421.2	5.65798E+13	2.95211E+13	1.27609E+14	3.91550E+20	928.4	462.2
	EOC (4/1/2016, 0900)	168.7	14.66	409.3	5.73208E+13	2.88851E+13	1.26791E+14	4.18228E+20	912.9	453.7
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	14.68	168.6	2.35072E+13	1.19202E+13	5.19632E+13	4.19011E+20	559.5	262.8
		170.7	14.71	174.7	2.44010E+13	1.22937E+13	5.41330E+13	4.19854E+20	569.4	268.0
		174.6	14.83	151.6	2.11702E+13	1.07073E+13	4.69252E+13	4.23286E+20	531.4	247.9
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	14.86	218.2	3.08068E+13	1.58061E+13	7.07247E+13	4.24129E+20	639.0	305.0
	EOC (6/28/2016, 1800)	176.2	14.87	240.4	3.41839E+13	1.77446E+13	8.04618E+13	4.24431E+20	673.4	323.3
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	14.96	411.7	5.79625E+13	2.91682E+13	1.28186E+14	4.26960E+20	916.0	455.4
		179.2	15.12	406.0	5.73571E+13	2.86903E+13	1.26976E+14	4.31416E+20	908.6	451.3
		186.2	15.66	402.1	5.70800E+13	2.84248E+13	1.26018E+14	4.46953E+20	903.5	448.5
		196.2	16.44	396.4	5.71389E+13	2.83498E+13	1.25603E+14	4.69054E+20	896.1	444.3
		206.2	17.20	390.0	5.71428E+13	2.76906E+13	1.24492E+14	4.90673E+20	887.6	439.6
		216.2	17.95	390.9	5.84244E+13	2.79364E+13	1.25850E+14	5.12352E+20	888.8	440.3
		222.2	18.40	369.4	5.65072E+13	2.66119E+13	1.21355E+14	5.24998E+20	859.9	424.4
		223.8	18.51	345.5	5.34514E+13	2.47886E+13	1.13938E+14	5.28190E+20	827.2	406.5
		226.2	18.66	342.2	5.30903E+13	2.43786E+13	1.12602E+14	5.32525E+20	822.5	403.9
	EOC (11/8/2016, 1100)	228.9	18.82	325.4	5.09442E+13	2.33316E+13	1.08646E+14	5.37162E+20	798.9	391.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	18.91	411.1	6.38648E+13	2.63893E+13	1.27715E+14	5.39692E+20	915.3	455.0
		231.9	19.07	409.6	6.38608E+13	2.62898E+13	1.27724E+14	5.44088E+20	913.3	453.9
		238.9	19.63	402.9	6.31529E+13	2.58752E+13	1.25885E+14	5.60046E+20	904.6	449.1
		248.9	20.37	384.9	6.12902E+13	2.48543E+13	1.21858E+14	5.81304E+20	880.8	435.9
		258.1	21.05	368.5	6.11022E+13	2.40138E+13	1.19986E+14	6.00634E+20	858.7	423.8

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 16. ATF-14 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		268.9	21.84	373.1	6.23178E+13	2.41451E+13	1.21456E+14	6.23277E+20	864.9	427.2
		278.9	22.52	351.7	5.98990E+13	2.32472E+13	1.18933E+14	6.42668E+20	835.8	411.2
	EOC (2/23/2017, 1400)	288.4	23.21	366.4	6.49938E+13	2.40698E+13	1.25369E+14	6.62179E+20	855.8	422.2
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	23.30	283.4	5.00779E+13	1.85124E+13	9.55644E+13	6.65009E+20	738.1	358.1
		290.4	23.32	254.9	4.52357E+13	1.66644E+13	8.62155E+13	6.65311E+20	695.5	335.2
		292.4	23.42	259.7	4.60937E+13	1.71111E+13	8.81578E+13	6.68261E+20	702.8	339.1
		294.4	23.52	263.2	4.69126E+13	1.72481E+13	8.95543E+13	6.71212E+20	708.0	341.9
		296.4	23.63	264.1	4.71450E+13	1.73419E+13	8.97496E+13	6.74223E+20	709.5	342.7
		298.4	23.73	270.4	4.84681E+13	1.76537E+13	9.18044E+13	6.77234E+20	718.9	347.7
		300.4	23.84	273.7	4.92623E+13	1.79836E+13	9.33431E+13	6.80305E+20	723.8	350.4
	EOC (6/11/2017, 1600)	300.9	23.86	276.9	5.00557E+13	1.81617E+13	9.45173E+13	6.80908E+20	728.6	353.0
162A	Cycle 162A Outage									
	BOC	301.9	23.95	417.1	7.33584E+13	2.66874E+13	1.39849E+14	6.83316E+20	923.0	459.3
		303.9	24.09	393.9	7.04098E+13	2.57074E+13	1.34592E+14	6.87411E+20	892.8	442.5
		310.9	24.62	393.5	7.06903E+13	2.56374E+13	1.34783E+14	7.02466E+20	892.2	442.2
		320.9	25.35	392.2	7.07128E+13	2.51346E+13	1.33614E+14	7.23483E+20	890.5	441.3
		330.9	26.09	389.7	7.23415E+13	2.52513E+13	1.35737E+14	7.44379E+20	887.2	439.5
		340.9	26.81	387.1	7.33033E+13	2.49237E+13	1.36097E+14	7.64914E+20	883.8	437.5
		350.9	27.55	388.5	7.66625E+13	2.54644E+13	1.41522E+14	7.86293E+20	885.6	438.6
		359.9	28.19	370.3	7.47217E+13	2.42494E+13	1.37560E+14	8.04539E+20	861.2	425.1
	EOC	362.9	28.40	361.6	7.52161E+13	2.38204E+13	1.37311E+14	8.10320E+20	849.4	418.6

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 17. ATF-15 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	507.1	5.20467E+13	3.14625E+13	1.23266E+14	0.00000E+00	1292.1	490.3
	EOC (2/15/2015, 0800)	5.4	0.56	513.3	5.32487E+13	3.18012E+13	1.25011E+14	1.59583E+19	1298.5	494.5
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.56	437.7	4.53182E+13	2.70619E+13	1.06106E+14	1.59583E+19	1215.5	443.1
		8.4	0.85	472.1	4.90497E+13	2.92589E+13	1.15347E+14	2.42084E+19	1254.7	466.8
		15.4	1.51	474.2	4.95022E+13	2.93480E+13	1.16475E+14	4.29369E+19	1257.0	468.2
		22.4	2.16	467.7	4.95197E+13	2.90659E+13	1.15666E+14	6.14846E+19	1249.9	463.8
		29.4	2.81	470.0	5.02779E+13	2.93810E+13	1.17193E+14	8.00926E+19	1252.4	465.4
		36.4	3.48	483.1	5.23948E+13	3.01864E+13	1.21168E+14	9.90619E+19	1266.7	474.2
		43.4	4.15	482.3	5.29310E+13	3.00891E+13	1.21626E+14	1.18031E+20	1265.8	473.7
		50.4	4.82	493.1	5.48384E+13	3.06854E+13	1.25208E+14	1.37302E+20	1277.4	480.9
		57.4	5.51	497.9	5.60783E+13	3.10933E+13	1.27061E+14	1.56753E+20	1282.5	484.2
		60.4	5.80	493.6	5.61926E+13	3.07230E+13	1.26624E+14	1.65183E+20	1278.0	481.3
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	6.27	493.2	5.71128E+13	3.08396E+13	1.27614E+14	1.78613E+20	1277.5	481.0
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	6.27	502.4	5.80935E+13	3.13604E+13	1.29805E+14	1.78613E+20	1287.3	487.2
		75.1	7.24	492.2	5.69742E+13	3.07392E+13	1.27871E+14	2.06013E+20	1276.4	480.3
		85.1	8.17	479.0	5.66978E+13	3.00903E+13	1.26572E+14	2.32750E+20	1262.3	471.4
		95.1	9.11	478.7	5.77376E+13	3.00958E+13	1.27696E+14	2.59307E+20	1261.9	471.2
		105.1	10.05	482.1	5.93203E+13	3.03418E+13	1.29517E+14	2.86045E+20	1265.7	473.6
		117.1	11.19	484.4	6.07938E+13	3.04419E+13	1.31133E+14	3.18564E+20	1268.1	475.1
	EOC (1/2/2016, 0400)	117.3	11.21	474.8	6.11654E+13	2.99881E+13	1.30686E+14	3.19046E+20	1257.6	468.6
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	11.29	396.9	5.09944E+13	2.49297E+13	1.08387E+14	3.21515E+20	1166.1	414.6
		119.3	11.39	442.3	5.71996E+13	2.79096E+13	1.22433E+14	3.24224E+20	1221.0	446.4
		122.3	11.65	443.9	5.74587E+13	2.80006E+13	1.23118E+14	3.31812E+20	1222.8	447.4
		127.3	12.08	435.1	5.67917E+13	2.77906E+13	1.21929E+14	3.44037E+20	1212.5	441.3

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 17. ATF-15 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	12.52	450.7	5.92618E+13	2.85080E+13	1.26184E+14	3.56623E+20	1230.6	452.1
		137.3	12.95	433.5	5.76533E+13	2.75099E+13	1.22461E+14	3.68727E+20	1210.6	440.2
		147.3	13.83	454.4	6.10727E+13	2.88867E+13	1.28779E+14	3.93839E+20	1234.9	454.7
		157.3	14.69	443.5	6.09881E+13	2.84526E+13	1.27611E+14	4.18348E+20	1222.4	447.2
	EOC (4/1/2016, 0900)	168.7	15.68	432.1	6.20267E+13	2.75739E+13	1.26564E+14	4.46411E+20	1208.9	439.2
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	15.71	176.1	2.52670E+13	1.11955E+13	5.15101E+13	4.47194E+20	840.4	248.0
		170.7	15.74	185.4	2.65647E+13	1.18011E+13	5.42987E+13	4.48097E+20	856.2	255.5
		174.6	15.86	157.1	2.25907E+13	1.00717E+13	4.63403E+13	4.51650E+20	807.9	232.8
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	15.89	228.1	3.30582E+13	1.48867E+13	7.00732E+13	4.52553E+20	926.0	289.1
	EOC (6/28/2016, 1800)	176.2	15.90	248.6	3.61792E+13	1.65480E+13	7.89098E+13	4.52854E+20	958.2	304.9
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	16.00	431.7	6.22682E+13	2.76625E+13	1.27516E+14	4.55504E+20	1208.5	439.0
		179.2	16.16	426.8	6.17616E+13	2.73342E+13	1.26463E+14	4.60141E+20	1202.7	435.6
		186.2	16.75	425.2	6.18450E+13	2.70698E+13	1.26247E+14	4.77063E+20	1200.8	434.5
		196.2	17.57	419.7	6.19795E+13	2.66134E+13	1.25493E+14	5.00187E+20	1194.1	430.6
		206.2	18.36	407.1	6.13497E+13	2.60272E+13	1.23097E+14	5.22649E+20	1178.8	421.8
		216.2	19.16	407.4	6.27914E+13	2.62747E+13	1.25051E+14	5.45593E+20	1179.1	422.0
		222.2	19.62	389.0	6.13275E+13	2.47620E+13	1.20756E+14	5.58781E+20	1156.1	408.9
		223.8	19.74	362.3	5.79231E+13	2.30852E+13	1.13472E+14	5.62154E+20	1121.5	389.7
		226.2	19.90	357.1	5.72016E+13	2.28580E+13	1.12347E+14	5.66610E+20	1114.6	386.0
	EOC <sup>††</sup> (11/8/2016, 1100)	228.9	20.09	338.5	5.47334E+13	2.18219E+13	1.08043E+14	5.72030E+20	1089.4	372.4

<sup>††</sup> ATF-15 was discharged for PIE following Cycle 160A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 18. ATF-17 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157D	BOC (5/30/2015, 1100)	0.0	0.00	148.2	1.94331E+13	1.01789E+13	4.42596E+13	0.00000E+00	817.1	331.9
		3.0	0.13	171.7	2.24509E+13	1.17280E+13	5.12610E+13	3.13144E+18	940.9	362.8
		10.0	0.41	170.5	2.22999E+13	1.17684E+13	5.10977E+13	1.01772E+19	934.3	361.2
		17.0	0.70	171.4	2.26264E+13	1.17763E+13	5.14369E+13	1.72229E+19	939.5	362.4
		24.0	0.99	175.1	2.31342E+13	1.21580E+13	5.28611E+13	2.43891E+19	959.1	367.1
		31.0	1.28	177.3	2.35668E+13	1.21038E+13	5.32724E+13	3.16757E+19	970.5	369.8
		38.0	1.59	184.8	2.46553E+13	1.26370E+13	5.59568E+13	3.91430E+19	1010.6	379.1
		45.0	1.89	186.6	2.50864E+13	1.27722E+13	5.67503E+13	4.66705E+19	1020.3	381.4
		52.0	2.21	194.7	2.63104E+13	1.33848E+13	5.93784E+13	5.44389E+19	1064.0	391.2
		55.0	2.35	197.4	2.68863E+13	1.36499E+13	6.07026E+13	5.79316E+19	1078.5	394.4
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	59.7	2.56	199.1	2.73525E+13	1.37561E+13	6.11961E+13	6.31708E+19	1087.9	396.5
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	59.7	2.56	146.8	2.02875E+13	1.05210E+13	4.88062E+13	6.31708E+19	809.6	329.9
		69.7	2.90	150.2	2.07007E+13	1.07131E+13	4.95703E+13	7.15414E+19	827.4	334.5
		79.7	3.27	161.5	2.24381E+13	1.15053E+13	5.31338E+13	8.05141E+19	886.8	349.6
		89.7	3.68	178.3	2.49168E+13	1.25937E+13	5.76869E+13	9.08118E+19	975.8	371.1
		99.7	4.12	186.4	2.63176E+13	1.32649E+13	6.05897E+13	1.01531E+20	1019.6	381.2
		111.7	4.64	194.0	2.75300E+13	1.35487E+13	6.25962E+13	1.14478E+20	1060.3	390.4
	EOC (1/2/2016, 0400)	111.9	4.65	196.9	2.82372E+13	1.37753E+13	6.38270E+13	1.14659E+20	1076.0	393.9
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	112.9	4.68	165.6	2.37981E+13	1.18066E+13	5.43021E+13	1.15502E+20	908.4	354.9
		113.9	4.71	153.6	2.20671E+13	1.07888E+13	5.03172E+13	1.16164E+20	845.2	339.1
		116.9	4.82	146.3	2.11989E+13	1.03786E+13	4.83529E+13	1.18874E+20	807.2	329.3
		121.9	4.99	150.8	2.18076E+13	1.06713E+13	4.97238E+13	1.23090E+20	830.8	335.4
		126.9	5.17	157.9	2.28599E+13	1.11517E+13	5.18288E+13	1.27486E+20	867.8	344.8
		131.9	5.35	163.6	2.38018E+13	1.15059E+13	5.37238E+13	1.32002E+20	898.0	352.3

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 18. ATF-17 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		141.9	5.77	178.3	2.59769E+13	1.26652E+13	5.77624E+13	1.42300E+20	976.2	371.2
		151.9	6.20	183.2	2.68571E+13	1.27588E+13	5.94777E+13	1.52778E+20	1002.2	377.2
	EOC (4/1/2016, 0900)	163.3	6.68	195.4	2.92076E+13	1.36346E+13	6.34995E+13	1.64822E+20	1067.6	392.0
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	164.3	6.70	90.7	1.35016E+13	6.27214E+12	2.92385E+13	1.65244E+20	523.1	248.3
		165.3	6.72	91.7	1.36822E+13	6.48943E+12	2.98615E+13	1.65725E+20	527.9	249.8
		169.2	6.78	76.6	1.14901E+13	5.36147E+12	2.48499E+13	1.67171E+20	453.1	226.2
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		170.6	6.80	148.6	2.23182E+13	1.01981E+13	4.83469E+13	1.67652E+20	819.2	332.4
	EOC (6/28/2016, 1800)	170.8	6.81	206.1	3.10328E+13	1.42470E+13	6.71802E+13	1.67893E+20	1126.1	404.7
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	171.8	6.84	183.1	2.75191E+13	1.29716E+13	6.11474E+13	1.68736E+20	1001.5	377.1
		173.8	6.94	175.0	2.63795E+13	1.22637E+13	5.84576E+13	1.71025E+20	958.2	366.9
		180.8	7.23	183.4	2.75648E+13	1.29706E+13	6.10722E+13	1.78311E+20	1003.5	377.5
		190.8	7.69	198.0	2.99351E+13	1.38538E+13	6.57442E+13	1.89512E+20	1081.7	395.1
		200.8	8.18	218.1	3.32847E+13	1.52908E+13	7.20658E+13	2.01617E+20	1191.2	418.2
		210.8	8.66	213.5	3.29577E+13	1.48823E+13	7.12841E+13	2.13540E+20	1166.2	413.1
		216.8	8.97	223.8	3.50812E+13	1.56332E+13	7.53635E+13	2.21068E+20	1222.8	424.6
		218.4	9.06	226.6	3.58360E+13	1.58997E+13	7.63616E+13	2.23476E+20	1237.9	427.6
		220.8	9.19	229.6	3.63663E+13	1.61151E+13	7.74598E+13	2.26668E+20	1254.6	430.9
	EOC (11/8/2016, 1100)	223.5	9.34	227.4	3.60900E+13	1.59109E+13	7.63629E+13	2.30161E+20	1242.8	428.6
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	224.5	9.37	180.1	2.85926E+13	1.27463E+13	6.15438E+13	2.31004E+20	985.5	373.3
		226.5	9.46	180.1	2.86399E+13	1.28245E+13	6.21274E+13	2.33353E+20	985.5	373.3
		233.5	9.76	181.4	2.89304E+13	1.28774E+13	6.19399E+13	2.40519E+20	992.8	375.0
		243.5	10.20	195.7	3.14870E+13	1.38403E+13	6.70810E+13	2.51539E+20	1069.2	392.3
		252.7	10.64	204.5	3.35709E+13	1.45131E+13	7.07837E+13	2.62258E+20	1117.0	402.7

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 18. ATF-17 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time										
		263.5	11.16	223.5	3.67977E+13	1.55488E+13	7.68058E+13	2.75145E+20	1221.2	424.3
		273.5	11.65	220.8	3.66936E+13	1.56025E+13	7.66205E+13	2.87310E+20	1206.2	421.3
	EOC (2/23/2017, 1400)	283.0	12.13	224.6	3.82109E+13	1.58728E+13	7.85509E+13	2.99113E+20	1226.9	425.4
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	284.7	12.22	195.2	3.31875E+13	1.36143E+13	6.79554E+13	3.01281E+20	1066.6	391.8
		285.0	12.23	181.3	3.10199E+13	1.27640E+13	6.39434E+13	3.01522E+20	992.2	374.9
		287.0	12.32	182.1	3.09946E+13	1.27631E+13	6.37942E+13	3.03810E+20	996.5	375.9
		289.0	12.41	181.0	3.09408E+13	1.28323E+13	6.36992E+13	3.06098E+20	990.2	374.4
		291.0	12.51	185.2	3.17831E+13	1.29553E+13	6.47743E+13	3.08447E+20	1012.7	379.6
		293.0	12.61	187.9	3.22630E+13	1.30933E+13	6.58069E+13	3.10856E+20	1027.5	383.0
		295.0	12.70	190.1	3.27189E+13	1.33541E+13	6.68357E+13	3.13204E+20	1039.2	385.7
	EOC (6/11/2017, 1600)	295.5	12.72	192.2	3.31458E+13	1.36529E+13	6.79497E+13	3.13686E+20	1050.3	388.2
162A	Cycle 162A Outage									
	BOC	296.5	12.76	178.6	3.13217E+13	1.27289E+13	6.39027E+13	3.14529E+20	977.4	371.4
		298.5	12.84	166.7	2.88553E+13	1.17697E+13	5.92906E+13	3.16697E+20	914.4	356.4
		305.5	13.11	167.2	2.87472E+13	1.16622E+13	5.90116E+13	3.23261E+20	916.8	356.9
		315.5	13.50	172.5	2.98393E+13	1.20924E+13	6.08957E+13	3.32956E+20	945.0	363.8
		325.5	13.90	173.2	3.00953E+13	1.21464E+13	6.13469E+13	3.42652E+20	949.0	364.7
		335.5	14.29	173.9	3.05587E+13	1.21400E+13	6.18985E+13	3.52347E+20	952.7	365.6
		345.5	14.71	185.0	3.31723E+13	1.30171E+13	6.68730E+13	3.62645E+20	1011.8	379.4
		354.5	15.11	191.6	3.51775E+13	1.36067E+13	7.02909E+13	3.72461E+20	1047.4	387.5
	EOC	357.5	15.24	189.7	3.51222E+13	1.34587E+13	7.00007E+13	3.75713E+20	1037.1	385.2

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 19. ATF-18 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	201.1	2.67025E+13	1.68032E+13	6.93337E+13	0.00000E+00	1067.4	385.3
	EOC (2/15/2015, 0800)	5.4	0.27	206.6	2.75325E+13	1.71705E+13	7.08161E+13	6.74464E+18	1096.6	391.6
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.27	169.4	2.25402E+13	1.39630E+13	5.77818E+13	6.74464E+18	901.3	347.1
		8.4	0.41	192.8	2.57277E+13	1.59219E+13	6.57903E+13	1.01772E+19	1023.4	375.6
		15.4	0.73	190.5	2.54898E+13	1.57856E+13	6.54360E+13	1.78251E+19	1011.1	372.8
		22.4	1.04	190.6	2.56581E+13	1.56266E+13	6.54082E+13	2.54731E+19	1011.7	372.9
		29.4	1.36	194.3	2.62734E+13	1.60962E+13	6.69187E+13	3.33017E+19	1031.1	377.3
		36.4	1.67	196.9	2.68110E+13	1.62613E+13	6.78721E+13	4.11303E+19	1045.3	380.4
		43.4	2.00	205.1	2.81691E+13	1.68868E+13	7.09318E+13	4.91997E+19	1088.5	389.9
		50.4	2.34	207.2	2.85993E+13	1.70974E+13	7.18250E+13	5.74499E+19	1100.0	392.3
		57.4	2.68	214.6	2.98064E+13	1.78558E+13	7.51914E+13	6.58807E+19	1139.5	400.7
		60.4	2.83	214.0	2.99728E+13	1.77043E+13	7.52736E+13	6.95541E+19	1136.5	400.0
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	3.06	214.0	3.01629E+13	1.76391E+13	7.53619E+13	7.50943E+19	1136.2	400.0
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	3.06	171.7	2.43561E+13	1.45396E+13	6.40392E+13	7.50943E+19	913.3	350.0
		75.1	3.47	175.5	2.48601E+13	1.48466E+13	6.51505E+13	8.52113E+19	932.9	354.6
		85.1	3.89	180.7	2.58130E+13	1.53867E+13	6.72752E+13	9.56294E+19	960.2	361.1
		95.1	4.35	198.0	2.85140E+13	1.65750E+13	7.25231E+13	1.06770E+20	1050.8	381.7
		105.1	4.81	199.7	2.90063E+13	1.66433E+13	7.29159E+13	1.18091E+20	1060.2	383.7
		117.1	5.37	200.5	2.93166E+13	1.68588E+13	7.34956E+13	1.31882E+20	1063.9	384.5
	EOC (1/2/2016, 0400)	117.3	5.38	202.1	2.98456E+13	1.70534E+13	7.45587E+13	1.32062E+20	1072.6	386.4
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	5.41	192.7	2.84661E+13	1.61871E+13	7.13066E+13	1.33026E+20	1022.7	375.4
		119.3	5.45	177.4	2.63426E+13	1.49891E+13	6.61450E+13	1.33869E+20	942.7	357.0
		122.3	5.57	172.1	2.54481E+13	1.45810E+13	6.40289E+13	1.36940E+20	915.2	350.4
		127.3	5.77	176.0	2.61607E+13	1.49503E+13	6.57143E+13	1.41698E+20	935.4	355.2



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 19. ATF-18 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		132.3	5.97	182.2	2.72096E+13	1.53263E+13	6.77329E+13	1.46636E+20	967.9	362.9
		137.3	6.17	185.0	2.75586E+13	1.54805E+13	6.82608E+13	1.51574E+20	982.2	366.2
		147.3	6.62	198.2	2.97871E+13	1.63473E+13	7.29659E+13	1.62714E+20	1052.0	381.9
		157.3	7.08	199.9	3.02848E+13	1.63806E+13	7.35614E+13	1.73976E+20	1061.0	383.9
	EOC (4/1/2016, 0900)	168.7	7.62	204.8	3.16178E+13	1.67407E+13	7.54148E+13	1.87284E+20	1087.2	389.6
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	7.64	92.5	1.43818E+13	7.79402E+12	3.43176E+13	1.87706E+20	516.8	241.8
		170.7	7.66	94.3	1.45865E+13	7.73941E+12	3.45156E+13	1.88188E+20	525.1	244.4
		174.6	7.72	75.4	1.17016E+13	6.39990E+12	2.81940E+13	1.89573E+20	434.7	216.0
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	7.74	154.7	2.40423E+13	1.29280E+13	5.74392E+13	1.90175E+20	825.7	328.3
	EOC (6/28/2016, 1800)	176.2	7.75	215.1	3.33436E+13	1.79197E+13	7.96139E+13	1.90416E+20	1142.4	401.3
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	7.79	211.0	3.26949E+13	1.77480E+13	7.97718E+13	1.91439E+20	1120.0	396.6
		179.2	7.89	199.5	3.11625E+13	1.68141E+13	7.62404E+13	1.93908E+20	1058.9	383.4
		186.2	8.22	207.6	3.24381E+13	1.75607E+13	7.86096E+13	2.01918E+20	1102.1	392.8
		196.2	8.70	214.3	3.37868E+13	1.80682E+13	8.12957E+13	2.13781E+20	1138.0	400.3
		206.2	9.24	232.5	3.69569E+13	1.96108E+13	8.82111E+13	2.27029E+20	1236.6	420.2
		216.2	9.76	221.8	3.57487E+13	1.85543E+13	8.41896E+13	2.39796E+20	1178.4	408.7
		222.2	10.07	229.4	3.74108E+13	1.90698E+13	8.73437E+13	2.47504E+20	1219.5	416.9
		223.8	10.17	230.3	3.78546E+13	1.91216E+13	8.79281E+13	2.49853E+20	1224.2	417.8
		226.2	10.30	233.6	3.85361E+13	1.94418E+13	8.93454E+13	2.53044E+20	1242.4	421.4
	EOC <sup>§§</sup> (11/8/2016, 1100)	228.9	10.44	229.7	3.81388E+13	1.91326E+13	8.79617E+13	2.56537E+20	1221.3	417.2

<sup>§§</sup> ATF-18 was discharged for PIE following Cycle 160A irradiation.

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 20. ATF-20 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
157C	BOC (2/10/2015, 0600)	0.0	0.00	193.1	2.51587E+13	1.21067E+13	5.44625E+13	0.00000E+00	1087.5	419.0
	EOC (2/15/2015, 0800)	5.4	0.25	204.1	2.66629E+13	1.27171E+13	5.69708E+13	6.14244E+18	1148.8	433.1
157D	Cycle 157D Outage – 104 Day, 3 Hour Down Time									
	BOC (5/30/2015, 1100)	5.4	0.25	148.3	1.94440E+13	1.02322E+13	4.44282E+13	6.14244E+18	842.9	357.0
		8.4	0.37	170.2	2.23358E+13	1.16763E+13	5.08708E+13	9.21366E+18	961.8	388.3
		15.4	0.66	169.3	2.22469E+13	1.16035E+13	5.07757E+13	1.61992E+19	956.5	386.9
		22.4	0.94	168.9	2.23646E+13	1.15918E+13	5.09282E+13	2.31847E+19	954.2	386.3
		29.4	1.23	173.8	2.31605E+13	1.19268E+13	5.25980E+13	3.02907E+19	981.5	393.2
		36.4	1.52	175.9	2.35662E+13	1.20028E+13	5.32450E+13	3.75171E+19	992.6	396.0
		43.4	1.82	181.9	2.44649E+13	1.24809E+13	5.53638E+13	4.49241E+19	1025.7	404.2
		50.4	2.13	184.8	2.49561E+13	1.27101E+13	5.64064E+13	5.23914E+19	1041.5	408.0
		57.4	2.45	194.0	2.63628E+13	1.33014E+13	5.94830E+13	6.02200E+19	1092.7	420.2
		60.4	2.58	195.6	2.69228E+13	1.34912E+13	6.04470E+13	6.36525E+19	1101.7	422.3
	Mid-Cycle 157D Outage – 14 Day, 10 Hour Down Time (7/23/2015, 1800 – 8/7/2015, 0400)									
	EOC (8/12/2015, 0400)	65.1	2.79	197.3	2.73537E+13	1.36093E+13	6.09250E+13	6.88315E+19	1111.3	424.5
158A	Cycle 158A Outage – 91 Day, 11 Hour Down Time									
	BOC (11/11/2015, 1500)	65.1	2.79	145.9	2.02800E+13	1.04544E+13	4.88533E+13	6.88315E+19	829.6	353.4
		75.1	3.13	149.8	2.08030E+13	1.06703E+13	4.97419E+13	7.71418E+19	851.0	359.2
		85.1	3.49	160.2	2.24435E+13	1.15320E+13	5.31898E+13	8.59942E+19	907.3	374.2
		95.1	3.91	176.2	2.47900E+13	1.26604E+13	5.76543E+13	9.62316E+19	994.5	396.5
		105.1	4.34	185.4	2.62554E+13	1.30076E+13	6.00990E+13	1.06891E+20	1045.2	408.9
		117.1	4.87	194.0	2.76344E+13	1.36121E+13	6.25782E+13	1.19838E+20	1092.6	420.2
	EOC (1/2/2016, 0400)	117.3	4.87	196.0	2.83125E+13	1.38068E+13	6.38540E+13	1.20018E+20	1103.9	422.8
158B	Cycle 158B Outage – 39 Day, 2 Hour Down Time									
	BOC (2/10/2016, 0600)	118.3	4.90	163.5	2.36824E+13	1.16597E+13	5.38520E+13	1.20741E+20	924.8	378.8
		119.3	4.93	153.1	2.21199E+13	1.07929E+13	5.04104E+13	1.21464E+20	868.4	363.9
		122.3	5.04	148.6	2.14529E+13	1.05668E+13	4.89686E+13	1.24234E+20	844.2	357.3

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 20. ATF-20 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		127.3	5.22	151.0	2.19530E+13	1.06827E+13	4.99931E+13	1.28449E+20	857.2	360.9
		132.3	5.39	158.4	2.30959E+13	1.09681E+13	5.22215E+13	1.32785E+20	897.1	371.5
		137.3	5.57	164.1	2.40636E+13	1.13858E+13	5.36073E+13	1.37302E+20	928.5	379.7
		147.3	5.99	177.6	2.60248E+13	1.24630E+13	5.77688E+13	1.47539E+20	1002.1	398.4
		157.3	6.41	180.6	2.66581E+13	1.27688E+13	5.93769E+13	1.57957E+20	1018.6	402.4
	EOC (4/1/2016, 0900)	168.7	6.90	194.5	2.94085E+13	1.37632E+13	6.38744E+13	1.69941E+20	1095.7	420.9
159A	Cycle 159A Outage – 77 Day, 2 Hour Down Time									
	BOC (6/17/2016, 1100)	169.7	6.92	89.5	1.34248E+13	6.14004E+12	2.88768E+13	1.70362E+20	533.0	264.6
		170.7	6.93	91.8	1.37974E+13	6.43987E+12	2.96952E+13	1.70784E+20	544.8	268.4
		174.6	6.99	75.9	1.13615E+13	5.24122E+12	2.46279E+13	1.72229E+20	463.1	241.4
	Mid-Cycle 159A Outage – 3 Day, 21 Hour Down Time (6/23/2016, 1000 – 6/27/2016, 0700)									
		176.0	7.02	147.1	2.22257E+13	1.02393E+13	4.89101E+13	1.72771E+20	836.2	355.2
	EOC (6/28/2016, 1800)	176.2	7.02	204.2	3.09011E+13	1.42602E+13	6.76245E+13	1.72952E+20	1149.5	433.3
160A	Cycle 160A Outage – 80 Day, 1 Hour Down Time									
	BOC (9/16/2016, 1900)	177.2	7.06	180.9	2.73944E+13	1.30200E+13	6.08378E+13	1.73795E+20	1020.0	402.8
		179.2	7.15	175.0	2.65185E+13	1.23541E+13	5.90136E+13	1.76083E+20	987.9	394.8
		186.2	7.44	181.8	2.75719E+13	1.28590E+13	6.09532E+13	1.83310E+20	1025.1	404.0
		196.2	7.89	195.2	2.97286E+13	1.38001E+13	6.53893E+13	1.94390E+20	1099.2	421.7
		206.2	8.38	215.3	3.30288E+13	1.52048E+13	7.17173E+13	2.06374E+20	1212.1	447.2
		216.2	8.86	212.5	3.32522E+13	1.50073E+13	7.16204E+13	2.18237E+20	1196.3	443.7
		222.2	9.17	223.7	3.53064E+13	1.56768E+13	7.55562E+13	2.25765E+20	1259.2	457.2
		223.8	9.26	225.8	3.58256E+13	1.58778E+13	7.62036E+13	2.28113E+20	1271.3	459.8
		226.2	9.39	229.0	3.64482E+13	1.60645E+13	7.74537E+13	2.31305E+20	1289.6	463.6
	EOC (11/8/2016, 1100)	228.9	9.53	226.9	3.62997E+13	1.57281E+13	7.66545E+13	2.34738E+20	1277.5	461.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	229.9	9.57	177.5	2.84268E+13	1.25951E+13	6.10294E+13	2.35641E+20	1001.3	398.2
		231.9	9.66	178.4	2.86229E+13	1.28398E+13	6.18257E+13	2.37869E+20	1006.5	399.5
		238.9	9.95	180.6	2.89289E+13	1.28103E+13	6.18380E+13	2.45035E+20	1018.5	402.4
		248.9	10.39	194.8	3.14387E+13	1.37681E+13	6.66814E+13	2.55995E+20	1097.2	421.3

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 20. ATF-20 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
		258.1	10.82	202.2	3.34135E+13	1.44061E+13	7.03280E+13	2.66594E+20	1138.3	430.7
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		268.9	11.34	220.8	3.66314E+13	1.55721E+13	7.65453E+13	2.79361E+20	1243.0	453.8
		278.9	11.83	220.4	3.69175E+13	1.56060E+13	7.68831E+13	2.91465E+20	1240.8	453.3
	EOC (2/23/2017, 1400)	288.4	12.31	223.0	3.81461E+13	1.57897E+13	7.84548E+13	3.03208E+20	1255.4	456.4
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	290.1	12.40	194.5	3.32747E+13	1.36783E+13	6.81225E+13	3.05376E+20	1095.5	420.9
		290.4	12.41	180.0	3.08284E+13	1.27652E+13	6.34395E+13	3.05677E+20	1015.2	401.6
		292.4	12.50	181.4	3.10416E+13	1.27098E+13	6.37255E+13	3.07965E+20	1022.8	403.5
		294.4	12.60	179.6	3.09056E+13	1.28558E+13	6.35908E+13	3.10253E+20	1013.2	401.1
		296.4	12.69	183.7	3.16707E+13	1.29305E+13	6.49071E+13	3.12602E+20	1035.5	406.5
		298.4	12.79	185.5	3.21526E+13	1.31041E+13	6.56533E+13	3.14890E+20	1045.5	409.0
		300.4	12.88	188.3	3.26143E+13	1.32969E+13	6.66689E+13	3.17299E+20	1061.2	412.7
	EOC (6/11/2017, 1600)	300.9	12.90	190.7	3.31132E+13	1.34690E+13	6.77912E+13	3.17781E+20	1074.6	415.9
162A	Cycle 162A Outage									
	BOC	301.9	12.94	178.2	3.14166E+13	1.28962E+13	6.40456E+13	3.18624E+20	1005.1	399.1
		303.9	13.03	165.9	2.88634E+13	1.17718E+13	5.90833E+13	3.20792E+20	937.9	382.2
		310.9	13.29	166.3	2.86622E+13	1.16477E+13	5.87947E+13	3.27296E+20	940.2	382.8
		320.9	13.69	172.2	2.99534E+13	1.19986E+13	6.07779E+13	3.37051E+20	972.5	391.0
		330.9	14.08	174.0	3.03742E+13	1.20672E+13	6.15056E+13	3.46747E+20	982.1	393.4
		340.9	14.47	174.2	3.08256E+13	1.21312E+13	6.21397E+13	3.56442E+20	983.6	393.8
		350.9	14.89	183.8	3.31130E+13	1.29820E+13	6.65300E+13	3.66680E+20	1036.1	406.7
		359.9	15.29	192.0	3.54269E+13	1.36943E+13	7.07865E+13	3.76495E+20	1081.8	417.6
	EOC	362.9	15.42	189.4	3.52188E+13	1.34806E+13	7.01618E+13	3.79687E+20	1067.1	414.2

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 21. ATF-29 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.04	250.9	2.81779E+13	1.73750E+13	6.99894E+13	1.20440E+18	624.2	300.2
		3.0	0.12	243.6	2.73653E+13	1.70401E+13	6.82520E+13	4.03474E+18	611.9	294.6
		10.0	0.43	249.7	2.81335E+13	1.73092E+13	7.04009E+13	1.40915E+19	622.2	299.3
		20.0	0.88	255.0	2.88475E+13	1.76318E+13	7.13042E+13	2.84841E+19	630.9	303.4
		30.0	1.32	255.0	2.91182E+13	1.76139E+13	7.18400E+13	4.28164E+19	630.8	303.3
		40.0	1.76	256.7	2.95522E+13	1.79169E+13	7.27609E+13	5.71488E+19	633.6	304.6
		46.0	2.03	271.4	3.16931E+13	1.90759E+13	7.78879E+13	6.59409E+19	657.7	315.8
		47.6	2.11	249.4	2.93896E+13	1.74800E+13	7.15216E+13	6.84701E+19	621.5	299.0
		50.0	2.21	250.1	2.93565E+13	1.74549E+13	7.15584E+13	7.18425E+19	622.8	299.6
	EOC (11/8/2016, 1100)	52.7	2.32	239.5	2.83620E+13	1.69052E+13	6.97280E+13	7.53954E+19	605.0	291.4
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	2.37	287.1	3.38323E+13	2.00054E+13	8.29427E+13	7.67805E+19	682.6	327.4
		55.7	2.47	279.2	3.29949E+13	1.95501E+13	8.10080E+13	7.99722E+19	670.2	321.6
		62.7	2.80	273.6	3.24065E+13	1.91815E+13	7.98669E+13	9.06913E+19	661.2	317.4
		72.7	3.24	263.3	3.14474E+13	1.85568E+13	7.72581E+13	1.05265E+20	644.5	309.6
		81.9	3.67	263.5	3.21358E+13	1.86158E+13	7.82026E+13	1.18995E+20	644.8	309.8
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	4.18	273.1	3.33641E+13	1.91813E+13	8.09237E+13	1.35676E+20	660.3	317.0
		102.7	4.65	279.3	3.44362E+13	1.96238E+13	8.30133E+13	1.50911E+20	670.3	321.6
	EOC (2/23/2017, 1400)	112.2	5.12	287.2	3.61849E+13	2.02598E+13	8.61695E+13	1.66027E+20	682.8	327.5
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	5.15	252.7	3.23919E+13	1.80983E+13	7.73773E+13	1.67231E+20	627.1	301.6
		115.2	5.24	241.9	2.99581E+13	1.67380E+13	7.19744E+13	1.70001E+20	609.0	293.2
		122.2	5.54	243.5	3.05274E+13	1.71177E+13	7.33176E+13	1.79576E+20	611.7	294.5
		132.2	5.95	241.9	3.09309E+13	1.71723E+13	7.41213E+13	1.93126E+20	609.1	293.3
		142.2	6.37	240.8	3.10862E+13	1.71835E+13	7.41017E+13	2.06555E+20	607.2	292.4
		152.2	6.79	244.1	3.22321E+13	1.74562E+13	7.59948E+13	2.20345E+20	612.7	294.9
		162.2	7.21	241.7	3.18945E+13	1.72825E+13	7.50818E+13	2.33774E+20	608.7	293.1
		171.2	7.60	250.7	3.39420E+13	1.80645E+13	7.92076E+13	2.46601E+20	623.7	300.0
	EOC	174.2	7.73	248.7	3.42641E+13	1.81957E+13	7.97472E+13	2.50756E+20	620.5	298.6

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 22. ATF-30 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.08	414.5	4.64243E+13	2.86281E+13	1.14759E+14	2.58946E+18	847.4	404.8
		3.0	0.22	403.9	4.53053E+13	2.77164E+13	1.12084E+14	6.98552E+18	833.4	398.1
		10.0	0.70	409.9	4.61946E+13	2.83668E+13	1.14383E+14	2.28234E+19	841.3	401.9
		20.0	1.41	411.9	4.69216E+13	2.86680E+13	1.15583E+14	4.56468E+19	844.0	403.2
		30.0	2.10	408.1	4.72974E+13	2.83261E+13	1.15432E+14	6.81690E+19	839.0	400.8
		40.0	2.80	407.4	4.78035E+13	2.82564E+13	1.15576E+14	9.07515E+19	838.1	400.4
		46.0	3.24	431.3	5.14653E+13	2.99560E+13	1.23433E+14	1.05204E+20	869.0	415.2
		47.6	3.35	390.8	4.69995E+13	2.71690E+13	1.12507E+14	1.08757E+20	816.1	389.8
		50.0	3.50	391.0	4.73173E+13	2.73899E+13	1.13238E+14	1.13635E+20	816.4	390.0
	EOC (11/8/2016, 1100)	52.7	3.68	374.0	4.55630E+13	2.62167E+13	1.09281E+14	1.19537E+20	793.6	379.0
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	3.76	396.0	4.82146E+13	2.81101E+13	1.19756E+14	1.22006E+20	823.1	393.2
		55.7	3.89	385.1	4.70119E+13	2.73091E+13	1.16981E+14	1.26101E+20	808.6	386.2
		62.7	4.34	378.4	4.63856E+13	2.70618E+13	1.15534E+14	1.40674E+20	799.5	381.9
		72.7	4.96	365.5	4.53058E+13	2.59758E+13	1.12081E+14	1.60968E+20	782.0	373.5
		81.9	5.54	361.2	4.60644E+13	2.57646E+13	1.12747E+14	1.79817E+20	776.0	370.6
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	6.22	372.1	4.76726E+13	2.67994E+13	1.16498E+14	2.01737E+20	790.9	377.8
		102.7	6.86	380.9	4.93614E+13	2.72352E+13	1.19369E+14	2.22513E+20	802.8	383.5
	EOC (2/23/2017, 1400)	112.2	7.49	386.6	5.16819E+13	2.77741E+13	1.22833E+14	2.42867E+20	810.5	387.1
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	7.55	341.1	4.63967E+13	2.50849E+13	1.11706E+14	2.45035E+20	748.1	357.3
		115.2	7.66	325.9	4.29201E+13	2.32273E+13	1.03638E+14	2.48588E+20	726.6	347.1
		122.2	8.05	330.8	4.40135E+13	2.37813E+13	1.05879E+14	2.61295E+20	733.6	350.4
		132.2	8.62	331.6	4.51446E+13	2.40418E+13	1.07802E+14	2.79782E+20	734.7	351.0
		142.2	9.18	323.4	4.47635E+13	2.36459E+13	1.06570E+14	2.97848E+20	723.1	345.4
		152.2	9.75	328.5	4.66622E+13	2.44032E+13	1.10224E+14	3.16336E+20	730.3	348.9
		162.2	10.31	324.1	4.64199E+13	2.37465E+13	1.08699E+14	3.34462E+20	724.1	345.9
		171.2	10.84	331.2	4.86791E+13	2.47432E+13	1.13328E+14	3.51504E+20	734.1	350.7
	EOC	174.2	11.01	325.5	4.90926E+13	2.44984E+13	1.13470E+14	3.57225E+20	726.0	346.8

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 23. ATF-31 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.08	445.1	4.99690E+13	3.07625E+13	1.23264E+14	2.70990E+18	883.6	411.1
		3.0	0.23	432.2	4.86664E+13	2.97875E+13	1.20218E+14	7.40706E+18	867.5	403.6
		10.0	0.74	438.3	4.95012E+13	3.02170E+13	1.22395E+14	2.41482E+19	875.1	407.1
		20.0	1.51	440.2	5.02059E+13	3.06782E+13	1.23609E+14	4.88384E+19	877.6	408.3
		30.0	2.27	442.4	5.13611E+13	3.03158E+13	1.24675E+14	7.36491E+19	880.4	409.6
		40.0	3.02	436.2	5.13951E+13	3.02908E+13	1.24699E+14	9.80382E+19	872.5	406.0
		46.0	3.49	461.0	5.52152E+13	3.19978E+13	1.32149E+14	1.13274E+20	903.4	420.2
		47.6	3.61	420.0	5.09079E+13	2.94740E+13	1.21646E+14	1.17068E+20	851.9	396.4
		50.0	3.79	419.1	5.08850E+13	2.93738E+13	1.21250E+14	1.22909E+20	850.7	395.9
	EOC (11/8/2016, 1100)	52.7	3.98	398.7	4.88241E+13	2.82072E+13	1.17075E+14	1.29051E+20	824.3	383.7
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	4.05	411.5	5.04746E+13	2.93872E+13	1.25366E+14	1.31520E+20	841.0	391.4
		55.7	4.19	401.0	4.92820E+13	2.86530E+13	1.22710E+14	1.35796E+20	827.2	385.0
		62.7	4.67	398.9	4.91733E+13	2.84210E+13	1.22167E+14	1.51574E+20	824.5	383.8
		72.7	5.33	391.8	4.89580E+13	2.79248E+13	1.20843E+14	1.73012E+20	815.1	379.4
		81.9	5.95	384.9	4.95257E+13	2.76108E+13	1.21057E+14	1.92885E+20	806.0	375.2
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	6.70	397.3	5.13899E+13	2.84619E+13	1.25091E+14	2.17214E+20	822.4	382.8
		102.7	7.39	406.1	5.30921E+13	2.91495E+13	1.28192E+14	2.39736E+20	834.0	388.1
	EOC (2/23/2017, 1400)	112.2	8.07	409.8	5.54618E+13	2.94044E+13	1.31063E+14	2.61716E+20	838.8	390.3
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	8.14	355.2	4.89333E+13	2.61543E+13	1.16998E+14	2.63944E+20	765.7	356.7
		115.2	8.25	338.0	4.50795E+13	2.42520E+13	1.08633E+14	2.67497E+20	741.7	345.7
		122.2	8.65	345.2	4.65691E+13	2.47859E+13	1.11373E+14	2.80685E+20	751.9	350.3
		132.2	9.25	351.9	4.87155E+13	2.56056E+13	1.15765E+14	3.00016E+20	761.1	354.6
		142.2	9.83	344.8	4.83923E+13	2.51985E+13	1.14433E+14	3.18985E+20	751.2	350.0
		152.2	10.44	347.1	5.02118E+13	2.57312E+13	1.17980E+14	3.38798E+20	754.5	351.5
		162.2	11.03	342.8	4.99676E+13	2.53088E+13	1.16427E+14	3.57707E+20	748.5	348.8
		171.2	11.57	348.0	5.22072E+13	2.60123E+13	1.20464E+14	3.75351E+20	755.7	352.1
	EOC	174.2	11.75	341.9	5.25954E+13	2.57268E+13	1.20686E+14	3.81193E+20	747.3	348.2

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 24. ATF-32 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.04	252.3	2.82821E+13	1.75073E+13	7.04304E+13	1.20440E+18	629.7	296.1
		3.0	0.13	245.3	2.75170E+13	1.69699E+13	6.85591E+13	4.09496E+18	618.0	290.9
		10.0	0.44	252.4	2.84428E+13	1.73847E+13	7.07405E+13	1.42119E+19	629.9	296.3
		20.0	0.88	254.6	2.88531E+13	1.75631E+13	7.14916E+13	2.84841E+19	633.6	297.9
		30.0	1.32	256.5	2.94177E+13	1.76730E+13	7.21225E+13	4.29369E+19	636.7	299.3
		40.0	1.77	256.1	2.96310E+13	1.78345E+13	7.30345E+13	5.72692E+19	636.1	299.0
		46.0	2.06	276.6	3.21640E+13	1.92700E+13	7.87736E+13	6.67840E+19	669.4	314.0
		47.6	2.13	251.2	2.95032E+13	1.73737E+13	7.15564E+13	6.92530E+19	627.9	295.3
		50.0	2.24	251.7	2.95874E+13	1.75354E+13	7.21672E+13	7.26855E+19	628.6	295.7
	EOC (11/8/2016, 1100)	52.7	2.35	242.1	2.86668E+13	1.70582E+13	7.02118E+13	7.63590E+19	612.6	288.5
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	2.39	286.3	3.38297E+13	2.00359E+13	8.30463E+13	7.76236E+19	684.9	321.0
		55.7	2.49	279.5	3.30965E+13	1.95829E+13	8.14336E+13	8.08152E+19	674.0	316.1
		62.7	2.82	274.2	3.25262E+13	1.93309E+13	8.01789E+13	9.15344E+19	665.6	312.3
		72.7	3.27	262.5	3.13740E+13	1.83956E+13	7.69898E+13	1.06108E+20	646.5	303.7
		81.9	3.69	264.2	3.22173E+13	1.86634E+13	7.83828E+13	1.19838E+20	649.4	305.0
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	4.20	272.3	3.34003E+13	1.91713E+13	8.08849E+13	1.36398E+20	662.5	310.9
		102.7	4.67	278.4	3.42898E+13	1.96719E+13	8.27967E+13	1.51634E+20	672.3	315.3
	EOC (2/23/2017, 1400)	112.2	5.14	287.3	3.62239E+13	2.01316E+13	8.61781E+13	1.66749E+20	686.4	321.7
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	5.18	253.4	3.24316E+13	1.82752E+13	7.77175E+13	1.67954E+20	631.6	297.0
		115.2	5.26	242.2	2.99857E+13	1.68859E+13	7.21637E+13	1.70724E+20	612.7	288.5
		122.2	5.56	243.5	3.05570E+13	1.71107E+13	7.33293E+13	1.80299E+20	614.9	289.5
		132.2	5.98	243.3	3.10708E+13	1.72928E+13	7.43253E+13	1.93908E+20	614.5	289.4
		142.2	6.39	240.3	3.10547E+13	1.71970E+13	7.39251E+13	2.07277E+20	609.6	287.1
		152.2	6.81	242.9	3.21383E+13	1.75147E+13	7.60007E+13	2.20887E+20	614.0	289.1
		162.2	7.22	242.4	3.20342E+13	1.73608E+13	7.54259E+13	2.34376E+20	613.0	288.7
		171.2	7.62	249.8	3.38948E+13	1.82123E+13	7.91988E+13	2.47203E+20	625.5	294.3
	EOC	174.2	7.74	247.0	3.41192E+13	1.81051E+13	7.94540E+13	2.51238E+20	620.9	292.2



Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 25. ATF-33 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.08	414.7	4.64668E+13	2.84629E+13	1.14876E+14	2.58946E+18	869.8	407.3
		3.0	0.22	403.8	4.53833E+13	2.79692E+13	1.12409E+14	6.98552E+18	854.7	400.3
		10.0	0.71	409.6	4.61068E+13	2.81458E+13	1.14016E+14	2.28836E+19	862.8	404.1
		20.0	1.41	413.8	4.72029E+13	2.86209E+13	1.16106E+14	4.57672E+19	868.6	406.7
		30.0	2.11	411.2	4.75308E+13	2.85631E+13	1.16112E+14	6.84701E+19	865.0	405.1
		40.0	2.80	407.5	4.78611E+13	2.81541E+13	1.15813E+14	9.09924E+19	859.9	402.7
		46.0	3.25	430.9	5.14288E+13	2.98099E+13	1.23473E+14	1.05445E+20	891.7	417.5
		47.6	3.36	394.0	4.74457E+13	2.72135E+13	1.13393E+14	1.09058E+20	841.1	394.0
		50.0	3.51	392.4	4.74079E+13	2.69498E+13	1.12826E+14	1.13996E+20	838.9	393.0
	EOC (11/8/2016, 1100)	52.7	3.70	374.7	4.56453E+13	2.58857E+13	1.09226E+14	1.19898E+20	813.9	381.5
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	3.77	394.6	4.80783E+13	2.79928E+13	1.19634E+14	1.22307E+20	841.9	394.4
		55.7	3.90	384.9	4.69996E+13	2.73554E+13	1.17147E+14	1.26462E+20	828.3	388.1
		62.7	4.35	379.7	4.64964E+13	2.68844E+13	1.15408E+14	1.41035E+20	821.0	384.7
		72.7	4.97	366.1	4.53834E+13	2.62252E+13	1.12228E+14	1.61390E+20	801.6	375.8
		81.9	5.56	360.2	4.59887E+13	2.59274E+13	1.12703E+14	1.80238E+20	793.1	371.9
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	6.23	372.3	4.77665E+13	2.68296E+13	1.16586E+14	2.02098E+20	810.4	379.8
		102.7	6.87	380.3	4.93239E+13	2.73534E+13	1.19517E+14	2.22934E+20	821.8	385.1
	EOC (2/23/2017, 1400)	112.2	7.50	384.6	5.14519E+13	2.76130E+13	1.22422E+14	2.43229E+20	827.9	387.9
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	7.56	343.5	4.65517E+13	2.51875E+13	1.11567E+14	2.45397E+20	768.6	360.6
		115.2	7.67	327.8	4.31360E+13	2.35652E+13	1.04259E+14	2.48889E+20	745.5	349.9
		122.2	8.06	331.1	4.41415E+13	2.38640E+13	1.05910E+14	2.61596E+20	750.3	352.1
		132.2	8.63	330.2	4.50114E+13	2.40387E+13	1.07361E+14	2.80083E+20	749.0	351.5
		142.2	9.19	324.2	4.48669E+13	2.36810E+13	1.06599E+14	2.98209E+20	740.0	347.4
		152.2	9.76	326.7	4.65140E+13	2.42991E+13	1.09738E+14	3.16577E+20	743.9	349.2
		162.2	10.31	321.7	4.61307E+13	2.37580E+13	1.08139E+14	3.34522E+20	736.4	345.7
		171.2	10.84	329.8	4.85947E+13	2.46997E+13	1.12951E+14	3.51564E+20	748.4	351.3
	EOC	174.2	11.01	325.8	4.91527E+13	2.45182E+13	1.13419E+14	3.57225E+20	742.5	348.5

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 26. ATF-34 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.08	444.8	4.98285E+13	3.04837E+13	1.22724E+14	2.70990E+18	1271.9	437.8
		3.0	0.23	432.8	4.85387E+13	2.96806E+13	1.20050E+14	7.40706E+18	1254.9	430.1
		10.0	0.74	437.9	4.93981E+13	3.01660E+13	1.22077E+14	2.41482E+19	1262.2	433.4
		20.0	1.51	443.6	5.04916E+13	3.06331E+13	1.24053E+14	4.90191E+19	1270.2	437.1
		30.0	2.27	440.8	5.10997E+13	3.08087E+13	1.24958E+14	7.37695E+19	1266.4	435.3
		40.0	3.03	436.3	5.13998E+13	3.00896E+13	1.23944E+14	9.82188E+19	1259.9	432.3
		46.0	3.50	462.7	5.53353E+13	3.21381E+13	1.32615E+14	1.13454E+20	1296.8	449.9
		47.6	3.61	419.1	5.07229E+13	2.90699E+13	1.20812E+14	1.17248E+20	1235.0	421.4
		50.0	3.79	418.1	5.08183E+13	2.89873E+13	1.20703E+14	1.23090E+20	1233.6	420.8
	EOC (11/8/2016, 1100)	52.7	3.98	397.3	4.87316E+13	2.76621E+13	1.16191E+14	1.29232E+20	1202.5	408.2
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	4.06	413.5	5.06622E+13	2.94981E+13	1.25719E+14	1.31701E+20	1226.8	417.9
		55.7	4.19	401.6	4.93455E+13	2.88225E+13	1.22797E+14	1.35977E+20	1209.0	410.8
		62.7	4.68	398.9	4.92421E+13	2.84261E+13	1.22319E+14	1.51815E+20	1205.0	409.2
		72.7	5.34	391.2	4.89344E+13	2.78940E+13	1.20894E+14	1.73193E+20	1193.2	404.6
		81.9	5.95	385.4	4.96545E+13	2.76808E+13	1.21362E+14	1.93065E+20	1184.3	401.3
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	6.70	398.5	5.15660E+13	2.84785E+13	1.25192E+14	2.17394E+20	1204.3	408.9
		102.7	7.40	407.5	5.33611E+13	2.91893E+13	1.28450E+14	2.39977E+20	1217.8	414.3
	EOC (2/23/2017, 1400)	112.2	8.07	408.6	5.53428E+13	2.93713E+13	1.31101E+14	2.61837E+20	1219.6	415.0
162A	Withheld from Cycle 161A PALM									
	BOC	113.2	8.14	354.7	4.89046E+13	2.61696E+13	1.16909E+14	2.64065E+20	1135.6	384.2
		115.2	8.25	337.7	4.50451E+13	2.40942E+13	1.08363E+14	2.67678E+20	1107.7	375.4
		122.2	8.65	342.1	4.62728E+13	2.47485E+13	1.11022E+14	2.80685E+20	1115.0	377.7
		132.2	9.25	350.6	4.85529E+13	2.57169E+13	1.15645E+14	3.00016E+20	1129.0	382.1
		142.2	9.83	343.3	4.82633E+13	2.50751E+13	1.14302E+14	3.18925E+20	1116.9	378.3
		152.2	10.44	347.2	5.01218E+13	2.57207E+13	1.17921E+14	3.38798E+20	1123.4	380.3
		162.2	11.02	342.0	4.98121E+13	2.51523E+13	1.16280E+14	3.57586E+20	1114.8	377.6
		171.2	11.57	347.6	5.21139E+13	2.59863E+13	1.20682E+14	3.75231E+20	1124.1	380.5
	EOC	174.2	11.75	343.4	5.27602E+13	2.57257E+13	1.20976E+14	3.81132E+20	1117.2	378.3

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 27. ATF-41 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.04	259.8	2.46928E+13	1.77087E+13	6.66039E+13	1.26462E+18	747.1	378.1
		3.0	0.14	258.1	2.45485E+13	1.75842E+13	6.64663E+13	4.33584E+18	743.7	376.6
		10.0	0.45	260.0	2.48539E+13	1.77440E+13	6.67713E+13	1.43324E+19	747.4	378.2
		20.0	0.90	258.0	2.48469E+13	1.77273E+13	6.68696E+13	2.84238E+19	743.6	376.5
		30.0	1.35	260.3	2.51431E+13	1.80997E+13	6.82261E+13	4.26960E+19	747.9	378.5
		40.0	1.82	266.8	2.60101E+13	1.84860E+13	6.97711E+13	5.73294E+19	760.3	383.9
		46.0	2.10	262.8	2.59486E+13	1.82057E+13	6.91216E+13	6.60613E+19	752.7	380.6
		47.6	2.18	247.0	2.44766E+13	1.70147E+13	6.48875E+13	6.85906E+19	722.2	366.9
		50.0	2.28	243.7	2.40862E+13	1.66418E+13	6.39748E+13	7.20231E+19	715.6	364.0
	EOC (11/8/2016, 1100)	52.7	2.40	233.7	2.32213E+13	1.60171E+13	6.19500E+13	7.55761E+19	696.0	355.1
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	2.44	243.8	2.43040E+13	1.68234E+13	6.48198E+13	7.67805E+19	715.9	364.1
		55.7	2.53	242.6	2.42204E+13	1.67899E+13	6.47434E+13	7.97313E+19	713.7	363.1
		62.7	2.82	239.4	2.39556E+13	1.67908E+13	6.40398E+13	8.88847E+19	707.2	360.2
		72.7	3.22	229.9	2.31247E+13	1.59412E+13	6.17304E+13	1.01651E+20	688.2	351.6
		81.9	3.60	228.6	2.34202E+13	1.58620E+13	6.18814E+13	1.13454E+20	685.7	350.5
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	4.04	236.3	2.41191E+13	1.64116E+13	6.36353E+13	1.27426E+20	701.1	357.4
		102.7	4.44	230.8	2.38561E+13	1.63292E+13	6.45080E+13	1.40132E+20	690.1	352.4
	EOC (2/23/2017, 1400)	112.2	4.85	245.5	2.57504E+13	1.72774E+13	6.79249E+13	1.53019E+20	719.3	365.6
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	113.9	4.90	203.8	2.13356E+13	1.43445E+13	5.59931E+13	1.54645E+20	634.8	327.3
		114.2	4.91	182.3	1.91221E+13	1.27384E+13	5.00591E+13	1.54886E+20	589.4	306.3
		116.2	4.99	188.2	1.97436E+13	1.31996E+13	5.16196E+13	1.57295E+20	602.0	312.1
		118.2	5.07	189.3	1.99106E+13	1.33536E+13	5.22179E+13	1.59764E+20	604.2	313.2
		120.2	5.14	192.2	2.01762E+13	1.33812E+13	5.26511E+13	1.62112E+20	610.6	316.1
		122.2	5.22	195.6	2.06056E+13	1.36747E+13	5.36582E+13	1.64581E+20	617.7	319.4
		124.2	5.30	199.3	2.10527E+13	1.38934E+13	5.49065E+13	1.67111E+20	625.4	322.9

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 27. ATF-41 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
	EOC (6/11/2017, 1600)	124.7	5.32	202.6	2.13780E+13	1.40713E+13	5.55468E+13	1.67592E+20	632.4	326.2
162A	Cycle 162A Outage									
	BOC	125.7	5.35	266.5	2.73937E+13	1.80610E+13	7.12115E+13	1.68797E+20	759.7	383.7
		127.7	5.45	251.1	2.61650E+13	1.73422E+13	6.80843E+13	1.71747E+20	730.1	370.5
		134.7	5.75	250.6	2.61959E+13	1.72729E+13	6.79280E+13	1.81202E+20	729.2	370.1
		144.7	6.17	253.5	2.61972E+13	1.72929E+13	6.80721E+13	1.94571E+20	734.8	372.6
		154.7	6.60	253.3	2.65060E+13	1.73159E+13	6.83816E+13	2.08000E+20	734.4	372.4
		164.7	7.02	255.4	2.68282E+13	1.72062E+13	6.87739E+13	2.21429E+20	738.5	374.3
		174.7	7.48	258.9	2.78483E+13	1.78311E+13	7.12384E+13	2.35822E+20	745.4	377.3
		183.7	7.87	253.0	2.73514E+13	1.73872E+13	7.00257E+13	2.48106E+20	733.9	372.2
	EOC	186.7	8.00	252.4	2.75840E+13	1.73297E+13	7.02447E+13	2.52141E+20	732.7	371.6

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 28. ATF-44 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160B	BOC (12/20/2016, 1200)	1.0	0.05	230.7	4.09589E+13	1.71838E+13	8.71000E+13	1.56572E+18	668.3	329.6
		3.0	0.13	223.1	3.97527E+13	1.66357E+13	8.50041E+13	4.09496E+18	653.7	323.1
		10.0	0.41	222.2	3.97295E+13	1.65219E+13	8.46686E+13	1.30677E+19	652.0	322.3
		20.0	0.78	218.8	3.93997E+13	1.62807E+13	8.36574E+13	2.52322E+19	645.2	319.3
		29.2	1.14	217.7	4.00693E+13	1.63538E+13	8.48079E+13	3.66740E+19	643.0	318.3
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		40.0	1.57	225.0	4.16406E+13	1.69630E+13	8.78500E+13	5.04041E+19	657.3	324.7
		50.0	1.96	229.6	4.27944E+13	1.71845E+13	8.94754E+13	6.28697E+19	666.3	328.7
	EOC (2/23/2017, 1400)	59.5	2.34	234.6	4.47565E+13	1.76710E+13	9.26579E+13	7.52148E+19	675.9	332.9
162A	Withheld From Cycle 161A PALM									
	BOC	60.5	2.37	200.9	3.89311E+13	1.55261E+13	8.11820E+13	7.60579E+19	609.7	303.5
		62.5	2.43	191.9	3.60235E+13	1.42741E+13	7.53880E+13	7.81656E+19	591.3	295.2
		69.5	2.66	195.5	3.70926E+13	1.46325E+13	7.74430E+13	8.55726E+19	598.6	298.5
		79.5	3.01	200.6	3.88859E+13	1.51433E+13	8.07555E+13	9.67735E+19	609.0	303.1
		89.5	3.35	196.7	3.85751E+13	1.50316E+13	8.01460E+13	1.07794E+20	601.0	299.6
		99.5	3.70	199.7	4.01264E+13	1.53567E+13	8.26900E+13	1.19055E+20	607.3	302.4
		109.5	4.05	197.2	3.96806E+13	1.51531E+13	8.16504E+13	1.30075E+20	602.2	300.1
		118.5	4.37	202.9	4.19209E+13	1.57591E+13	8.55792E+13	1.40614E+20	613.7	305.3
	EOC	121.5	4.49	201.0	4.22931E+13	1.57337E+13	8.59336E+13	1.44287E+20	609.7	303.5

Title: ATF-1 Power Histories

TEV No.: 3119

Rev. No.: 0

Project No.: 31418

Date: 12/01/2017

Table 29. ATF-45 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
160A	BOC (9/16/2016, 1900)	1.0	0.07	268.9	2.45843E+13	1.84960E+13	6.73827E+13	1.38506E+18	808.9	386.2
		3.0	0.21	266.7	2.44783E+13	1.83425E+13	6.71762E+13	4.15518E+18	804.8	384.4
		10.0	0.72	268.3	2.46726E+13	1.84804E+13	6.77812E+13	1.42721E+19	807.8	385.8
		20.0	1.47	265.0	2.45040E+13	1.83524E+13	6.73171E+13	2.89658E+19	801.6	383.0
		30.0	2.22	271.0	2.53080E+13	1.85916E+13	6.86825E+13	4.39004E+19	812.8	388.0
		40.0	2.99	275.9	2.61017E+13	1.91081E+13	7.05777E+13	5.90758E+19	821.9	392.1
		46.0	3.44	272.9	2.60210E+13	1.87723E+13	7.00017E+13	6.79884E+19	816.4	389.6
		47.6	3.55	256.3	2.45288E+13	1.77970E+13	6.60359E+13	7.00961E+19	784.9	375.5
		50.0	3.71	253.6	2.42966E+13	1.73646E+13	6.51661E+13	7.32275E+19	779.8	373.2
	EOC (11/8/2016, 1100)	52.7	3.91	242.0	2.33336E+13	1.66583E+13	6.29180E+13	7.70816E+19	757.0	363.0
160B	Cycle 160B Outage – 42 Day, 1 Hour Down Time Outage									
	BOC (12/20/2016, 1200)	53.7	3.97	253.5	2.44059E+13	1.76198E+13	6.58067E+13	7.83462E+19	779.6	373.1
		55.7	4.10	252.2	2.43438E+13	1.75482E+13	6.56536E+13	8.09357E+19	777.0	372.0
		62.7	4.58	250.5	2.41727E+13	1.72834E+13	6.48978E+13	9.03902E+19	773.7	370.5
		72.7	5.26	239.6	2.32984E+13	1.67269E+13	6.27717E+13	1.03759E+20	752.3	360.9
		81.9	5.88	237.3	2.34417E+13	1.65536E+13	6.25804E+13	1.16044E+20	747.7	358.8
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time									
		92.7	6.62	245.4	2.42921E+13	1.69057E+13	6.44848E+13	1.30677E+20	763.6	366.0
		102.7	7.29	240.7	2.40511E+13	1.69531E+13	6.53650E+13	1.43986E+20	754.4	361.8
	EOC (2/23/2017, 1400)	112.2	7.98	254.3	2.58719E+13	1.80710E+13	6.89334E+13	1.57415E+20	781.0	373.8
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time									
	BOC (5/30/2017, 0300)	113.9	8.07	214.0	2.17166E+13	1.49262E+13	5.70568E+13	1.59282E+20	700.2	337.4
		114.2	8.09	189.9	1.92436E+13	1.33198E+13	5.08307E+13	1.59583E+20	648.9	314.3
		116.2	8.19	195.7	1.98917E+13	1.37478E+13	5.24733E+13	1.61570E+20	661.5	320.0
		118.2	8.29	199.2	2.02818E+13	1.39471E+13	5.34109E+13	1.63558E+20	669.0	323.4
		120.2	8.39	198.5	2.01949E+13	1.38267E+13	5.33628E+13	1.65545E+20	667.5	322.7
		122.2	8.49	202.9	2.07041E+13	1.41362E+13	5.43670E+13	1.67592E+20	676.8	326.9
		124.2	8.60	206.9	2.11571E+13	1.44341E+13	5.56671E+13	1.69700E+20	685.4	330.8

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 29. ATF-45 Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )	Fuel Centerline Temperature (°C)	PICT (°C)
	EOC (6/11/2017, 1600)	124.7	8.63	210.6	2.16056E+13	1.46745E+13	5.63605E+13	1.70242E+20	693.1	334.3
162A	Cycle 162A Outage									
	BOC	125.7	8.70	276.3	2.74735E+13	1.89023E+13	7.22431E+13	1.71627E+20	822.6	392.4
		127.7	8.83	261.0	2.63938E+13	1.79515E+13	6.89456E+13	1.74216E+20	794.0	379.6
		134.7	9.31	259.9	2.63558E+13	1.79166E+13	6.88477E+13	1.83852E+20	791.8	378.6
		144.7	10.03	264.0	2.64320E+13	1.80020E+13	6.91295E+13	1.98003E+20	799.6	382.1
		154.7	10.74	262.0	2.66517E+13	1.78851E+13	6.92274E+13	2.12035E+20	795.7	380.4
		164.7	11.46	264.5	2.70329E+13	1.79882E+13	6.98780E+13	2.26186E+20	800.5	382.5
		174.7	12.19	267.8	2.80891E+13	1.85662E+13	7.22423E+13	2.40639E+20	806.7	385.3
		183.7	12.84	260.2	2.74402E+13	1.81372E+13	7.08995E+13	2.53346E+20	792.3	378.8
	EOC	186.7	13.06	259.5	2.77104E+13	1.80921E+13	7.11761E+13	2.57802E+20	791.0	378.2

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 30. ATF-73 (Pellet 1 - Top) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.07	206.0	4.35515E+13	9.15001E+12	7.25558E+13	1.68616E+18
		3.0	0.23	204.2	4.32771E+13	9.11102E+12	7.24926E+13	5.66068E+18
		10.0	0.79	211.4	4.46452E+13	9.13590E+12	7.32583E+13	1.95113E+19
		20.0	1.64	220.4	4.73675E+13	9.95742E+12	7.85756E+13	4.04678E+19
		29.2	2.46	229.9	5.08539E+13	1.01715E+13	8.23710E+13	6.08824E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.44	235.2	5.26147E+13	1.03049E+13	8.52885E+13	8.49704E+19
		50.0	4.34	238.9	5.38967E+13	1.08621E+13	8.75422E+13	1.07372E+20
	EOC (2/23/2017, 1400)	59.5	5.20	232.8	5.50148E+13	1.07146E+13	8.81823E+13	1.28449E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	5.33	202.8	4.74507E+13	8.96546E+12	7.53126E+13	1.31882E+20
		61.5	5.35	188.9	4.42475E+13	8.67921E+12	7.02833E+13	1.32303E+20
		63.5	5.50	184.9	4.40480E+13	8.35460E+12	7.04148E+13	1.35917E+20
		65.5	5.65	185.6	4.42002E+13	8.20180E+12	7.00315E+13	1.39590E+20
		67.5	5.80	190.9	4.56266E+13	8.59399E+12	7.15986E+13	1.43324E+20
		69.5	5.95	194.3	4.59630E+13	9.01757E+12	7.42717E+13	1.47057E+20
		71.5	6.10	194.5	4.65186E+13	8.75739E+12	7.43285E+13	1.50851E+20
	EOC (6/11/2017, 1600)	72.0	6.13	200.4	4.85395E+13	9.20532E+12	7.67597E+13	1.51634E+20
162A	Cycle 162A Outage							
	BOC	73.0	6.20	190.9	4.67767E+13	8.98341E+12	7.49572E+13	1.53200E+20
		75.0	6.34	180.2	4.37932E+13	8.44875E+12	7.07112E+13	1.56753E+20
		82.0	6.83	184.4	4.42171E+13	8.15825E+12	7.06693E+13	1.68797E+20
		92.0	7.52	186.4	4.55172E+13	8.22222E+12	7.16211E+13	1.85959E+20
		102.0	8.20	184.5	4.53934E+13	8.47067E+12	7.22127E+13	2.02821E+20
		112.0	8.88	183.4	4.58306E+13	8.29573E+12	7.23910E+13	2.19622E+20
		122.0	9.61	189.7	4.86686E+13	8.90935E+12	7.79067E+13	2.37447E+20
		131.0	10.29	196.9	5.15939E+13	9.33794E+12	8.18789E+13	2.54430E+20
	EOC	134.0	10.52	192.8	5.15402E+13	9.19457E+12	8.11919E+13	2.60150E+20



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 31. ATF-73 (Pellet 2) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	191.0	4.09046E+13	9.03842E+12	6.86925E+13	1.56572E+18
		3.0	0.22	197.8	4.22837E+13	9.17925E+12	7.08165E+13	5.41980E+18
		10.0	0.75	197.3	4.21480E+13	9.41472E+12	7.10178E+13	1.84273E+19
		20.0	1.56	211.1	4.54268E+13	1.01026E+13	7.64982E+13	3.84806E+19
		29.2	2.30	212.9	4.74600E+13	1.04542E+13	7.90208E+13	5.69681E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.25	229.7	5.15548E+13	1.12552E+13	8.53820E+13	8.04539E+19
		50.0	4.10	219.7	4.96845E+13	1.09366E+13	8.26253E+13	1.01230E+20
	EOC (2/23/2017, 1400)	59.5	4.92	222.4	5.22315E+13	1.06063E+13	8.54281E+13	1.21584E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	5.05	191.8	4.51425E+13	8.77831E+12	7.32389E+13	1.24836E+20
		61.5	5.07	178.6	4.19582E+13	8.51068E+12	6.80897E+13	1.25318E+20
		63.5	5.21	184.2	4.33393E+13	8.49204E+12	7.04883E+13	1.28871E+20
		65.5	5.36	181.4	4.26358E+13	8.35122E+12	6.86808E+13	1.32424E+20
		67.5	5.50	180.6	4.26943E+13	8.69700E+12	6.98875E+13	1.35977E+20
		69.5	5.65	185.8	4.41594E+13	9.13325E+12	7.20807E+13	1.39650E+20
		71.5	5.80	184.2	4.39409E+13	9.27965E+12	7.18495E+13	1.43263E+20
	EOC (6/11/2017, 1600)	72.0	5.83	188.3	4.51010E+13	9.05698E+12	7.31635E+13	1.44046E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.89	183.3	4.49583E+13	9.35558E+12	7.27792E+13	1.45492E+20
		75.0	6.02	168.2	4.08352E+13	8.26832E+12	6.68504E+13	1.48804E+20
		82.0	6.48	173.8	4.18106E+13	8.12923E+12	6.74640E+13	1.60125E+20
		92.0	7.14	176.7	4.28000E+13	8.55564E+12	6.91629E+13	1.76445E+20
		102.0	7.80	178.6	4.35214E+13	8.57963E+12	7.02765E+13	1.92764E+20
		112.0	8.45	177.0	4.37591E+13	8.66612E+12	7.00924E+13	2.08903E+20
		122.0	9.15	182.6	4.68971E+13	9.22197E+12	7.49936E+13	2.26186E+20
		131.0	9.80	188.6	4.95092E+13	9.29694E+12	7.89286E+13	2.42145E+20
	EOC	134.0	10.00	187.1	4.95990E+13	9.13480E+12	7.87757E+13	2.47263E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 32. ATF-73 (Pellet 3) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	187.6	4.01246E+13	9.06909E+12	6.79274E+13	1.56572E+18
		3.0	0.21	185.3	3.97476E+13	9.23681E+12	6.83694E+13	5.17892E+18
		10.0	0.73	191.6	4.08159E+13	9.21739E+12	6.89978E+13	1.79456E+19
		20.0	1.48	201.0	4.34390E+13	9.92193E+12	7.34932E+13	3.66740E+19
		29.2	2.21	204.0	4.54841E+13	1.02779E+13	7.67954E+13	5.45593E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.11	222.4	4.96660E+13	1.07270E+13	8.23053E+13	7.67805E+19
		50.0	3.94	219.6	4.98570E+13	1.10500E+13	8.29496E+13	9.74962E+19
	EOC (2/23/2017, 1400)	59.5	4.75	217.3	5.06518E+13	1.04301E+13	8.23548E+13	1.17369E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.87	183.1	4.34794E+13	8.69358E+12	7.10866E+13	1.20500E+20
		61.5	4.89	173.7	4.06081E+13	8.85918E+12	6.71339E+13	1.20862E+20
		63.5	5.04	181.7	4.22529E+13	8.83476E+12	6.98345E+13	1.24475E+20
		65.5	5.18	176.4	4.13902E+13	9.28634E+12	6.80508E+13	1.27968E+20
		67.5	5.32	176.6	4.13561E+13	9.29041E+12	6.86349E+13	1.31520E+20
		69.5	5.46	179.4	4.23705E+13	9.13399E+12	6.89232E+13	1.35073E+20
		71.5	5.61	181.5	4.26474E+13	9.19197E+12	6.96182E+13	1.38626E+20
	EOC (6/11/2017, 1600)	72.0	5.64	191.7	4.50707E+13	9.48617E+12	7.33035E+13	1.39409E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.70	181.3	4.39235E+13	9.04658E+12	7.15348E+13	1.40915E+20
		75.0	5.83	167.2	4.04460E+13	8.29601E+12	6.60533E+13	1.44227E+20
		82.0	6.30	172.4	4.07583E+13	8.29960E+12	6.60975E+13	1.55608E+20
		92.0	6.96	174.8	4.17386E+13	8.44459E+12	6.80178E+13	1.71928E+20
		102.0	7.61	176.3	4.23932E+13	8.44506E+12	6.88268E+13	1.88188E+20
		112.0	8.27	174.6	4.29268E+13	8.51526E+12	6.94644E+13	2.04387E+20
		122.0	8.95	181.5	4.59017E+13	9.00830E+12	7.33342E+13	2.21248E+20
		131.0	9.60	188.7	4.90542E+13	1.01230E+13	7.90741E+13	2.37267E+20
	EOC	134.0	9.80	184.4	4.88043E+13	9.67112E+12	7.83309E+13	2.42265E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 33. ATF-73 (Pellet 4) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	182.5	3.90771E+13	8.95667E+12	6.66253E+13	1.50550E+18
		3.0	0.21	183.9	3.93796E+13	9.08838E+12	6.73430E+13	5.17892E+18
		10.0	0.71	184.7	3.93487E+13	9.11509E+12	6.79109E+13	1.75240E+19
		20.0	1.46	197.8	4.26810E+13	1.00209E+13	7.27931E+13	3.60116E+19
		29.2	2.17	200.4	4.44971E+13	9.89973E+12	7.47288E+13	5.36560E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.06	219.5	4.89076E+13	1.08434E+13	8.15932E+13	7.57568E+19
		50.0	3.87	213.6	4.79082E+13	1.04249E+13	7.94138E+13	9.56294E+19
	EOC (2/23/2017, 1400)	59.5	4.65	207.7	4.85775E+13	1.05623E+13	8.05845E+13	1.14840E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.77	183.8	4.25965E+13	8.97602E+12	7.05098E+13	1.17971E+20
		61.5	4.79	169.3	3.99124E+13	8.62097E+12	6.65305E+13	1.18332E+20
		63.5	4.92	168.9	3.98952E+13	8.47395E+12	6.52882E+13	1.21644E+20
		65.5	5.06	168.6	3.96059E+13	7.82060E+12	6.48918E+13	1.24957E+20
		67.5	5.19	172.0	4.10905E+13	8.26763E+12	6.75871E+13	1.28389E+20
		69.5	5.34	179.6	4.29458E+13	8.32578E+12	6.94748E+13	1.31942E+20
		71.5	5.48	180.2	4.29643E+13	8.47946E+12	6.97310E+13	1.35495E+20
	EOC (6/11/2017, 1600)	72.0	5.51	182.8	4.36177E+13	8.47941E+12	7.09608E+13	1.36218E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.57	174.6	4.25365E+13	8.50024E+12	6.91836E+13	1.37663E+20
		75.0	5.70	163.2	3.92435E+13	7.89612E+12	6.38064E+13	1.40915E+20
		82.0	6.14	165.0	3.90155E+13	8.29191E+12	6.49405E+13	1.51875E+20
		92.0	6.78	168.5	4.00679E+13	7.87381E+12	6.52163E+13	1.67652E+20
		102.0	7.41	168.2	4.04909E+13	7.98036E+12	6.64462E+13	1.83249E+20
		112.0	8.04	168.9	4.16896E+13	8.03661E+12	6.74721E+13	1.98786E+20
		122.0	8.70	175.3	4.40404E+13	8.77708E+12	7.12376E+13	2.15166E+20
		131.0	9.33	179.9	4.65756E+13	8.81243E+12	7.48749E+13	2.30522E+20
	EOC	134.0	9.53	178.1	4.70704E+13	8.91180E+12	7.52587E+13	2.35460E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 34. ATF-73 (Pellet 5) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	175.5	3.71657E+13	8.69166E+12	6.41623E+13	1.44528E+18
		3.0	0.20	180.4	3.83415E+13	8.54354E+12	6.57295E+13	4.99826E+18
		10.0	0.69	179.2	3.86253E+13	9.01358E+12	6.53589E+13	1.71025E+19
		20.0	1.42	191.6	4.13661E+13	8.98094E+12	6.98551E+13	3.50480E+19
		29.2	2.11	195.9	4.34962E+13	9.38705E+12	7.31172E+13	5.20903E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.96	206.5	4.59828E+13	9.79890E+12	7.69694E+13	7.30469E+19
		50.0	3.74	203.5	4.56499E+13	1.00183E+13	7.66348E+13	9.24377E+19
	EOC (2/23/2017, 1400)	59.5	4.49	205.8	4.81039E+13	9.91470E+12	7.87229E+13	1.10925E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.61	177.4	4.16266E+13	8.85740E+12	6.85757E+13	1.13996E+20
		61.5	4.63	169.4	3.96712E+13	8.31857E+12	6.49148E+13	1.14358E+20
		63.5	4.76	165.5	3.85875E+13	8.76754E+12	6.49504E+13	1.17670E+20
		65.5	4.89	163.8	3.89569E+13	8.45855E+12	6.48356E+13	1.20922E+20
		67.5	5.02	169.0	3.95757E+13	8.53842E+12	6.59215E+13	1.24174E+20
		69.5	5.16	170.7	4.03794E+13	8.79655E+12	6.67754E+13	1.27546E+20
		71.5	5.30	174.4	4.13125E+13	8.74781E+12	6.80544E+13	1.30918E+20
	EOC (6/11/2017, 1600)	72.0	5.33	173.9	4.08576E+13	8.72284E+12	6.73707E+13	1.31641E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.38	172.3	4.10220E+13	8.23784E+12	6.65826E+13	1.33086E+20
		75.0	5.51	157.1	3.71049E+13	7.69886E+12	6.17978E+13	1.36157E+20
		82.0	5.95	163.5	3.83853E+13	7.62235E+12	6.26537E+13	1.47178E+20
		92.0	6.59	166.5	3.93999E+13	7.88895E+12	6.44258E+13	1.62895E+20
		102.0	7.21	164.9	3.97095E+13	7.86328E+12	6.51365E+13	1.78311E+20
		112.0	7.83	163.9	3.97952E+13	7.98142E+12	6.49714E+13	1.93607E+20
		122.0	8.49	173.5	4.32415E+13	8.30333E+12	6.95711E+13	2.09806E+20
		131.0	9.11	180.2	4.63060E+13	8.77658E+12	7.39874E+13	2.25163E+20
	EOC	134.0	9.31	177.8	4.59649E+13	8.70608E+12	7.35088E+13	2.30040E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 35. ATF-73 (Pellet 6) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	170.7	3.60641E+13	8.31340E+12	6.17983E+13	1.44528E+18
		3.0	0.20	178.1	3.80073E+13	8.53725E+12	6.41139E+13	4.99826E+18
		10.0	0.68	174.4	3.70041E+13	8.26048E+12	6.33176E+13	1.67412E+19
		20.0	1.38	183.9	3.98401E+13	8.84029E+12	6.76651E+13	3.40845E+19
		29.2	2.06	187.9	4.19407E+13	9.14918E+12	7.02956E+13	5.08257E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.89	202.7	4.50431E+13	9.97411E+12	7.58262E+13	7.15414E+19
		50.0	3.65	200.6	4.49584E+13	9.68358E+12	7.52397E+13	9.01493E+19
	EOC (2/23/2017, 1400)	59.5	4.38	200.7	4.64784E+13	9.88944E+12	7.65126E+13	1.08215E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.50	174.3	4.02972E+13	8.28147E+12	6.69210E+13	1.11287E+20
		61.5	4.52	164.8	3.81683E+13	7.51114E+12	6.25008E+13	1.11708E+20
		63.5	4.65	163.5	3.86078E+13	8.04871E+12	6.37423E+13	1.14900E+20
		65.5	4.78	164.3	3.83079E+13	7.75846E+12	6.31040E+13	1.18152E+20
		67.5	4.91	165.3	3.82983E+13	7.64072E+12	6.28134E+13	1.21404E+20
		69.5	5.05	168.8	3.94828E+13	7.79206E+12	6.50019E+13	1.24776E+20
		71.5	5.18	169.1	3.97261E+13	8.03394E+12	6.53270E+13	1.28088E+20
	EOC (6/11/2017, 1600)	72.0	5.21	173.0	4.07314E+13	7.92777E+12	6.62170E+13	1.28811E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.26	164.6	3.95689E+13	8.27085E+12	6.49270E+13	1.30135E+20
		75.0	5.39	151.5	3.60424E+13	7.31176E+12	5.97711E+13	1.33207E+20
		82.0	5.78	151.7	3.56958E+13	7.76926E+12	5.93080E+13	1.42902E+20
		92.0	6.38	158.9	3.77261E+13	7.98997E+12	6.29812E+13	1.57656E+20
		102.0	6.97	157.9	3.81454E+13	7.97533E+12	6.32056E+13	1.72289E+20
		112.0	7.56	158.9	3.85325E+13	7.50101E+12	6.28361E+13	1.86983E+20
		122.0	8.19	166.2	4.17301E+13	8.22081E+12	6.76108E+13	2.02399E+20
		131.0	8.78	171.2	4.38698E+13	8.99336E+12	7.16937E+13	2.17093E+20
	EOC	134.0	8.97	167.4	4.34073E+13	8.50438E+12	7.03519E+13	2.21730E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 36. ATF-73 (Pellet 7) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	165.3	3.49976E+13	7.99230E+12	6.02728E+13	1.38506E+18
		3.0	0.19	168.9	3.59759E+13	8.02473E+12	6.21753E+13	4.75738E+18
		10.0	0.63	168.3	3.62302E+13	8.47697E+12	6.16980E+13	1.56572E+19
		20.0	1.32	180.8	3.89534E+13	8.67490E+12	6.65128E+13	3.26995E+19
		29.2	1.99	186.1	4.12117E+13	9.11280E+12	6.90840E+13	4.91997E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.82	201.3	4.45780E+13	9.73947E+12	7.49290E+13	6.96745E+19
		50.0	3.56	196.0	4.38852E+13	9.49081E+12	7.35592E+13	8.79212E+19
	EOC (2/23/2017, 1400)	59.5	4.27	194.8	4.52494E+13	9.44544E+12	7.48638E+13	1.05445E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.38	171.3	3.96918E+13	8.68792E+12	6.65635E+13	1.08396E+20
		61.5	4.40	156.7	3.59853E+13	7.75139E+12	5.96916E+13	1.08818E+20
		63.5	4.53	155.3	3.65169E+13	7.71651E+12	6.04693E+13	1.11949E+20
		65.5	4.66	158.7	3.69971E+13	7.78916E+12	6.12399E+13	1.15080E+20
		67.5	4.79	161.8	3.73771E+13	8.10839E+12	6.28896E+13	1.18332E+20
		69.5	4.92	160.7	3.73689E+13	7.83900E+12	6.22964E+13	1.21524E+20
		71.5	5.05	162.8	3.78036E+13	7.79844E+12	6.28495E+13	1.24716E+20
	EOC (6/11/2017, 1600)	72.0	5.07	165.8	3.93402E+13	7.78727E+12	6.43340E+13	1.25438E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.13	158.9	3.79459E+13	7.59260E+12	6.25389E+13	1.26703E+20
		75.0	5.25	150.6	3.53663E+13	7.16950E+12	5.82929E+13	1.29774E+20
		82.0	5.63	148.8	3.49400E+13	7.27118E+12	5.78044E+13	1.39229E+20
		92.0	6.20	153.0	3.57991E+13	7.52546E+12	5.93689E+13	1.53260E+20
		102.0	6.79	155.5	3.70280E+13	7.72559E+12	6.14953E+13	1.67954E+20
		112.0	7.38	152.9	3.66668E+13	7.57315E+12	6.02751E+13	1.82406E+20
		122.0	8.00	163.5	4.02760E+13	8.14118E+12	6.61680E+13	1.97762E+20
		131.0	8.60	170.0	4.27619E+13	8.33918E+12	6.96729E+13	2.12577E+20
	EOC	134.0	8.78	165.5	4.23599E+13	8.16734E+12	6.89477E+13	2.17153E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 37. ATF-73 (Pellet 8) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	157.6	3.33464E+13	7.86917E+12	5.87539E+13	1.26462E+18
		3.0	0.18	160.4	3.42018E+13	8.00047E+12	5.92317E+13	4.51650E+18
		10.0	0.61	161.3	3.40831E+13	7.90915E+12	5.91620E+13	1.49948E+19
		20.0	1.29	176.2	3.76457E+13	8.24302E+12	6.40915E+13	3.18564E+19
		29.2	1.90	176.1	3.88505E+13	9.06304E+12	6.64172E+13	4.70318E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.67	190.2	4.20660E+13	9.56190E+12	7.16278E+13	6.60011E+19
		50.0	3.39	189.8	4.23997E+13	9.69125E+12	7.20537E+13	8.37058E+19
	EOC (2/23/2017, 1400)	59.5	4.07	184.9	4.27810E+13	9.20257E+12	7.14556E+13	1.00507E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.18	160.7	3.69785E+13	7.97843E+12	6.18943E+13	1.03277E+20
		61.5	4.19	153.3	3.54441E+13	7.31359E+12	5.87384E+13	1.03639E+20
		63.5	4.32	151.2	3.50137E+13	7.89364E+12	5.93769E+13	1.06710E+20
		65.5	4.44	150.9	3.49066E+13	7.63982E+12	5.92513E+13	1.09721E+20
		67.5	4.57	156.6	3.61724E+13	7.53279E+12	6.03589E+13	1.12913E+20
		69.5	4.70	159.9	3.73886E+13	8.01839E+12	6.19934E+13	1.16104E+20
		71.5	4.83	161.7	3.75813E+13	8.31236E+12	6.26427E+13	1.19296E+20
	EOC (6/11/2017, 1600)	72.0	4.85	158.3	3.73165E+13	7.91854E+12	6.23858E+13	1.19898E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.90	151.2	3.60106E+13	7.97419E+12	6.03763E+13	1.21163E+20
		75.0	5.02	143.6	3.34683E+13	7.46781E+12	5.69563E+13	1.24113E+20
		82.0	5.40	145.1	3.37369E+13	7.17429E+12	5.63020E+13	1.33448E+20
		92.0	5.97	147.7	3.47854E+13	7.52974E+12	5.79060E+13	1.47479E+20
		102.0	6.53	149.3	3.52419E+13	7.64076E+12	5.92357E+13	1.61510E+20
		112.0	7.10	149.7	3.60905E+13	7.40951E+12	5.95224E+13	1.75602E+20
		122.0	7.71	157.8	3.85456E+13	8.06533E+12	6.41841E+13	1.90536E+20
		131.0	8.28	163.6	4.11180E+13	8.50683E+12	6.78714E+13	2.04688E+20
	EOC	134.0	8.46	161.4	4.09957E+13	8.30478E+12	6.73519E+13	2.09144E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 38. ATF-73 (Pellet 9) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	152.6	3.22636E+13	7.55112E+12	5.62633E+13	1.26462E+18
		3.0	0.18	154.5	3.27893E+13	7.40771E+12	5.63572E+13	4.33584E+18
		10.0	0.58	155.3	3.29821E+13	7.75739E+12	5.76902E+13	1.44528E+19
		20.0	1.24	169.5	3.62837E+13	8.49001E+12	6.24351E+13	3.05918E+19
		29.2	1.84	171.5	3.78841E+13	8.77231E+12	6.48578E+13	4.54059E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.61	185.5	4.08470E+13	9.08727E+12	6.94100E+13	6.44956E+19
		50.0	3.30	181.1	4.04095E+13	8.85428E+12	6.81613E+13	8.15379E+19
	EOC (2/23/2017, 1400)	59.5	3.97	184.9	4.21613E+13	8.67684E+12	6.99197E+13	9.82188E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.09	156.7	3.65717E+13	7.81602E+12	6.09888E+13	1.00989E+20
		61.5	4.10	151.0	3.47754E+13	7.32562E+12	5.73900E+13	1.01350E+20
		63.5	4.22	151.1	3.47395E+13	7.30525E+12	5.76203E+13	1.04421E+20
		65.5	4.35	151.3	3.50965E+13	7.12090E+12	5.73859E+13	1.07493E+20
		67.5	4.48	154.9	3.54597E+13	7.47167E+12	5.87988E+13	1.10624E+20
		69.5	4.60	154.2	3.61078E+13	7.66630E+12	5.93788E+13	1.13756E+20
		71.5	4.73	157.7	3.67904E+13	7.86477E+12	6.06484E+13	1.16887E+20
	EOC (6/11/2017, 1600)	72.0	4.76	160.7	3.75634E+13	7.82040E+12	6.22017E+13	1.17610E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.81	149.9	3.54019E+13	7.63634E+12	5.84692E+13	1.18814E+20
		75.0	4.92	140.0	3.27916E+13	7.01609E+12	5.45859E+13	1.21705E+20
		82.0	5.29	140.2	3.30128E+13	7.14378E+12	5.48406E+13	1.30738E+20
		92.0	5.83	143.6	3.36413E+13	7.21182E+12	5.58923E+13	1.44106E+20
		102.0	6.37	145.0	3.41913E+13	7.31562E+12	5.67326E+13	1.57415E+20
		112.0	6.90	144.2	3.44303E+13	7.34178E+12	5.72555E+13	1.70603E+20
		122.0	7.48	150.8	3.71354E+13	7.85964E+12	6.13717E+13	1.84936E+20
		131.0	8.05	161.4	4.01110E+13	8.18836E+12	6.54690E+13	1.98907E+20
	EOC	134.0	8.22	159.6	4.00281E+13	8.08210E+12	6.52690E+13	2.03303E+20



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 39. ATF-73 (Pellet 10) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	146.8	3.10870E+13	7.16265E+12	5.37960E+13	1.20440E+18
		3.0	0.17	149.6	3.19694E+13	7.23974E+12	5.48833E+13	4.27562E+18
		10.0	0.56	146.0	3.15250E+13	7.14581E+12	5.45730E+13	1.37904E+19
		20.0	1.18	160.6	3.45771E+13	8.22149E+12	5.92993E+13	2.92669E+19
		29.2	1.76	163.7	3.63375E+13	8.45595E+12	6.22435E+13	4.35391E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.48	178.1	3.95406E+13	8.26834E+12	6.61385E+13	6.13642E+19
		50.0	3.16	176.1	3.94198E+13	8.65424E+12	6.63339E+13	7.81053E+19
	EOC (2/23/2017, 1400)	59.5	3.81	176.7	4.07670E+13	8.52693E+12	6.71821E+13	9.43045E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.92	152.2	3.49633E+13	7.39951E+12	5.76311E+13	9.70144E+19
		61.5	3.94	147.5	3.33174E+13	7.03335E+12	5.52796E+13	9.73757E+19
		63.5	4.06	142.1	3.26594E+13	6.59701E+12	5.40286E+13	1.00266E+20
		65.5	4.18	145.2	3.34615E+13	7.10581E+12	5.56449E+13	1.03217E+20
		67.5	4.29	144.9	3.34475E+13	6.93481E+12	5.55138E+13	1.06168E+20
		69.5	4.42	147.5	3.41014E+13	7.03426E+12	5.57776E+13	1.09179E+20
		71.5	4.54	151.7	3.48598E+13	7.11370E+12	5.74205E+13	1.12250E+20
	EOC (6/11/2017, 1600)	72.0	4.57	151.1	3.54436E+13	7.07116E+12	5.81457E+13	1.12852E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.62	144.9	3.41532E+13	7.56765E+12	5.67269E+13	1.14117E+20
		75.0	4.73	133.7	3.09688E+13	6.69690E+12	5.18191E+13	1.16827E+20
		82.0	5.08	136.0	3.15938E+13	6.50135E+12	5.26236E+13	1.25679E+20
		92.0	5.61	140.7	3.27164E+13	6.91917E+12	5.41858E+13	1.38747E+20
		102.0	6.15	144.7	3.39535E+13	7.32900E+12	5.67367E+13	1.51995E+20
		112.0	6.67	139.7	3.33672E+13	6.95550E+12	5.56678E+13	1.64882E+20
		122.0	7.24	149.3	3.64207E+13	7.32720E+12	5.98165E+13	1.79034E+20
		131.0	7.76	153.3	3.84315E+13	8.13627E+12	6.28667E+13	1.91861E+20
	EOC	134.0	7.93	151.6	3.84278E+13	8.03695E+12	6.26595E+13	1.96137E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 40. ATF-73 (Pellet 11) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	143.6	3.05365E+13	7.51501E+12	5.30948E+13	1.20440E+18
		3.0	0.17	143.7	3.06402E+13	7.27717E+12	5.32588E+13	4.21540E+18
		10.0	0.55	144.9	3.08221E+13	6.99648E+12	5.31393E+13	1.36097E+19
		20.0	1.14	153.9	3.32222E+13	7.56728E+12	5.60004E+13	2.80625E+19
		29.2	1.70	158.9	3.50460E+13	7.74430E+12	5.94722E+13	4.20336E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.39	171.9	3.78263E+13	8.49874E+12	6.45478E+13	5.91963E+19
		50.0	3.05	168.5	3.79261E+13	8.63019E+12	6.44168E+13	7.53954E+19
	EOC (2/23/2017, 1400)	59.5	3.66	169.5	3.88480E+13	8.48695E+12	6.45560E+13	9.04504E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.77	149.8	3.40156E+13	7.18979E+12	5.61989E+13	9.31001E+19
		61.5	3.78	137.3	3.18272E+13	6.77051E+12	5.30865E+13	9.34012E+19
		63.5	3.90	139.2	3.18275E+13	6.85452E+12	5.32277E+13	9.62918E+19
		65.5	4.01	137.4	3.19963E+13	6.67466E+12	5.29829E+13	9.91221E+19
		67.5	4.13	139.8	3.24893E+13	6.93081E+12	5.43500E+13	1.02073E+20
		69.5	4.25	142.2	3.31042E+13	6.94349E+12	5.46124E+13	1.04963E+20
		71.5	4.37	143.4	3.32145E+13	7.02418E+12	5.51893E+13	1.07914E+20
	EOC (6/11/2017, 1600)	72.0	4.39	149.7	3.47830E+13	7.47431E+12	5.76632E+13	1.08516E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.44	140.1	3.25969E+13	6.98383E+12	5.40904E+13	1.09721E+20
		75.0	4.55	129.5	2.98611E+13	6.51054E+12	5.08166E+13	1.12431E+20
		82.0	4.89	129.2	2.98873E+13	6.28820E+12	5.02560E+13	1.20801E+20
		92.0	5.40	134.5	3.12470E+13	6.66998E+12	5.24041E+13	1.33387E+20
		102.0	5.91	136.8	3.19560E+13	6.83343E+12	5.34950E+13	1.46034E+20
		112.0	6.41	135.6	3.22000E+13	6.73761E+12	5.37033E+13	1.58499E+20
		122.0	6.94	143.0	3.48420E+13	7.08858E+12	5.74259E+13	1.71627E+20
		131.0	7.46	151.4	3.71114E+13	7.36246E+12	6.08521E+13	1.84333E+20
	EOC	134.0	7.62	147.5	3.70266E+13	7.07611E+12	6.04826E+13	1.88428E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 41. ATF-73 (Pellet 12) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	134.6	2.85752E+13	6.73233E+12	4.96186E+13	1.14418E+18
		3.0	0.16	138.8	2.96751E+13	6.96791E+12	5.11702E+13	3.97452E+18
		10.0	0.54	140.5	2.98218E+13	6.70833E+12	5.05155E+13	1.33688E+19
		20.0	1.10	149.0	3.20657E+13	7.09565E+12	5.43932E+13	2.71592E+19
		29.2	1.66	156.3	3.44510E+13	7.69250E+12	5.87207E+13	4.09496E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.31	166.1	3.64108E+13	7.99393E+12	6.13013E+13	5.72090E+19
		50.0	2.95	162.6	3.64660E+13	7.69774E+12	6.14468E+13	7.28662E+19
	EOC (2/23/2017, 1400)	59.5	3.54	161.9	3.71078E+13	7.96425E+12	6.24686E+13	8.73792E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.64	148.4	3.34717E+13	7.10331E+12	5.50867E+13	9.00289E+19
		61.5	3.65	133.1	3.06880E+13	6.52324E+12	5.05335E+13	9.03300E+19
		63.5	3.77	135.4	3.07973E+13	6.19938E+12	5.10883E+13	9.31603E+19
		65.5	3.88	134.1	3.09860E+13	6.40343E+12	5.09834E+13	9.59907E+19
		67.5	4.00	135.1	3.10925E+13	6.78638E+12	5.19940E+13	9.87608E+19
		69.5	4.11	139.1	3.18029E+13	7.09283E+12	5.31302E+13	1.01591E+20
		71.5	4.23	140.3	3.19754E+13	6.88229E+12	5.29033E+13	1.04482E+20
	EOC (6/11/2017, 1600)	72.0	4.25	144.2	3.29566E+13	6.99335E+12	5.47871E+13	1.05084E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.30	138.1	3.22935E+13	6.68523E+12	5.34286E+13	1.06168E+20
		75.0	4.40	125.6	2.91334E+13	6.43662E+12	4.95994E+13	1.08818E+20
		82.0	4.73	126.1	2.86606E+13	6.35272E+12	4.82311E+13	1.17007E+20
		92.0	5.23	129.1	2.98878E+13	6.15593E+12	5.01781E+13	1.29172E+20
		102.0	5.73	133.0	3.07181E+13	6.46066E+12	5.13405E+13	1.41517E+20
		112.0	6.22	133.0	3.15080E+13	6.38597E+12	5.16901E+13	1.53802E+20
		122.0	6.74	138.9	3.33212E+13	7.21997E+12	5.54872E+13	1.66629E+20
		131.0	7.24	145.6	3.58569E+13	7.33650E+12	5.89749E+13	1.78914E+20
	EOC	134.0	7.40	143.5	3.55417E+13	7.21652E+12	5.87150E+13	1.82948E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 42. ATF-73 (Pellet 13 - Bottom) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	133.8	2.81538E+13	6.04829E+12	4.76395E+13	1.14418E+18
		3.0	0.16	137.6	2.89422E+13	6.11117E+12	4.90072E+13	3.97452E+18
		10.0	0.53	136.4	2.89416E+13	6.26048E+12	4.87647E+13	1.30075E+19
		20.0	1.09	147.3	3.11993E+13	6.78373E+12	5.28312E+13	2.69183E+19
		29.2	1.63	153.7	3.32886E+13	7.19264E+12	5.56669E+13	4.04076E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.28	161.1	3.56305E+13	7.26273E+12	5.94728E+13	5.62455E+19
		50.0	2.90	159.8	3.54756E+13	7.59968E+12	5.86365E+13	7.16016E+19
	EOC (2/23/2017, 1400)	59.5	3.48	158.7	3.62842E+13	7.44889E+12	6.00831E+13	8.59339E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.58	140.1	3.18222E+13	6.55431E+12	5.27179E+13	8.84632E+19
		61.5	3.59	131.9	3.06083E+13	6.29102E+12	4.95310E+13	8.87643E+19
		63.5	3.70	130.3	2.97471E+13	6.07938E+12	4.91241E+13	9.14742E+19
		65.5	3.81	128.4	2.95107E+13	5.90289E+12	4.84949E+13	9.41841E+19
		67.5	3.92	135.5	3.11143E+13	6.04960E+12	5.04360E+13	9.68940E+19
		69.5	4.03	137.8	3.14852E+13	6.49477E+12	5.17952E+13	9.97243E+19
		71.5	4.15	138.5	3.20673E+13	6.37837E+12	5.25442E+13	1.02555E+20
	EOC (6/11/2017, 1600)	72.0	4.17	141.4	3.23541E+13	6.63224E+12	5.28627E+13	1.03157E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.21	127.3	2.98753E+13	6.06486E+12	4.96319E+13	1.04181E+20
		75.0	4.32	122.3	2.80534E+13	5.42337E+12	4.65252E+13	1.06770E+20
		82.0	4.65	124.0	2.81496E+13	5.62057E+12	4.69859E+13	1.15020E+20
		92.0	5.13	125.8	2.85251E+13	5.69442E+12	4.73478E+13	1.26884E+20
		102.0	5.62	127.7	2.94592E+13	5.98570E+12	4.91872E+13	1.38867E+20
		112.0	6.10	127.8	2.99350E+13	5.97805E+12	4.98187E+13	1.50791E+20
		122.0	6.61	133.9	3.18780E+13	6.30568E+12	5.32916E+13	1.63317E+20
		131.0	7.09	138.6	3.40016E+13	6.86980E+12	5.55927E+13	1.75240E+20
	EOC	134.0	7.25	138.1	3.40604E+13	6.96355E+12	5.55665E+13	1.79155E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 43. ATF-74 (Pellet 1 -Top) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.07	206.0	4.35561E+13	1.08331E+13	7.80850E+13	1.68616E+18
		3.0	0.23	206.8	4.38948E+13	1.08546E+13	7.84794E+13	5.66068E+18
		10.0	0.77	201.7	4.29933E+13	1.10361E+13	7.73579E+13	1.89091E+19
		20.0	1.50	192.1	4.13187E+13	1.03000E+13	7.36708E+13	3.70353E+19
		29.2	2.17	186.8	4.15228E+13	9.81052E+12	7.31984E+13	5.35958E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.96	191.0	4.26066E+13	1.01435E+13	7.52578E+13	7.32877E+19
		50.0	3.66	182.9	4.13473E+13	9.74817E+12	7.44305E+13	9.04504E+19
	EOC (2/23/2017, 1400)	59.5	4.36	192.4	4.46732E+13	1.05414E+13	7.90925E+13	1.07734E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.47	148.1	3.47677E+13	8.24360E+12	6.03128E+13	1.10383E+20
		61.5	4.48	134.0	3.09246E+13	7.04167E+12	5.36434E+13	1.10684E+20
		63.5	4.59	136.4	3.19807E+13	7.51739E+12	5.60617E+13	1.13515E+20
		65.5	4.71	136.2	3.21176E+13	7.54994E+12	5.60844E+13	1.16345E+20
		67.5	4.82	138.7	3.25825E+13	7.93702E+12	5.70089E+13	1.19175E+20
		69.5	4.94	141.8	3.31366E+13	7.76348E+12	5.77778E+13	1.22066E+20
		71.5	5.06	144.0	3.39763E+13	7.82523E+12	5.88952E+13	1.25017E+20
	EOC (6/11/2017, 1600)	72.0	5.08	145.7	3.47921E+13	8.29719E+12	6.01384E+13	1.25619E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.15	204.0	4.69333E+13	1.15837E+13	8.37238E+13	1.27245E+20
		75.0	5.30	199.6	4.69115E+13	1.10842E+13	8.24090E+13	1.31039E+20
		82.0	5.82	198.9	4.70084E+13	1.07350E+13	8.22789E+13	1.43805E+20
		92.0	6.58	203.1	4.76896E+13	1.10410E+13	8.32396E+13	1.62534E+20
		102.0	7.34	202.1	4.84033E+13	1.11735E+13	8.40811E+13	1.81383E+20
		112.0	8.07	197.3	4.79337E+13	1.09704E+13	8.29535E+13	1.99509E+20
		122.0	8.82	198.6	4.98287E+13	1.11428E+13	8.66625E+13	2.18057E+20
		131.0	9.43	183.1	4.66193E+13	1.06861E+13	8.18286E+13	2.32991E+20
	EOC	134.0	9.64	178.8	4.64187E+13	1.05006E+13	8.13203E+13	2.38291E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 44. ATF-74 (Pellet 2) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	191.1	4.07608E+13	1.17430E+13	7.63095E+13	1.56572E+18
		3.0	0.21	191.8	4.09441E+13	1.16518E+13	7.67224E+13	5.29936E+18
		10.0	0.73	190.7	4.12938E+13	1.13534E+13	7.63065E+13	1.80058E+19
		20.0	1.42	182.0	3.93102E+13	1.09088E+13	7.33411E+13	3.51083E+19
		29.2	2.05	177.2	3.94675E+13	1.07349E+13	7.30803E+13	5.07052E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.82	183.8	4.08400E+13	1.13908E+13	7.45433E+13	6.97348E+19
		50.0	3.48	172.9	3.92772E+13	1.07826E+13	7.40200E+13	8.60544E+19
	EOC (2/23/2017, 1400)	59.5	4.14	179.9	4.19383E+13	1.11882E+13	7.70082E+13	1.02434E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.25	142.3	3.33780E+13	9.10762E+12	6.06757E+13	1.05024E+20
		61.5	4.26	127.9	2.99972E+13	8.23032E+12	5.42272E+13	1.05325E+20
		63.5	4.37	131.4	3.07832E+13	8.13478E+12	5.63741E+13	1.08095E+20
		65.5	4.48	130.1	3.08198E+13	8.74207E+12	5.66596E+13	1.10745E+20
		67.5	4.59	132.2	3.09231E+13	7.94822E+12	5.53590E+13	1.13515E+20
		69.5	4.70	135.8	3.21633E+13	8.54297E+12	5.84842E+13	1.16285E+20
		71.5	4.82	136.0	3.23245E+13	8.48978E+12	5.85586E+13	1.19055E+20
	EOC (6/11/2017, 1600)	72.0	4.84	140.8	3.33310E+13	9.01024E+12	6.04431E+13	1.19657E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.90	200.1	4.61034E+13	1.23133E+13	8.40727E+13	1.21223E+20
		75.0	5.05	191.7	4.46927E+13	1.17936E+13	8.21149E+13	1.24836E+20
		82.0	5.56	192.8	4.52057E+13	1.17756E+13	8.26277E+13	1.37422E+20
		92.0	6.26	193.3	4.50476E+13	1.16145E+13	8.20217E+13	1.54765E+20
		102.0	6.98	190.8	4.53661E+13	1.18836E+13	8.20884E+13	1.72530E+20
		112.0	7.70	193.9	4.66320E+13	1.17588E+13	8.43025E+13	1.90416E+20
		122.0	8.42	190.8	4.74049E+13	1.23245E+13	8.55767E+13	2.08241E+20
		131.0	9.02	179.6	4.50718E+13	1.11787E+13	8.15561E+13	2.23055E+20
	EOC	134.0	9.21	178.8	4.58055E+13	1.11085E+13	8.20848E+13	2.27752E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 45. ATF-74 (Pellet 3) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	186.5	3.99337E+13	1.17461E+13	7.56357E+13	1.50550E+18
		3.0	0.21	187.0	4.00276E+13	1.15704E+13	7.56559E+13	5.17892E+18
		10.0	0.70	182.6	3.96380E+13	1.16771E+13	7.45442E+13	1.74036E+19
		20.0	1.39	179.1	3.90743E+13	1.14217E+13	7.36976E+13	3.43254E+19
		29.2	2.00	173.3	3.87309E+13	1.09983E+13	7.23603E+13	4.93202E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.71	176.0	3.94895E+13	1.14471E+13	7.48689E+13	6.69646E+19
		50.0	3.37	173.7	3.94342E+13	1.12552E+13	7.53340E+13	8.32240E+19
	EOC (2/23/2017, 1400)	59.5	4.02	178.5	4.14195E+13	1.14797E+13	7.71850E+13	9.94834E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.13	141.5	3.25677E+13	9.59430E+12	6.07806E+13	1.02073E+20
		61.5	4.14	127.2	2.94648E+13	7.78887E+12	5.38870E+13	1.02374E+20
		63.5	4.25	127.7	2.97595E+13	8.50001E+12	5.57230E+13	1.05084E+20
		65.5	4.36	128.9	3.01040E+13	8.60349E+12	5.63374E+13	1.07794E+20
		67.5	4.47	131.0	3.08408E+13	8.52461E+12	5.65247E+13	1.10504E+20
		69.5	4.58	132.7	3.13158E+13	8.60452E+12	5.72861E+13	1.13214E+20
		71.5	4.69	134.2	3.15733E+13	8.74034E+12	5.78676E+13	1.15984E+20
	EOC (6/11/2017, 1600)	72.0	4.72	140.5	3.27325E+13	9.04374E+12	6.00608E+13	1.16586E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.78	196.9	4.54158E+13	1.23696E+13	8.36188E+13	1.18152E+20
		75.0	4.93	189.5	4.44279E+13	1.21691E+13	8.11921E+13	1.21765E+20
		82.0	5.42	189.7	4.43886E+13	1.19336E+13	8.12622E+13	1.33990E+20
		92.0	6.11	189.0	4.40096E+13	1.18465E+13	8.08933E+13	1.51152E+20
		102.0	6.80	187.1	4.45745E+13	1.23323E+13	8.13803E+13	1.68194E+20
		112.0	7.49	188.1	4.49337E+13	1.20519E+13	8.23547E+13	1.85116E+20
		122.0	8.21	190.4	4.72742E+13	1.25563E+13	8.58706E+13	2.03002E+20
		131.0	8.80	176.3	4.42299E+13	1.14452E+13	8.13572E+13	2.17635E+20
	EOC	134.0	8.99	173.8	4.46113E+13	1.13082E+13	8.15023E+13	2.22272E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 46. ATF-74 (Pellet 4) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	184.8	3.98831E+13	1.22934E+13	7.62490E+13	1.50550E+18
		3.0	0.20	182.2	3.95047E+13	1.20038E+13	7.55551E+13	5.05848E+18
		10.0	0.69	178.8	3.87934E+13	1.17193E+13	7.48538E+13	1.70423E+19
		20.0	1.36	174.9	3.83432E+13	1.13498E+13	7.28236E+13	3.35425E+19
		29.2	1.97	170.8	3.83205E+13	1.07360E+13	7.20446E+13	4.87782E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.71	173.3	3.89571E+13	1.14942E+13	7.41592E+13	6.70249E+19
		50.0	3.35	167.5	3.81854E+13	1.12623E+13	7.39676E+13	8.27423E+19
	EOC (2/23/2017, 1400)	59.5	3.99	175.9	4.10939E+13	1.14918E+13	7.73100E+13	9.86404E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.09	136.3	3.16783E+13	9.70707E+12	6.01089E+13	1.01109E+20
		61.5	4.10	124.0	2.88132E+13	8.38235E+12	5.39726E+13	1.01410E+20
		63.5	4.21	127.3	2.95900E+13	8.50019E+12	5.55446E+13	1.04060E+20
		65.5	4.31	125.9	2.95274E+13	8.31416E+12	5.51167E+13	1.06650E+20
		67.5	4.42	128.5	3.00072E+13	8.87438E+12	5.67287E+13	1.09299E+20
		69.5	4.53	131.1	3.06779E+13	8.80002E+12	5.74304E+13	1.11949E+20
		71.5	4.64	135.3	3.17773E+13	9.18339E+12	5.94572E+13	1.14719E+20
	EOC (6/11/2017, 1600)	72.0	4.66	132.6	3.12772E+13	9.07442E+12	5.86857E+13	1.15261E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.72	187.7	4.34271E+13	1.28136E+13	8.22225E+13	1.16706E+20
		75.0	4.87	186.6	4.37023E+13	1.21751E+13	8.20433E+13	1.20320E+20
		82.0	5.36	187.0	4.38209E+13	1.19514E+13	8.17812E+13	1.32484E+20
		92.0	6.03	182.6	4.24074E+13	1.19507E+13	7.93851E+13	1.49045E+20
		102.0	6.70	182.4	4.33761E+13	1.19187E+13	8.11413E+13	1.65605E+20
		112.0	7.37	183.3	4.37804E+13	1.22098E+13	8.10711E+13	1.82105E+20
		122.0	8.06	182.0	4.52888E+13	1.21350E+13	8.39564E+13	1.99208E+20
		131.0	8.64	173.9	4.35424E+13	1.13602E+13	8.09255E+13	2.13661E+20
	EOC	134.0	8.83	172.0	4.39123E+13	1.15697E+13	8.12288E+13	2.18298E+20



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 47. ATF-74 (Pellet 5) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	175.4	3.81603E+13	1.18235E+13	7.40343E+13	1.44528E+18
		3.0	0.20	175.7	3.82085E+13	1.19376E+13	7.43159E+13	4.93804E+18
		10.0	0.69	180.4	3.92142E+13	1.19484E+13	7.50863E+13	1.70423E+19
		20.0	1.34	169.3	3.71254E+13	1.14907E+13	7.12650E+13	3.31812E+19
		29.2	1.91	162.8	3.64549E+13	1.12613E+13	7.02290E+13	4.72727E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.63	168.9	3.79104E+13	1.14187E+13	7.22950E+13	6.49172E+19
		50.0	3.25	162.5	3.72672E+13	1.11057E+13	7.20882E+13	8.03937E+19
	EOC (2/23/2017, 1400)	59.5	3.87	168.1	3.93760E+13	1.13899E+13	7.47702E+13	9.56896E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.97	135.7	3.15419E+13	9.26758E+12	5.94154E+13	9.81586E+19
		61.5	3.98	119.5	2.81170E+13	8.09990E+12	5.28234E+13	9.84597E+19
		63.5	4.09	123.3	2.87401E+13	8.88756E+12	5.46704E+13	1.01049E+20
		65.5	4.20	126.6	2.95374E+13	8.89178E+12	5.60100E+13	1.03699E+20
		67.5	4.30	127.9	2.99725E+13	8.79740E+12	5.61924E+13	1.06349E+20
		69.5	4.41	129.3	3.01976E+13	9.03361E+12	5.67409E+13	1.09058E+20
		71.5	4.52	133.7	3.14539E+13	9.05625E+12	5.87848E+13	1.11829E+20
	EOC (6/11/2017, 1600)	72.0	4.55	133.4	3.12269E+13	8.62382E+12	5.90588E+13	1.12371E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.60	184.9	4.26994E+13	1.28415E+13	8.15259E+13	1.13756E+20
		75.0	4.74	180.5	4.22370E+13	1.24351E+13	8.04116E+13	1.17248E+20
		82.0	5.23	181.8	4.25236E+13	1.23602E+13	8.07002E+13	1.29172E+20
		92.0	5.89	180.5	4.16591E+13	1.20159E+13	7.89312E+13	1.45552E+20
		102.0	6.56	180.2	4.26009E+13	1.21435E+13	8.01542E+13	1.62052E+20
		112.0	7.22	181.0	4.33084E+13	1.24120E+13	8.10277E+13	1.78372E+20
		122.0	7.89	180.7	4.46480E+13	1.27365E+13	8.33236E+13	1.94992E+20
		131.0	8.46	166.8	4.15903E+13	1.22175E+13	7.95968E+13	2.09024E+20
	EOC	134.0	8.64	165.0	4.19304E+13	1.20003E+13	8.00470E+13	2.13480E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 48. ATF-74 (Pellet 6) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	174.7	3.80088E+13	1.22945E+13	7.49322E+13	1.38506E+18
		3.0	0.20	175.5	3.79964E+13	1.22001E+13	7.49521E+13	4.87782E+18
		10.0	0.67	175.2	3.75309E+13	1.23602E+13	7.40790E+13	1.66207E+19
		20.0	1.33	171.7	3.75975E+13	1.17390E+13	7.38362E+13	3.28801E+19
		29.2	1.91	165.0	3.71195E+13	1.12771E+13	7.23110E+13	4.71523E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.60	168.8	3.75757E+13	1.15774E+13	7.28816E+13	6.42547E+19
		50.0	3.23	162.8	3.69716E+13	1.13095E+13	7.28001E+13	7.97313E+19
	EOC (2/23/2017, 1400)	59.5	3.84	168.8	3.95132E+13	1.15857E+13	7.63131E+13	9.49669E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.94	137.5	3.18405E+13	9.35708E+12	5.97708E+13	9.74360E+19
		61.5	3.95	121.6	2.76042E+13	8.37451E+12	5.32417E+13	9.77371E+19
		63.5	4.06	121.6	2.88083E+13	8.42152E+12	5.44380E+13	1.00327E+20
		65.5	4.16	123.8	2.93076E+13	8.71177E+12	5.61689E+13	1.02916E+20
		67.5	4.27	125.7	2.94673E+13	8.38139E+12	5.51426E+13	1.05566E+20
		69.5	4.38	124.6	2.91768E+13	8.46132E+12	5.53759E+13	1.08155E+20
		71.5	4.48	125.7	2.96648E+13	8.90528E+12	5.68436E+13	1.10805E+20
	EOC (6/11/2017, 1600)	72.0	4.50	129.7	3.05693E+13	9.29977E+12	5.84146E+13	1.11347E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.56	184.1	4.21361E+13	1.30084E+13	8.12193E+13	1.12792E+20
		75.0	4.70	177.1	4.13643E+13	1.21780E+13	7.87702E+13	1.16164E+20
		82.0	5.17	176.9	4.15369E+13	1.22773E+13	7.90712E+13	1.27666E+20
		92.0	5.82	176.3	4.08060E+13	1.17796E+13	7.83372E+13	1.43745E+20
		102.0	6.46	177.2	4.20309E+13	1.19873E+13	7.97537E+13	1.59764E+20
		112.0	7.11	175.2	4.17320E+13	1.20896E+13	7.99311E+13	1.75662E+20
		122.0	7.76	178.1	4.41754E+13	1.25701E+13	8.26092E+13	1.91921E+20
		131.0	8.33	168.7	4.17710E+13	1.20454E+13	8.01069E+13	2.05952E+20
	EOC	134.0	8.51	166.6	4.18789E+13	1.18815E+13	7.96086E+13	2.10409E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 49. ATF-74 (Pellet 7) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	173.6	3.74232E+13	1.23465E+13	7.37754E+13	1.38506E+18
		3.0	0.19	173.0	3.74964E+13	1.20256E+13	7.36746E+13	4.81760E+18
		10.0	0.67	174.2	3.75071E+13	1.16895E+13	7.22474E+13	1.65003E+19
		20.0	1.32	166.9	3.65702E+13	1.15114E+13	7.07933E+13	3.25790E+19
		29.2	1.89	163.5	3.66512E+13	1.13552E+13	7.08391E+13	4.66705E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.57	165.2	3.72005E+13	1.13799E+13	7.13232E+13	6.35321E+19
		50.0	3.18	158.6	3.62443E+13	1.11710E+13	7.15701E+13	7.85871E+19
	EOC (2/23/2017, 1400)	59.5	3.79	165.3	3.88297E+13	1.16396E+13	7.51563E+13	9.35819E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.88	133.6	3.08975E+13	9.07851E+12	5.89610E+13	9.59907E+19
		61.5	3.89	117.0	2.74119E+13	7.78408E+12	5.17947E+13	9.62316E+19
		63.5	4.00	125.5	2.91981E+13	8.59337E+12	5.55163E+13	9.88812E+19
		65.5	4.10	124.1	2.90321E+13	8.67237E+12	5.58529E+13	1.01471E+20
		67.5	4.21	123.1	2.84075E+13	8.52983E+12	5.44464E+13	1.04120E+20
		69.5	4.32	126.4	2.91925E+13	8.80194E+12	5.60283E+13	1.06770E+20
		71.5	4.43	128.0	2.95769E+13	8.91725E+12	5.73029E+13	1.09420E+20
	EOC (6/11/2017, 1600)	72.0	4.45	128.9	3.02619E+13	8.56394E+12	5.72978E+13	1.09962E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.51	181.7	4.17936E+13	1.26260E+13	8.02474E+13	1.11407E+20
		75.0	4.64	175.0	4.06565E+13	1.20719E+13	7.80681E+13	1.14719E+20
		82.0	5.09	172.0	4.02780E+13	1.19699E+13	7.75851E+13	1.25920E+20
		92.0	5.74	177.5	4.14479E+13	1.23958E+13	7.87775E+13	1.41939E+20
		102.0	6.41	177.3	4.15779E+13	1.21978E+13	7.85892E+13	1.58559E+20
		112.0	7.06	176.9	4.24906E+13	1.21310E+13	7.92476E+13	1.74457E+20
		122.0	7.73	177.9	4.41198E+13	1.22946E+13	8.22135E+13	1.91138E+20
		131.0	8.30	165.9	4.18395E+13	1.17977E+13	7.93283E+13	2.05049E+20
	EOC	134.0	8.47	163.8	4.21591E+13	1.14460E+13	7.93246E+13	2.09445E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 50. ATF-74 (Pellet 8) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	171.8	3.70980E+13	1.14002E+13	7.27072E+13	1.44528E+18
		3.0	0.20	172.3	3.73164E+13	1.14177E+13	7.26692E+13	4.87782E+18
		10.0	0.67	173.7	3.75191E+13	1.17628E+13	7.31491E+13	1.66207E+19
		20.0	1.30	162.3	3.54503E+13	1.09783E+13	6.89555E+13	3.21575E+19
		29.2	1.86	160.9	3.60191E+13	1.08381E+13	6.94470E+13	4.60081E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.54	161.4	3.62029E+13	1.08688E+13	7.05625E+13	6.26890E+19
		50.0	3.14	157.0	3.55354E+13	1.08427E+13	7.02020E+13	7.76838E+19
	EOC (2/23/2017, 1400)	59.5	3.75	163.6	3.85870E+13	1.10890E+13	7.38978E+13	9.26184E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.82	128.9	2.99301E+13	8.94243E+12	5.70597E+13	9.44250E+19
		61.5	3.83	119.3	2.77011E+13	8.16654E+12	5.32503E+13	9.46658E+19
		63.5	3.94	123.9	2.83814E+13	8.42253E+12	5.42762E+13	9.73155E+19
		65.5	4.04	123.0	2.85595E+13	8.32849E+12	5.42269E+13	9.98448E+19
		67.5	4.14	124.8	2.88719E+13	8.72790E+12	5.54258E+13	1.02434E+20
		69.5	4.25	128.7	2.99727E+13	8.88318E+12	5.74827E+13	1.05144E+20
		71.5	4.36	130.2	3.06580E+13	9.00126E+12	5.88270E+13	1.07854E+20
	EOC (6/11/2017, 1600)	72.0	4.38	129.5	3.04217E+13	8.86899E+12	5.78211E+13	1.08396E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.44	176.7	4.04316E+13	1.23072E+13	7.82611E+13	1.09781E+20
		75.0	4.57	175.1	4.04264E+13	1.21980E+13	7.69602E+13	1.13093E+20
		82.0	5.04	175.1	4.05288E+13	1.23245E+13	7.74426E+13	1.24655E+20
		92.0	5.67	172.0	3.99909E+13	1.18791E+13	7.66175E+13	1.40252E+20
		102.0	6.31	172.7	4.05827E+13	1.16664E+13	7.67405E+13	1.56030E+20
		112.0	6.94	170.2	4.07640E+13	1.13470E+13	7.70364E+13	1.71507E+20
		122.0	7.59	174.9	4.31250E+13	1.16292E+13	7.99908E+13	1.87646E+20
		131.0	8.15	164.5	4.09383E+13	1.10777E+13	7.75590E+13	2.01556E+20
	EOC	134.0	8.33	162.9	4.11549E+13	1.11866E+13	7.80014E+13	2.05952E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 51. ATF-74 (Pellet 9) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	171.1	3.65745E+13	1.16078E+13	7.15964E+13	1.44528E+18
		3.0	0.19	171.8	3.66786E+13	1.16462E+13	7.21895E+13	4.81760E+18
		10.0	0.65	167.4	3.62019E+13	1.14547E+13	7.10928E+13	1.60787E+19
		20.0	1.27	160.7	3.49802E+13	1.11589E+13	6.95907E+13	3.14951E+19
		29.2	1.81	153.6	3.44536E+13	1.10412E+13	6.80466E+13	4.47435E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.50	160.9	3.65136E+13	1.09880E+13	6.98139E+13	6.17255E+19
		50.0	3.11	156.5	3.55309E+13	1.08633E+13	7.00282E+13	7.67805E+19
	EOC (2/23/2017, 1400)	59.5	3.72	163.3	3.79449E+13	1.14230E+13	7.31454E+13	9.19559E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.82	128.9	3.03802E+13	8.70296E+12	5.74785E+13	9.43647E+19
		61.5	3.83	122.0	2.81143E+13	8.47593E+12	5.35403E+13	9.46658E+19
		63.5	3.93	123.5	2.87955E+13	8.87377E+12	5.48229E+13	9.72553E+19
		65.5	4.04	126.1	2.91869E+13	8.99108E+12	5.54038E+13	9.99050E+19
		67.5	4.15	124.2	2.88367E+13	8.06498E+12	5.44663E+13	1.02555E+20
		69.5	4.26	127.6	3.01266E+13	8.54781E+12	5.63333E+13	1.05204E+20
		71.5	4.36	128.3	3.00427E+13	8.77705E+12	5.68704E+13	1.07854E+20
	EOC (6/11/2017, 1600)	72.0	4.39	131.2	3.09235E+13	8.24337E+12	5.74677E+13	1.08396E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.44	173.7	3.99730E+13	1.19509E+13	7.69542E+13	1.09781E+20
		75.0	4.58	171.0	3.99319E+13	1.16789E+13	7.63559E+13	1.13093E+20
		82.0	5.03	169.0	3.95829E+13	1.14993E+13	7.53301E+13	1.24234E+20
		92.0	5.67	175.6	4.08051E+13	1.17473E+13	7.66629E+13	1.40132E+20
		102.0	6.31	172.5	4.11615E+13	1.12853E+13	7.71448E+13	1.55970E+20
		112.0	6.94	171.8	4.13011E+13	1.15318E+13	7.69932E+13	1.71507E+20
		122.0	7.58	174.1	4.28289E+13	1.15960E+13	7.95690E+13	1.87405E+20
		131.0	8.13	163.0	4.07027E+13	1.09113E+13	7.65599E+13	2.01075E+20
	EOC	134.0	8.31	161.6	4.10245E+13	1.06172E+13	7.62715E+13	2.05410E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 52. ATF-74 (Pellet 10) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	172.6	3.71004E+13	1.12459E+13	7.15999E+13	1.44528E+18
		3.0	0.20	173.0	3.70354E+13	1.15373E+13	7.21545E+13	4.87782E+18
		10.0	0.64	168.1	3.60634E+13	1.09207E+13	7.02896E+13	1.57776E+19
		20.0	1.28	164.9	3.58921E+13	1.11017E+13	6.90962E+13	3.15553E+19
		29.2	1.84	160.8	3.57886E+13	1.07494E+13	6.86827E+13	4.55263E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.52	162.0	3.61611E+13	1.10088E+13	6.92132E+13	6.22073E+19
		50.0	3.14	160.9	3.64817E+13	1.06688E+13	7.09822E+13	7.76838E+19
	EOC (2/23/2017, 1400)	59.5	3.73	163.7	3.78998E+13	1.09617E+13	7.24291E+13	9.23173E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.83	131.3	3.04587E+13	8.83229E+12	5.73170E+13	9.46658E+19
		61.5	3.84	118.2	2.73553E+13	8.32018E+12	5.21400E+13	9.49669E+19
		63.5	3.94	121.1	2.79673E+13	7.96353E+12	5.31852E+13	9.74962E+19
		65.5	4.05	124.4	2.89969E+13	7.93940E+12	5.45866E+13	1.00146E+20
		67.5	4.16	124.4	2.86593E+13	8.10221E+12	5.42443E+13	1.02735E+20
		69.5	4.26	124.8	2.91701E+13	8.26338E+12	5.47600E+13	1.05325E+20
		71.5	4.37	129.3	3.03556E+13	8.58853E+12	5.74925E+13	1.08035E+20
	EOC (6/11/2017, 1600)	72.0	4.39	129.6	3.03722E+13	8.79649E+12	5.71273E+13	1.08577E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.45	178.2	4.07093E+13	1.19907E+13	7.80144E+13	1.09962E+20
		75.0	4.58	174.0	4.05070E+13	1.14206E+13	7.70426E+13	1.13334E+20
		82.0	5.04	173.5	4.03426E+13	1.14963E+13	7.68109E+13	1.24655E+20
		92.0	5.68	171.5	3.98784E+13	1.11039E+13	7.59899E+13	1.40373E+20
		102.0	6.30	170.9	4.07611E+13	1.11598E+13	7.67038E+13	1.55849E+20
		112.0	6.93	169.9	4.03879E+13	1.11311E+13	7.62654E+13	1.71386E+20
		122.0	7.57	172.3	4.24706E+13	1.18480E+13	7.98930E+13	1.87164E+20
		131.0	8.12	163.1	4.06609E+13	1.10746E+13	7.69570E+13	2.00834E+20
	EOC	134.0	8.30	161.1	4.07254E+13	1.08678E+13	7.65003E+13	2.05170E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 53. ATF-74 (Pellet 11) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	171.8	3.71579E+13	1.10878E+13	7.15777E+13	1.44528E+18
		3.0	0.19	171.8	3.69768E+13	1.10983E+13	7.13205E+13	4.81760E+18
		10.0	0.64	169.5	3.63671E+13	1.08068E+13	6.94599E+13	1.57776E+19
		20.0	1.27	164.4	3.55602E+13	1.06508E+13	6.86273E+13	3.14348E+19
		29.2	1.83	159.7	3.54941E+13	9.89825E+12	6.74408E+13	4.51650E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.51	164.2	3.69126E+13	1.08887E+13	7.00901E+13	6.20266E+19
		50.0	3.13	160.2	3.62554E+13	1.02061E+13	6.92600E+13	7.72623E+19
	EOC (2/23/2017, 1400)	59.5	3.74	166.2	3.83933E+13	1.06910E+13	7.26214E+13	9.25581E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.84	129.4	3.01899E+13	8.34547E+12	5.57569E+13	9.49669E+19
		61.5	3.85	117.6	2.72357E+13	7.63986E+12	5.12156E+13	9.52078E+19
		63.5	3.95	120.1	2.81126E+13	7.95417E+12	5.24566E+13	9.77371E+19
		65.5	4.06	123.3	2.89772E+13	7.82386E+12	5.32069E+13	1.00387E+20
		67.5	4.17	123.8	2.84675E+13	7.96575E+12	5.35466E+13	1.02976E+20
		69.5	4.27	122.5	2.83783E+13	8.24205E+12	5.39354E+13	1.05566E+20
		71.5	4.38	125.1	2.89305E+13	8.05822E+12	5.47850E+13	1.08215E+20
	EOC (6/11/2017, 1600)	72.0	4.40	131.1	3.11193E+13	8.36195E+12	5.67122E+13	1.08697E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.46	176.3	4.06289E+13	1.13527E+13	7.64028E+13	1.10142E+20
		75.0	4.59	169.7	3.96372E+13	1.11083E+13	7.41171E+13	1.13394E+20
		82.0	5.04	172.5	4.02345E+13	1.12750E+13	7.51305E+13	1.24655E+20
		92.0	5.69	172.2	4.00620E+13	1.07649E+13	7.42795E+13	1.40553E+20
		102.0	6.31	169.2	3.99262E+13	1.10100E+13	7.43049E+13	1.56030E+20
		112.0	6.95	171.0	4.06927E+13	1.06730E+13	7.46876E+13	1.71808E+20
		122.0	7.58	169.4	4.15109E+13	1.14210E+13	7.70795E+13	1.87344E+20
		131.0	8.13	162.5	4.03610E+13	1.05683E+13	7.45254E+13	2.00954E+20
	EOC	134.0	8.30	159.3	4.01841E+13	1.03083E+13	7.39311E+13	2.05230E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 54. ATF-74 (Pellet 12) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	169.5	3.68086E+13	1.02262E+13	6.92536E+13	1.38506E+18
		3.0	0.19	168.6	3.64925E+13	1.02496E+13	6.89577E+13	4.75738E+18
		10.0	0.67	172.1	3.67736E+13	1.04502E+13	6.97626E+13	1.64401E+19
		20.0	1.27	161.4	3.49146E+13	1.00687E+13	6.72802E+13	3.14348E+19
		29.2	1.83	155.4	3.46186E+13	1.00004E+13	6.66229E+13	4.51650E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.48	160.3	3.58505E+13	1.01046E+13	6.72783E+13	6.11835E+19
		50.0	3.09	158.7	3.59132E+13	9.97124E+12	6.81559E+13	7.64192E+19
	EOC (2/23/2017, 1400)	59.5	3.68	164.7	3.85990E+13	1.05586E+13	7.13740E+13	9.10526E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.78	133.8	3.12626E+13	8.47568E+12	5.68963E+13	9.34614E+19
		61.5	3.79	114.2	2.64967E+13	7.34625E+12	4.97382E+13	9.37023E+19
		63.5	3.90	120.6	2.84324E+13	7.61836E+12	5.27526E+13	9.62918E+19
		65.5	4.00	123.8	2.92886E+13	7.65436E+12	5.30172E+13	9.89415E+19
		67.5	4.11	120.5	2.83083E+13	7.48312E+12	5.18811E+13	1.01471E+20
		69.5	4.21	124.4	2.93366E+13	7.91146E+12	5.37084E+13	1.04120E+20
		71.5	4.32	125.6	2.98493E+13	7.91559E+12	5.45412E+13	1.06710E+20
	EOC (6/11/2017, 1600)	72.0	4.34	131.6	3.06833E+13	8.21736E+12	5.60664E+13	1.07252E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.40	179.3	4.09118E+13	1.10886E+13	7.68246E+13	1.08697E+20
		75.0	4.53	169.9	3.95135E+13	1.08298E+13	7.36592E+13	1.12009E+20
		82.0	4.99	170.3	3.97410E+13	1.06703E+13	7.38702E+13	1.23270E+20
		92.0	5.63	172.6	3.97391E+13	1.06950E+13	7.37201E+13	1.39108E+20
		102.0	6.26	170.0	3.98688E+13	1.08343E+13	7.40899E+13	1.54826E+20
		112.0	6.89	171.0	4.04669E+13	1.05850E+13	7.38589E+13	1.70423E+20
		122.0	7.53	170.4	4.16177E+13	1.10624E+13	7.69333E+13	1.86140E+20
		131.0	8.09	162.2	4.01088E+13	1.01179E+13	7.38307E+13	1.99930E+20
	EOC	134.0	8.26	160.9	4.03369E+13	9.92256E+12	7.39085E+13	2.04266E+20



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 55. ATF-74 (Pellet 13 - Bottom) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	177.2	3.80257E+13	1.01575E+13	6.94269E+13	1.44528E+18
		3.0	0.20	179.9	3.85817E+13	1.02798E+13	7.01173E+13	4.99826E+18
		10.0	0.65	172.0	3.70272E+13	9.46194E+12	6.72459E+13	1.60787E+19
		20.0	1.30	167.1	3.63475E+13	9.32317E+12	6.61568E+13	3.20973E+19
		29.2	1.87	162.1	3.58796E+13	9.10016E+12	6.54223E+13	4.61887E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.54	163.5	3.66074E+13	9.23303E+12	6.66261E+13	6.27492E+19
		50.0	3.16	161.7	3.64140E+13	9.34211E+12	6.68087E+13	7.80451E+19
	EOC (2/23/2017, 1400)	59.5	3.78	169.2	3.92491E+13	1.00165E+13	7.09645E+13	9.33410E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.88	136.2	3.15536E+13	7.55210E+12	5.58059E+13	9.58702E+19
		61.5	3.89	122.4	2.78254E+13	6.96546E+12	5.08356E+13	9.61713E+19
		63.5	3.99	122.7	2.86331E+13	7.31515E+12	5.16034E+13	9.87006E+19
		65.5	4.10	123.8	2.87512E+13	6.89315E+12	5.14170E+13	1.01290E+20
		67.5	4.20	126.6	2.94196E+13	7.20805E+12	5.25778E+13	1.03940E+20
		69.5	4.31	128.4	2.97279E+13	7.61872E+12	5.39021E+13	1.06650E+20
		71.5	4.42	129.0	3.00974E+13	7.58773E+12	5.43715E+13	1.09299E+20
	EOC (6/11/2017, 1600)	72.0	4.44	133.8	3.14402E+13	7.70214E+12	5.59334E+13	1.09841E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.50	179.3	4.08105E+13	1.02332E+13	7.43264E+13	1.11287E+20
		75.0	4.64	177.2	4.08628E+13	9.95601E+12	7.24323E+13	1.14659E+20
		82.0	5.10	176.8	4.09783E+13	9.82460E+12	7.29765E+13	1.26101E+20
		92.0	5.75	173.8	4.01944E+13	9.75085E+12	7.19070E+13	1.42119E+20
		102.0	6.39	174.6	4.13854E+13	9.87762E+12	7.33399E+13	1.58017E+20
		112.0	7.02	171.3	4.09163E+13	9.58446E+12	7.28501E+13	1.73614E+20
		122.0	7.67	173.9	4.29253E+13	9.95316E+12	7.57316E+13	1.89512E+20
		131.0	8.23	164.3	4.09113E+13	9.82285E+12	7.30608E+13	2.03423E+20
	EOC	134.0	8.41	163.1	4.12218E+13	9.82236E+12	7.31288E+13	2.07879E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 56. ATF-75 (Pellet 1 - Top) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.07	206.3	4.33558E+13	9.55841E+12	7.28956E+13	1.68616E+18
		3.0	0.23	204.3	4.31476E+13	9.58655E+12	7.28361E+13	5.60046E+18
		10.0	0.78	207.6	4.41764E+13	9.15323E+12	7.33372E+13	1.92102E+19
		20.0	1.63	222.5	4.74833E+13	9.97209E+12	7.77108E+13	4.03474E+19
		29.2	2.43	226.3	4.99569E+13	1.03986E+13	8.22206E+13	5.99791E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.41	241.2	5.34006E+13	1.12707E+13	8.74337E+13	8.43682E+19
		50.0	4.32	237.6	5.34675E+13	1.09576E+13	8.67393E+13	1.06830E+20
	EOC (2/23/2017, 1400)	59.5	5.18	233.1	5.48831E+13	1.06635E+13	8.80041E+13	1.27968E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	5.31	199.6	4.65097E+13	9.16058E+12	7.53475E+13	1.31280E+20
		61.5	5.33	186.1	4.33720E+13	8.34070E+12	6.90840E+13	1.31761E+20
		63.5	5.48	187.6	4.44231E+13	8.35092E+12	7.10061E+13	1.35435E+20
		65.5	5.62	184.8	4.37328E+13	8.64971E+12	7.05349E+13	1.39048E+20
		67.5	5.78	192.2	4.51028E+13	8.79048E+12	7.22047E+13	1.42782E+20
		69.5	5.93	199.4	4.74076E+13	8.90142E+12	7.42097E+13	1.46636E+20
		71.5	6.09	199.0	4.76143E+13	8.79191E+12	7.50182E+13	1.50430E+20
	EOC (6/11/2017, 1600)	72.0	6.12	195.3	4.69883E+13	9.50342E+12	7.52164E+13	1.51273E+20
162A	Cycle 162A Outage							
	BOC	73.0	6.18	194.2	4.72379E+13	9.22366E+12	7.55582E+13	1.52838E+20
		75.0	6.33	184.1	4.40833E+13	8.91950E+12	7.14544E+13	1.56391E+20
		82.0	6.81	182.7	4.38160E+13	8.82159E+12	7.05053E+13	1.68435E+20
		92.0	7.50	185.1	4.48399E+13	8.41260E+12	7.15392E+13	1.85478E+20
		102.0	8.20	184.9	4.52338E+13	8.31641E+12	7.20515E+13	2.02580E+20
		112.0	8.87	182.2	4.50853E+13	8.09368E+12	7.16323E+13	2.19261E+20
		122.0	9.60	191.5	4.92861E+13	8.99078E+12	7.76996E+13	2.37387E+20
		131.0	10.27	194.9	5.12603E+13	9.34965E+12	8.07805E+13	2.53827E+20
	EOC	134.0	10.48	190.4	5.08687E+13	9.28418E+12	8.04795E+13	2.59006E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 57. ATF-75 (Pellet 2) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.07	193.0	4.06877E+13	9.62134E+12	6.99333E+13	1.62594E+18
		3.0	0.22	195.8	4.15448E+13	9.37150E+12	7.07196E+13	5.41980E+18
		10.0	0.75	196.8	4.18699E+13	9.47233E+12	7.06202E+13	1.84875E+19
		20.0	1.56	212.7	4.56775E+13	9.87021E+12	7.61161E+13	3.86010E+19
		29.2	2.31	212.9	4.75566E+13	9.88850E+12	7.87157E+13	5.71488E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.25	224.7	5.04465E+13	1.12198E+13	8.44097E+13	8.02733E+19
		50.0	4.09	222.5	5.03788E+13	1.07462E+13	8.33601E+13	1.01170E+20
	EOC (2/23/2017, 1400)	59.5	4.92	224.9	5.27884E+13	1.04816E+13	8.53483E+13	1.21705E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	5.06	198.4	4.60955E+13	9.05961E+12	7.46533E+13	1.25077E+20
		61.5	5.08	182.5	4.31816E+13	8.81003E+12	6.98698E+13	1.25559E+20
		63.5	5.22	182.2	4.28711E+13	8.60101E+12	7.00033E+13	1.29112E+20
		65.5	5.37	182.8	4.27032E+13	8.51563E+12	6.92726E+13	1.32665E+20
		67.5	5.51	181.8	4.28873E+13	8.39441E+12	6.94892E+13	1.36157E+20
		69.5	5.65	187.4	4.43001E+13	8.65888E+12	7.11521E+13	1.39771E+20
		71.5	5.81	193.0	4.54051E+13	8.84714E+12	7.30847E+13	1.43504E+20
	EOC (6/11/2017, 1600)	72.0	5.83	193.4	4.61872E+13	9.21397E+12	7.37525E+13	1.44227E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.90	187.5	4.56368E+13	8.80065E+12	7.34691E+13	1.45793E+20
		75.0	6.04	172.8	4.16010E+13	8.15914E+12	6.73897E+13	1.49225E+20
		82.0	6.49	173.2	4.14194E+13	8.13306E+12	6.72844E+13	1.60547E+20
		92.0	7.16	178.1	4.30209E+13	8.87916E+12	6.97078E+13	1.77047E+20
		102.0	7.82	178.7	4.38190E+13	9.02389E+12	7.11474E+13	1.93427E+20
		112.0	8.48	178.8	4.42814E+13	8.81190E+12	7.17327E+13	2.09746E+20
		122.0	9.17	183.1	4.67257E+13	9.10133E+12	7.50276E+13	2.26608E+20
		131.0	9.83	192.9	5.04820E+13	8.72674E+12	7.92639E+13	2.42927E+20
	EOC	134.0	10.03	188.4	5.00297E+13	8.60561E+12	7.88173E+13	2.48046E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 58. ATF-75 (Pellet 3) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	188.3	4.02737E+13	9.17066E+12	6.75810E+13	1.56572E+18
		3.0	0.21	187.8	3.99306E+13	9.11954E+12	6.80110E+13	5.23914E+18
		10.0	0.73	193.5	4.11152E+13	9.26073E+12	6.94511E+13	1.81262E+19
		20.0	1.52	208.7	4.47450E+13	1.00580E+13	7.51033E+13	3.76375E+19
		29.2	2.27	209.6	4.65642E+13	9.74179E+12	7.73910E+13	5.61250E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.19	221.4	4.94377E+13	1.08397E+13	8.22558E+13	7.88882E+19
		50.0	4.03	218.2	4.94755E+13	1.06977E+13	8.19316E+13	9.96039E+19
	EOC (2/23/2017, 1400)	59.5	4.84	218.9	5.11672E+13	1.02320E+13	8.29041E+13	1.19717E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.97	193.1	4.49731E+13	9.03318E+12	7.30978E+13	1.22909E+20
		61.5	4.99	177.9	4.11602E+13	8.44736E+12	6.74113E+13	1.23391E+20
		63.5	5.13	176.8	4.18006E+13	8.76402E+12	6.84817E+13	1.26823E+20
		65.5	5.27	177.2	4.16214E+13	8.19786E+12	6.71762E+13	1.30256E+20
		67.5	5.41	182.2	4.29003E+13	8.47501E+12	7.00947E+13	1.33809E+20
		69.5	5.56	185.0	4.35239E+13	8.80345E+12	7.04317E+13	1.37422E+20
		71.5	5.71	186.0	4.40270E+13	8.93876E+12	7.14378E+13	1.41035E+20
	EOC (6/11/2017, 1600)	72.0	5.74	190.0	4.53438E+13	8.91292E+12	7.24536E+13	1.41818E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.80	178.2	4.34015E+13	8.66975E+12	7.12089E+13	1.43324E+20
		75.0	5.93	170.2	4.05550E+13	8.21960E+12	6.69472E+13	1.46636E+20
		82.0	6.39	169.3	4.04446E+13	7.95816E+12	6.56029E+13	1.57837E+20
		92.0	7.04	173.8	4.16498E+13	7.79451E+12	6.75703E+13	1.74036E+20
		102.0	7.69	174.4	4.20439E+13	7.80790E+12	6.82542E+13	1.89994E+20
		112.0	8.34	174.6	4.28647E+13	8.02171E+12	6.92247E+13	2.06073E+20
		122.0	9.03	181.1	4.53292E+13	8.93599E+12	7.32770E+13	2.23236E+20
		131.0	9.66	181.6	4.74293E+13	9.16898E+12	7.63806E+13	2.38712E+20
	EOC	134.0	9.86	179.9	4.78871E+13	9.22254E+12	7.70002E+13	2.43590E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 59. ATF-75 (Pellet 4) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	179.3	3.80132E+13	8.85942E+12	6.52291E+13	1.44528E+18
		3.0	0.21	183.0	3.89493E+13	9.00910E+12	6.70675E+13	5.11870E+18
		10.0	0.70	183.2	3.89110E+13	8.77188E+12	6.67692E+13	1.74036E+19
		20.0	1.46	197.6	4.26246E+13	9.47718E+12	7.22793E+13	3.60718E+19
		29.2	2.17	201.1	4.50447E+13	9.41865E+12	7.47867E+13	5.37162E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	3.05	213.6	4.79667E+13	1.03730E+13	8.00619E+13	7.52750E+19
		50.0	3.85	211.7	4.77013E+13	1.01601E+13	7.87621E+13	9.52680E+19
	EOC (2/23/2017, 1400)	59.5	4.64	212.4	4.98397E+13	1.02370E+13	8.18241E+13	1.14719E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.77	184.7	4.30166E+13	8.59685E+12	6.98964E+13	1.17911E+20
		61.5	4.79	176.5	4.05751E+13	8.48523E+12	6.64148E+13	1.18393E+20
		63.5	4.93	177.6	4.12268E+13	8.40389E+12	6.77512E+13	1.21885E+20
		65.5	5.07	171.7	4.00666E+13	7.95550E+12	6.64751E+13	1.25258E+20
		67.5	5.21	175.5	4.08619E+13	8.65447E+12	6.75707E+13	1.28750E+20
		69.5	5.35	179.0	4.17921E+13	9.17766E+12	6.86768E+13	1.32243E+20
		71.5	5.49	182.0	4.28140E+13	9.24638E+12	6.97515E+13	1.35796E+20
	EOC (6/11/2017, 1600)	72.0	5.53	184.3	4.34995E+13	8.86224E+12	7.13442E+13	1.36579E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.58	179.3	4.32447E+13	8.51103E+12	6.96767E+13	1.38024E+20
		75.0	5.72	160.1	3.80464E+13	8.24712E+12	6.34174E+13	1.41276E+20
		82.0	6.16	166.1	3.92683E+13	8.23002E+12	6.47891E+13	1.52176E+20
		92.0	6.79	169.5	4.03521E+13	8.10438E+12	6.57757E+13	1.67773E+20
		102.0	7.42	169.6	4.09204E+13	7.88154E+12	6.65287E+13	1.83430E+20
		112.0	8.05	169.0	4.14114E+13	7.90831E+12	6.67747E+13	1.99087E+20
		122.0	8.72	177.5	4.45722E+13	8.49422E+12	7.17677E+13	2.15467E+20
		131.0	9.34	183.8	4.71360E+13	8.95068E+12	7.58830E+13	2.30944E+20
	EOC	134.0	9.54	179.3	4.70421E+13	8.91562E+12	7.50288E+13	2.35822E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 60. ATF-75 (Pellet 5) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	177.1	3.78077E+13	8.72347E+12	6.48111E+13	1.44528E+18
		3.0	0.20	181.0	3.83666E+13	8.61860E+12	6.54461E+13	5.05848E+18
		10.0	0.69	179.1	3.82450E+13	8.43528E+12	6.45615E+13	1.69820E+19
		20.0	1.42	192.6	4.17395E+13	9.07861E+12	7.03978E+13	3.51083E+19
		29.2	2.12	196.7	4.36301E+13	9.43736E+12	7.24731E+13	5.23312E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.98	211.5	4.71509E+13	1.03532E+13	7.84973E+13	7.36491E+19
		50.0	3.78	207.0	4.66820E+13	1.02735E+13	7.79278E+13	9.33410E+19
	EOC (2/23/2017, 1400)	59.5	4.53	205.9	4.78385E+13	9.90904E+12	7.89274E+13	1.11889E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.65	177.9	4.15324E+13	8.98439E+12	6.92437E+13	1.15020E+20
		61.5	4.67	170.8	3.97447E+13	8.41188E+12	6.51052E+13	1.15382E+20
		63.5	4.80	168.8	3.99365E+13	8.23581E+12	6.58183E+13	1.18754E+20
		65.5	4.94	165.0	3.88008E+13	7.99814E+12	6.46508E+13	1.22066E+20
		67.5	5.07	169.1	4.01860E+13	8.68529E+12	6.61245E+13	1.25438E+20
		69.5	5.22	175.2	4.08996E+13	8.62047E+12	6.70230E+13	1.28931E+20
		71.5	5.35	173.2	4.08308E+13	8.74493E+12	6.74328E+13	1.32303E+20
	EOC (6/11/2017, 1600)	72.0	5.38	179.1	4.24729E+13	8.94366E+12	6.97586E+13	1.33026E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.44	169.5	4.06664E+13	8.37555E+12	6.69728E+13	1.34411E+20
		75.0	5.57	157.3	3.74058E+13	8.20688E+12	6.21631E+13	1.37603E+20
		82.0	6.00	159.1	3.73319E+13	7.78187E+12	6.19038E+13	1.48262E+20
		92.0	6.62	164.4	3.89045E+13	7.78319E+12	6.40909E+13	1.63738E+20
		102.0	7.24	163.8	3.92277E+13	7.65696E+12	6.50551E+13	1.79034E+20
		112.0	7.87	164.8	3.98113E+13	7.64603E+12	6.52779E+13	1.94450E+20
		122.0	8.51	172.6	4.29896E+13	8.48052E+12	7.02348E+13	2.10469E+20
		131.0	9.13	177.0	4.57676E+13	9.06622E+12	7.39321E+13	2.25584E+20
	EOC	134.0	9.32	173.0	4.53006E+13	8.99235E+12	7.30785E+13	2.30342E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 61. ATF-75 (Pellet 6) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.06	168.8	3.57976E+13	8.10343E+12	6.22224E+13	1.38506E+18
		3.0	0.19	171.9	3.65271E+13	8.32450E+12	6.34233E+13	4.75738E+18
		10.0	0.63	169.1	3.60761E+13	8.51212E+12	6.18759E+13	1.56572E+19
		20.0	1.33	182.1	3.94343E+13	8.76251E+12	6.74890E+13	3.28199E+19
		29.2	2.01	188.3	4.17228E+13	9.25665E+12	7.07689E+13	4.96815E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.84	201.2	4.48239E+13	9.87460E+12	7.57187E+13	7.00961E+19
		50.0	3.58	196.8	4.41560E+13	9.63074E+12	7.45278E+13	8.85234E+19
	EOC (2/23/2017, 1400)	59.5	4.32	201.7	4.65456E+13	9.99565E+12	7.73717E+13	1.06770E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.44	174.2	4.02158E+13	8.38261E+12	6.67664E+13	1.09781E+20
		61.5	4.46	164.7	3.78413E+13	8.22603E+12	6.31509E+13	1.10203E+20
		63.5	4.60	170.0	3.88909E+13	8.22616E+12	6.43505E+13	1.13635E+20
		65.5	4.73	163.4	3.81810E+13	7.84151E+12	6.28508E+13	1.16887E+20
		67.5	4.86	163.5	3.80936E+13	8.34299E+12	6.39936E+13	1.20079E+20
		69.5	5.00	172.0	3.99934E+13	8.55079E+12	6.60340E+13	1.23511E+20
		71.5	5.13	171.4	4.00463E+13	8.76226E+12	6.66688E+13	1.26884E+20
	EOC (6/11/2017, 1600)	72.0	5.16	176.7	4.14187E+13	8.01065E+12	6.74479E+13	1.27606E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.22	165.8	3.96787E+13	8.15643E+12	6.54653E+13	1.28931E+20
		75.0	5.34	152.7	3.59493E+13	7.73198E+12	5.96883E+13	1.32002E+20
		82.0	5.74	153.5	3.59057E+13	7.40987E+12	6.00140E+13	1.41818E+20
		92.0	6.32	156.9	3.69488E+13	7.77718E+12	6.17703E+13	1.56211E+20
		102.0	6.91	156.6	3.75415E+13	7.77201E+12	6.21625E+13	1.70904E+20
		112.0	7.49	155.1	3.78509E+13	7.64957E+12	6.24803E+13	1.85056E+20
		122.0	8.11	163.8	4.04174E+13	8.04079E+12	6.63073E+13	2.00472E+20
		131.0	8.71	172.2	4.36301E+13	8.39122E+12	7.04826E+13	2.15226E+20
	EOC	134.0	8.90	169.4	4.34676E+13	8.31413E+12	7.00836E+13	2.19923E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 62. ATF-75 (Pellet 7) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	164.2	3.48985E+13	7.81270E+12	5.97816E+13	1.32484E+18
		3.0	0.19	167.5	3.53853E+13	8.39066E+12	6.12084E+13	4.69716E+18
		10.0	0.65	166.6	3.56081E+13	8.46641E+12	6.13209E+13	1.60185E+19
		20.0	1.33	178.2	3.88012E+13	8.98898E+12	6.66461E+13	3.28801E+19
		29.2	1.97	183.6	4.09682E+13	9.37017E+12	6.95469E+13	4.87180E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.79	197.6	4.40170E+13	9.71290E+12	7.36119E+13	6.88917E+19
		50.0	3.52	193.5	4.35980E+13	9.64103E+12	7.29162E+13	8.70179E+19
	EOC (2/23/2017, 1400)	59.5	4.23	195.7	4.53362E+13	1.00922E+13	7.55984E+13	1.04482E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.34	163.1	3.79458E+13	8.55787E+12	6.33042E+13	1.07312E+20
		61.5	4.36	159.6	3.71233E+13	7.61767E+12	6.09570E+13	1.07734E+20
		63.5	4.49	161.9	3.72175E+13	8.17035E+12	6.19340E+13	1.10985E+20
		65.5	4.62	157.8	3.66738E+13	7.96099E+12	6.12436E+13	1.14177E+20
		67.5	4.75	162.8	3.80037E+13	8.20045E+12	6.28880E+13	1.17429E+20
		69.5	4.88	162.4	3.81138E+13	7.93530E+12	6.33283E+13	1.20681E+20
		71.5	5.01	167.3	3.88471E+13	8.33291E+12	6.50600E+13	1.23933E+20
	EOC (6/11/2017, 1600)	72.0	5.04	167.3	3.95215E+13	8.24659E+12	6.51770E+13	1.24595E+20
162A	Cycle 162A Outage							
	BOC	73.0	5.09	160.9	3.84141E+13	8.08487E+12	6.35065E+13	1.25920E+20
		75.0	5.22	148.7	3.52299E+13	7.53504E+12	5.91846E+13	1.28931E+20
		82.0	5.60	147.0	3.47090E+13	7.46306E+12	5.81648E+13	1.38446E+20
		92.0	6.18	156.3	3.67817E+13	7.91035E+12	6.08254E+13	1.52778E+20
		102.0	6.78	158.0	3.73173E+13	8.09194E+12	6.21363E+13	1.67713E+20
		112.0	7.38	157.5	3.77842E+13	7.92363E+12	6.26556E+13	1.82527E+20
		122.0	7.99	158.6	3.95128E+13	8.15987E+12	6.52963E+13	1.97522E+20
		131.0	8.59	170.3	4.33455E+13	8.64629E+12	7.05891E+13	2.12215E+20
	EOC	134.0	8.77	166.5	4.27271E+13	8.35720E+12	6.99433E+13	2.16792E+20



Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 63. ATF-75 (Pellet 8) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	161.5	3.42253E+13	7.79516E+12	5.88282E+13	1.32484E+18
		3.0	0.19	161.3	3.42407E+13	7.88827E+12	5.91910E+13	4.63694E+18
		10.0	0.61	159.4	3.42052E+13	7.85583E+12	5.84070E+13	1.49948E+19
		20.0	1.27	171.0	3.66363E+13	8.56412E+12	6.34771E+13	3.13746E+19
		29.2	1.91	178.9	3.91350E+13	8.82597E+12	6.63609E+13	4.72727E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.68	189.6	4.18469E+13	9.37246E+12	7.09165E+13	6.62420E+19
		50.0	3.39	187.6	4.20848E+13	9.29480E+12	7.08424E+13	8.37058E+19
	EOC (2/23/2017, 1400)	59.5	4.08	187.7	4.31268E+13	9.79516E+12	7.20540E+13	1.00869E+20
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.20	165.1	3.80154E+13	8.04936E+12	6.25524E+13	1.03759E+20
		61.5	4.21	153.2	3.55044E+13	7.42825E+12	5.91584E+13	1.04120E+20
		63.5	4.34	154.2	3.55097E+13	7.63226E+12	5.92255E+13	1.07252E+20
		65.5	4.47	153.7	3.58247E+13	7.67333E+12	5.96223E+13	1.10383E+20
		67.5	4.59	153.8	3.57929E+13	7.74368E+12	5.94658E+13	1.13454E+20
		69.5	4.72	156.4	3.64956E+13	7.79002E+12	6.04867E+13	1.16646E+20
		71.5	4.85	159.1	3.74494E+13	8.40489E+12	6.22382E+13	1.19778E+20
	EOC (6/11/2017, 1600)	72.0	4.87	161.6	3.79115E+13	8.06161E+12	6.29812E+13	1.20500E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.92	153.4	3.64314E+13	7.80737E+12	6.06736E+13	1.21705E+20
		75.0	5.05	143.3	3.38545E+13	7.68015E+12	5.66739E+13	1.24716E+20
		82.0	5.41	142.1	3.28253E+13	7.12864E+12	5.51966E+13	1.33749E+20
		92.0	5.97	150.8	3.55009E+13	7.40528E+12	5.83564E+13	1.47659E+20
		102.0	6.54	153.0	3.62549E+13	7.42928E+12	5.93268E+13	1.61691E+20
		112.0	7.10	151.4	3.63996E+13	7.35174E+12	6.00757E+13	1.75481E+20
		122.0	7.70	156.9	3.83484E+13	8.13664E+12	6.34263E+13	1.90295E+20
		131.0	8.26	161.9	4.10344E+13	8.21044E+12	6.68641E+13	2.04206E+20
	EOC	134.0	8.44	159.4	4.08665E+13	8.17914E+12	6.67051E+13	2.08542E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 64. ATF-75 (Pellet 9) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	155.8	3.28425E+13	7.62489E+12	5.68725E+13	1.32484E+18
		3.0	0.18	156.8	3.33642E+13	7.79110E+12	5.80019E+13	4.45628E+18
		10.0	0.59	155.7	3.31954E+13	7.74176E+12	5.69938E+13	1.45732E+19
		20.0	1.24	166.0	3.57205E+13	8.28468E+12	6.08366E+13	3.05315E+19
		29.2	1.85	170.1	3.76312E+13	8.66747E+12	6.38320E+13	4.57672E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.61	186.6	4.07898E+13	8.80955E+12	6.82588E+13	6.44354E+19
		50.0	3.30	180.7	4.07176E+13	9.32399E+12	6.86693E+13	8.15379E+19
	EOC (2/23/2017, 1400)	59.5	3.97	183.4	4.18369E+13	9.13734E+12	7.03353E+13	9.81586E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	4.08	159.7	3.64356E+13	8.09019E+12	6.00409E+13	1.00929E+20
		61.5	4.10	149.2	3.47072E+13	6.63141E+12	5.68635E+13	1.01290E+20
		63.5	4.22	150.2	3.47826E+13	7.26305E+12	5.68738E+13	1.04301E+20
		65.5	4.34	149.6	3.49598E+13	7.32957E+12	5.76975E+13	1.07312E+20
		67.5	4.47	154.6	3.58619E+13	7.44511E+12	5.96156E+13	1.10443E+20
		69.5	4.59	153.9	3.61472E+13	8.06655E+12	6.03279E+13	1.13575E+20
		71.5	4.72	157.4	3.71225E+13	8.12681E+12	6.15279E+13	1.16767E+20
	EOC (6/11/2017, 1600)	72.0	4.75	157.8	3.71295E+13	8.07398E+12	6.15341E+13	1.17429E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.80	149.0	3.52209E+13	7.35091E+12	5.90577E+13	1.18633E+20
		75.0	4.91	138.8	3.26686E+13	7.24117E+12	5.44672E+13	1.21464E+20
		82.0	5.27	138.0	3.22476E+13	6.80030E+12	5.41206E+13	1.30376E+20
		92.0	5.82	146.3	3.44129E+13	7.34415E+12	5.68577E+13	1.43986E+20
		102.0	6.38	148.3	3.50230E+13	7.40424E+12	5.81606E+13	1.57596E+20
		112.0	6.93	148.5	3.52628E+13	7.70132E+12	5.86465E+13	1.71205E+20
		122.0	7.52	152.2	3.73873E+13	7.66096E+12	6.15307E+13	1.85779E+20
		131.0	8.05	158.4	3.98058E+13	7.70879E+12	6.49217E+13	1.99027E+20
	EOC	134.0	8.23	156.8	3.99248E+13	7.91415E+12	6.50657E+13	2.03483E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 65. ATF-75 (Pellet 10) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	145.8	3.13271E+13	7.09954E+12	5.37055E+13	1.20440E+18
		3.0	0.17	149.9	3.21088E+13	7.56126E+12	5.56762E+13	4.21540E+18
		10.0	0.57	149.3	3.20231E+13	7.71013E+12	5.53250E+13	1.39710E+19
		20.0	1.17	161.4	3.45537E+13	8.24255E+12	5.96353E+13	2.89658E+19
		29.2	1.74	163.9	3.61790E+13	7.97790E+12	6.15241E+13	4.31175E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.46	176.9	3.93280E+13	8.95050E+12	6.71895E+13	6.08824E+19
		50.0	3.14	176.1	3.94800E+13	8.72037E+12	6.63914E+13	7.75031E+19
	EOC (2/23/2017, 1400)	59.5	3.79	177.7	4.09589E+13	8.81002E+12	6.70100E+13	9.37625E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.90	152.9	3.50593E+13	7.49299E+12	5.80169E+13	9.64122E+19
		61.5	3.91	142.3	3.29685E+13	6.93837E+12	5.52621E+13	9.67735E+19
		63.5	4.04	142.9	3.27444E+13	7.34620E+12	5.52949E+13	9.97845E+19
		65.5	4.16	142.3	3.29210E+13	7.02285E+12	5.47111E+13	1.02735E+20
		67.5	4.28	147.1	3.41571E+13	7.19262E+12	5.64600E+13	1.05686E+20
		69.5	4.40	147.2	3.43751E+13	7.08126E+12	5.76698E+13	1.08697E+20
		71.5	4.52	146.1	3.42553E+13	7.14077E+12	5.77835E+13	1.11648E+20
	EOC (6/11/2017, 1600)	72.0	4.54	152.8	3.60262E+13	7.82162E+12	5.99521E+13	1.12310E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.59	147.8	3.49174E+13	7.24901E+12	5.74404E+13	1.13515E+20
		75.0	4.70	133.6	3.09254E+13	6.63604E+12	5.21307E+13	1.16285E+20
		82.0	5.06	134.5	3.14046E+13	6.88286E+12	5.23855E+13	1.25017E+20
		92.0	5.58	140.5	3.29146E+13	7.40287E+12	5.54572E+13	1.37964E+20
		102.0	6.11	142.3	3.34839E+13	7.16076E+12	5.58492E+13	1.50972E+20
		112.0	6.63	140.7	3.35881E+13	7.23286E+12	5.59966E+13	1.63979E+20
		122.0	7.19	147.7	3.61870E+13	7.25815E+12	5.92895E+13	1.77649E+20
		131.0	7.72	155.1	3.85313E+13	7.81412E+12	6.31260E+13	1.90717E+20
	EOC	134.0	7.89	154.7	3.90208E+13	7.75908E+12	6.33067E+13	1.95113E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 66. ATF-75 (Pellet 11) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	143.6	3.03192E+13	7.03170E+12	5.25366E+13	1.20440E+18
		3.0	0.17	143.6	3.05385E+13	6.92105E+12	5.26290E+13	4.21540E+18
		10.0	0.55	142.2	3.04598E+13	7.03979E+12	5.23825E+13	1.35495E+19
		20.0	1.14	157.3	3.42590E+13	7.58549E+12	5.78300E+13	2.82432E+19
		29.2	1.70	158.7	3.51895E+13	7.74762E+12	5.94791E+13	4.19733E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.41	175.1	3.86653E+13	8.44773E+12	6.49181E+13	5.95576E+19
		50.0	3.06	169.5	3.77137E+13	8.51470E+12	6.38548E+13	7.56363E+19
	EOC (2/23/2017, 1400)	59.5	3.67	169.7	3.87338E+13	7.99059E+12	6.48551E+13	9.08118E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.78	145.0	3.33531E+13	7.01938E+12	5.57127E+13	9.34614E+19
		61.5	3.80	144.0	3.31338E+13	7.06808E+12	5.48019E+13	9.38228E+19
		63.5	3.91	139.1	3.20161E+13	6.89073E+12	5.32100E+13	9.67133E+19
		65.5	4.03	139.3	3.19718E+13	7.37702E+12	5.43256E+13	9.96039E+19
		67.5	4.15	143.9	3.33496E+13	7.31841E+12	5.54783E+13	1.02494E+20
		69.5	4.26	142.2	3.33390E+13	6.79715E+12	5.50296E+13	1.05385E+20
		71.5	4.38	143.4	3.39094E+13	6.95158E+12	5.58856E+13	1.08336E+20
	EOC (6/11/2017, 1600)	72.0	4.40	147.8	3.44972E+13	7.61498E+12	5.71634E+13	1.08878E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.45	142.6	3.35322E+13	7.25867E+12	5.57499E+13	1.10022E+20
		75.0	4.56	129.2	3.01918E+13	6.22603E+12	4.99278E+13	1.12732E+20
		82.0	4.91	130.8	3.01275E+13	6.47088E+12	5.04201E+13	1.21283E+20
		92.0	5.41	134.3	3.11250E+13	6.26545E+12	5.13997E+13	1.33809E+20
		102.0	5.92	135.2	3.16563E+13	6.21567E+12	5.20168E+13	1.46395E+20
		112.0	6.43	134.5	3.22126E+13	6.64971E+12	5.33019E+13	1.58921E+20
		122.0	6.97	143.6	3.47779E+13	6.86241E+12	5.70743E+13	1.72229E+20
		131.0	7.48	149.9	3.72066E+13	7.40832E+12	6.09135E+13	1.84875E+20
	EOC	134.0	7.64	146.2	3.66693E+13	7.44709E+12	6.05348E+13	1.88970E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 67. ATF-75 (Pellet 12) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.04	135.7	2.89153E+13	6.56013E+12	4.96959E+13	1.08396E+18
		3.0	0.16	140.4	2.98899E+13	6.56349E+12	5.08609E+13	4.03474E+18
		10.0	0.53	137.7	2.94336E+13	6.51418E+12	4.98567E+13	1.30075E+19
		20.0	1.09	148.7	3.21383E+13	7.38798E+12	5.45998E+13	2.70388E+19
		29.2	1.63	152.1	3.33894E+13	7.61847E+12	5.73332E+13	4.04076E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.29	166.6	3.65762E+13	8.29153E+12	6.15199E+13	5.66068E+19
		50.0	2.91	162.0	3.63316E+13	8.32233E+12	6.16981E+13	7.20231E+19
	EOC (2/23/2017, 1400)	59.5	3.52	163.7	3.73626E+13	8.22882E+12	6.32252E+13	8.70781E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.63	144.6	3.29159E+13	7.06916E+12	5.45269E+13	8.97278E+19
		61.5	3.64	134.3	3.05802E+13	6.93868E+12	5.14406E+13	9.00289E+19
		63.5	3.75	133.5	3.05545E+13	6.68518E+12	5.06968E+13	9.27388E+19
		65.5	3.87	136.1	3.08823E+13	7.05145E+12	5.23254E+13	9.55691E+19
		67.5	3.98	134.9	3.06600E+13	6.43733E+12	5.18019E+13	9.83995E+19
		69.5	4.10	139.6	3.22742E+13	6.53084E+12	5.29229E+13	1.01290E+20
		71.5	4.21	142.0	3.28702E+13	6.82366E+12	5.37261E+13	1.04181E+20
	EOC (6/11/2017, 1600)	72.0	4.24	143.6	3.30549E+13	7.47973E+12	5.57797E+13	1.04723E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.28	130.3	3.07023E+13	6.89923E+12	5.18844E+13	1.05807E+20
		75.0	4.39	124.6	2.88927E+13	6.48346E+12	4.90623E+13	1.08396E+20
		82.0	4.72	127.7	2.93502E+13	5.92965E+12	4.84207E+13	1.16767E+20
		92.0	5.22	130.7	3.01891E+13	6.49912E+12	5.03391E+13	1.28931E+20
		102.0	5.71	132.6	3.07286E+13	6.29385E+12	5.11006E+13	1.41216E+20
		112.0	6.21	132.1	3.10586E+13	6.52682E+12	5.16391E+13	1.53441E+20
		122.0	6.73	138.7	3.32668E+13	7.02779E+12	5.59416E+13	1.66267E+20
		131.0	7.22	145.1	3.56420E+13	7.39850E+12	5.84523E+13	1.78552E+20
	EOC	134.0	7.39	145.1	3.59791E+13	7.42058E+12	5.87765E+13	1.82647E+20

Title: ATF-1 Power Histories

TEV No.: 3119 Rev. No.: 0 Project No.: 31418 Date: 12/01/2017

Table 68. ATF-75 (Pellet 13 - Bottom) Power History

Cycle	Critical Dates	EFPD	Burnup (GWd/MTU)	LHGR (W/cm)	Thermal Flux (n/cm <sup>2</sup> *s)	Fast Flux (n/cm <sup>2</sup> *s > 1 MeV)	Total Flux (n/cm <sup>2</sup> *s)	Fission Density (Fissions/cm <sup>3</sup> )
160B	BOC (12/20/2016, 1200)	1.0	0.05	133.9	2.82169E+13	6.13442E+12	4.78578E+13	1.14418E+18
		3.0	0.16	132.9	2.81810E+13	6.59566E+12	4.82463E+13	3.85408E+18
		10.0	0.52	136.3	2.89182E+13	6.37728E+12	4.89650E+13	1.28269E+19
		20.0	1.08	146.3	3.10842E+13	7.17009E+12	5.28848E+13	2.66775E+19
		29.2	1.62	151.1	3.28814E+13	7.44319E+12	5.58089E+13	3.99259E+19
	Mid-Cycle 160B Outage – 5 Day, 14 Hour Down Time							
		40.0	2.28	162.5	3.57238E+13	7.38546E+12	5.89680E+13	5.63659E+19
		50.0	2.89	158.0	3.50802E+13	7.61660E+12	5.87776E+13	7.14209E+19
	EOC (2/23/2017, 1400)	59.5	3.47	159.9	3.60525E+13	7.49036E+12	5.96843E+13	8.56931E+19
161A	Cycle 161A Outage – 95 Day, 13 Hour Down Time							
	BOC (5/30/2017, 0300)	61.2	3.57	138.4	3.11760E+13	6.30338E+12	5.18074E+13	8.82223E+19
		61.5	3.58	132.1	3.00687E+13	6.14097E+12	4.99932E+13	8.85234E+19
		63.5	3.69	132.1	3.04108E+13	6.38066E+12	5.00255E+13	9.12935E+19
		65.5	3.81	128.9	2.98505E+13	5.82712E+12	4.87837E+13	9.40636E+19
		67.5	3.92	137.3	3.12021E+13	6.55517E+12	5.17487E+13	9.68940E+19
		69.5	4.04	137.2	3.13525E+13	6.46864E+12	5.15124E+13	9.97845E+19
		71.5	4.15	139.5	3.21760E+13	6.35730E+12	5.25323E+13	1.02675E+20
	EOC (6/11/2017, 1600)	72.0	4.18	139.3	3.20086E+13	6.57855E+12	5.19798E+13	1.03277E+20
162A	Cycle 162A Outage							
	BOC	73.0	4.22	125.5	2.96006E+13	5.99592E+12	4.90752E+13	1.04301E+20
		75.0	4.32	121.8	2.80421E+13	5.79751E+12	4.63978E+13	1.06891E+20
		82.0	4.66	123.7	2.84349E+13	5.67703E+12	4.68352E+13	1.15080E+20
		92.0	5.13	124.3	2.90290E+13	6.07045E+12	4.81759E+13	1.26763E+20
		102.0	5.61	127.0	2.97059E+13	6.23383E+12	4.95708E+13	1.38626E+20
		112.0	6.09	127.4	3.00738E+13	6.24765E+12	4.95561E+13	1.50490E+20
		122.0	6.59	132.5	3.18320E+13	6.66918E+12	5.28038E+13	1.62895E+20
		131.0	7.08	140.4	3.41203E+13	6.63111E+12	5.56488E+13	1.74999E+20
	EOC	134.0	7.24	136.9	3.35801E+13	6.42591E+12	5.51409E+13	1.78914E+20

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## Appendix B Request for Analysis

Idaho National Laboratory Mail - ATF-1 Cycle 160B-1/161A-1 As-Runs and Cycle 162A-1 Projections

11/22/17, 9(29 AM



Curnutt, Bryon J <bryon.curnutt@inl.gov>

### ATF-1 Cycle 160B-1/161A-1 As-Runs and Cycle 162A-1 Projections

1 message

Core, Gregory M <gregory.core@inl.gov> Tue, Jun 27, 2017 at 8:11 AM  
To: Daniel B Chapman <daniel.chapman@inl.gov>, Cody Hale <cody.hale@inl.gov>, "Curnutt, Bryon J" <bryon.curnutt@inl.gov>  
Cc: "Lillo, Misti A" <misti.lillo@inl.gov>

Dan, Bryon, Cody,

As we discussed yesterday, this email serves as your engineering input per LWP-10000 to perform the subject calculations and deliverables. Scope items and other pertinent details follow:

- Neutronics ECAR which documents the relevant as-run and projection values for the subject cycles, performed in a similar manner as past as-run and projection ECARs
- Thermal ECAR which documents the as-run and projection values for the ORNL-FCCI experiment for the subject cycles, performed in a similar manner as past as-run and projection ECARs
- TEV documenting as-runs for all capsules which includes data similar to the recent ATF-13 and ATF-15 As-run ECAR as well as data which were included in previous as-run ECARs; It is planned that this TEV will be revised to append additional as-run data as they are generated
- If at all possible, the TEV should include a tech-checked spreadsheet of as-run data, similar to what was done previously for the ATF-13 & ATF-15 capsules
- Bryon Curnutt will be the performer of the neutronics ECAR and the As-Run TEV; if available, Brian Gross would be a preferred checker due to familiarity with calculations
- Cody Hale will be the performer of the thermal ECAR
- Dan Chapman will be the checker of the thermal ECAR
- The neutronics ECAR must be approved by 7/27/17
- The thermal ECAR should be tech-checked by 7/27/17
- Charge Number is 102395402
- Please see me with any questions

Thanks all.

--

Greg Core  
Experiment Manager  
Idaho National Laboratory  
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